

exploring the nexus of culture, mind and religion

RESEARCH REVIEW

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

April, 2010

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, ASFA Biological Sciences, ATLA Religion Database, General Science, PubMed, Psychology and Behavioral Sciences Collection, PsycARTICLES, PsycINFO, ScienceDirect, and Web of Science. The search terms were altruism, meditat*, prayer, relig*, psych*, science, spiritu*, and yoga, tailored to the database being searched. Books were located on Amazon.com and Worldcat. Articles not directly relevant to the scientific study of religion were excluded, as were correspondence and reviews. From a universe of 509 articles, 66 articles have been retained from 47 journals. There are 39 pre-publication citations from 32 journals.

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CONTENTS

Part 1: Articles in Religion, Brain, and Behavior2
1.1 Scientific Study of Religion: Cognitive Neuroscience
1.2 Scientific Study of Religion: Evolution
1.3 Scientific Study of Religion: Psychology and Sociology
1.4 Scientific Study of Religion: Method & Theory
Part 2. Articles in Spirituality & Health Research
2.1 Spirituality & Health: Mental Health
2.2 Spirituality & Health: General Health & Well-Being
2.3 Spirituality & Health: Religiosity
2.4 Spirituality & Health: Method and Theory12
Part 3. Books
3.1 Scientific Study of Religion, Brain, and Behavior17
3.2 Spirituality & Health Research
Part 4. Articles in Press
4.1 Scientific Study of Religion, Brain, and Behavior
4.2 Spirituality & Health Research

PART 1: ARTICLES IN RELIGION, BRAIN, AND BEHAVIOR

1.1 SCIENTIFIC STUDY OF RELIGION: COGNITIVE NEUROSCIENCE

Manna, Antonietta, Antonino Raffone, Mauro Gianni Perrucci, Davide Nardo, Antonio Ferretti, Armando Tartaro, Alessandro Londei, Cosimo Del Gratta, Marta Olivetti Belardinelli & Gian Luca Romani. 2010. Neural correlates of focused attention and cognitive monitoring in meditation. Brain Research Bulletin 82(1-2). 46-56. doi:10.1016/j.brainresbull.2010.03.001.

In a study of 8 Theravada Buddhist monks with significant experience in meditation, and 8 novice meditators, researchers found significant differences between the patterns of brain activity of monks and novices, in both open monitoring (OM) and focused attention (FA) meditation styles. The researchers found that expert meditators control cognitive engagement in conscious processing of sensory-related, thought and emotion content, by means of massive self-regulation of fronto-parietal and insular areas in the left hemisphere, in a meditation state-dependent fashion. They also found that anterior cingulate and dorsolateral prefrontal cortices play antagonist roles in the executive control of the attention setting in meditation tasks. The brain activity patterns of the experienced meditators in OM meditation resembled their ordinary brain resting state, whereas their brain activity in focused attention between brain activity patterns in FA and OM meditation conditions suggests that open monitoring ("mindfulness") is also reflected and thus practiced in ordinary non-meditative conditions. Researchers conclude that a functional reorganization of brain activity patterns for focused attention and cognitive monitoring takes place with mental practice, and that meditation-related neuroplasticity is crucially associated to a functional reorganization of activity patterns in the insula.

Samokhvalov, V.P. & O. Samokhvalova. 2010. 79. Religious experiences as a psychotic background of an epileptic frontolimbic dysbalance. *Epilepsy & Behavior* 17(4). 602. doi:10.1016/j.yebeh.2010.01.104.

Researchers studied literature regarding the meaning of religious experience for patients who exhibited homicidal tendencies and religious behavior, using the structure of limbic psychotic trigger reactions (LTPR), described by A. A. Pontius (1981-2002) as differentiated schizophrenic psychosis, dissociative organic psychoses and epileptic psychoses. Follow-up records, and clinical and EEG studies of six male patients were reviewed; three patients were atheistic. Researchers conclude that the adaptive alternative of homicidal and destructive behavior of patients with the same characteristics and confirmed EEG paroxysmal data are religious experiences, which can be considered the constraining mechanism of paroxysmal limbic aggression, and that religious experiences are a "frontal" cortical answer to a limbic dysbalance. Abstract from a paper given at the Epilepsy, Brain and Mind conference in March 2010, in Prague, Czech Republic.

1.2 SCIENTIFIC STUDY OF RELIGION: EVOLUTION

Coall, David A. & Ralph Hertwig. 2010. Grandparental investment: past, present, and future. Behavioral and Brain Sciences 33(1). 1-19; discussion 19-40. doi:10.1017/S0140525X09991105.

In answering the question "What motivates grandparents to their altruism?", the authors review answers from evolutionary theory, sociology, and economics and call for a more comprehensive theoretical framework. They examine whether benefits of grandparental care in industrialized societies may manifest in terms of less tangible dimensions, such as the grandchildren's cognitive and verbal ability, mental health, and well-being. They find

converging evidence that grandparents can provide support that helps to safeguard their children and grandchildren against adverse risks, but find a paucity of studies investigating the influence that this investment has on grandchildren in low-risk family contexts. The target article in the current volume of Behavioral and Brain Sciences; the volume includes 18 response articles, and concluding remarks from Coall and Hertwig.

Dunfield, KA & VA Kuhlmeier. 2010. Intention-Mediated Selective Helping in Infancy. *Psychological Science* 21(4). 523-527.

doi:<u>10.1177/0956797610364119</u>.

Researchers found that infants preferred to help an individual who, in a previous interaction, intended to provide a toy over one who did not (Experiment 1) and that infants consider this positive intention even without a positive outcome (Experiment 2). Experiment 3 provided a more detailed examination of the basis of selection, suggesting that infants are not solely avoiding unwilling individuals, but also selectively helping those who have shown a willingness to provide. The authors conclude that these experiments indicate that early helping behaviors show characteristics of the rich reciprocal relationships observed in adult prosocial behavior.

Schnall, Simone, Jean Roper & Daniel M. T. Fessler. 2010. Elevation leads to altruistic behavior. Psychological Science: A Journal of the American Psychological Society 21(3). 315-320. doi:10.1177/0956797609359882.

In two experiments, researchers tested the relationship between elevation, which is elicited by witnessing another person perform a good deed, and helping behavior. In Experiment 1 (n = 56, all female), participants experiencing elevation were more likely to volunteer for a subsequent unpaid study than were participants in a neutral state. In Experiment 2 (n = 32, all female), participants experiencing elevation spent approximately twice as long helping the experimenter with a tedious task as participants experiencing mirth or a neutral emotional state. Further, feelings of elevation, but not feelings of amusement or happiness, predicted the amount of helping. The authors conclude that witnessing another person's altruistic behavior elicits elevation, a discrete emotion that, in turn, leads to tangible increases in altruism.

1.3 SCIENTIFIC STUDY OF RELIGION: PSYCHOLOGY AND SOCIOLOGY

Guerrero, Silvia, Ileana Enesco & Paul L. Harris. 2010. Oxygen and the Soul: Children's Conception of Invisible Entities. *Journal of Cognition & Culture* 10(1/2). 123-151. doi:10.1163/156853710X497202.

In two studies, children's concepts of various types of ordinarily unobservable entities were examined. Study 1 confirmed earlier findings in showing that children aged 4-9 years are confident of the existence of scientific entities, such as germs, as well as religious beings, such as God. At the same time, both age groups are skeptical of the existence of various mythical beings such as mermaids. In Study 2, older children aged 10-12 years were probed for their concepts of religious as compared to scientific phenomena. Despite considerable confidence in each type, older children differentiated between them, both with respect to their level of confidence and their pattern of justification.

Holder, Mark D., Ben Coleman & Judi M. Wallace. 2010. Spirituality, Religiousness, and Happiness in Children Aged 8–12 Years. *Journal of Happiness Studies* 11(2). 131-150. doi:10.1007/s10902-008-9126-1.

In a study of 320 children aged 8-12 from public and private (i.e., faith-based) schools in Canada, researchers found that children's spirituality, but not their religious practices (e.g., attending church, praying, and meditating), was strongly linked to happiness: children who were more spiritual were happier. Spirituality accounted for between 3 and 26% of the unique variance in children's happiness depending on the measures. Temperament was also a predictor of happiness, but spirituality remained a significant predictor of happiness even after removing the

variance associated with temperament. The personal (i.e., meaning and value in one's own life) and communal (quality and depth of inter-personal relationships) domains of spirituality were particularly good predictors of children's happiness.

Hooghe, Marc, Ellen Claes, Allison Harell, Ellen Quintelier & Yves Dejaeghere. 2010. Anti-gay sentiment among adolescents in Belgium and Canada: a comparative investigation into the role of gender and religion. *Journal of Homosexuality* 57(3). 384-400. doi:10.1080/00918360903543071.

Analysis of anti-gay attitudes among participants in Belgium (n = 6,330) and Canada (n = 3,334) revealed that hostile feelings toward LGBT rights are particularly widespread among boys, while the effects of socioeconomic status and parental education remain limited. Various religious denominations proved to have a strong and significant negative impact on tolerance, with especially high scores for Islam. Religious practice, too, contributes to a negative attitude toward LGBT rights.

Manning, Lydia K. 2010. Gender and religious differences associated with volunteering in later life. Journal of Women & Aging 22(2). 125-135. doi:10.1080/08952841003719224.

This study uses a sample of older adults in the United States to examine the relationship between gender and religion in the context of undertaking volunteer activities in later life.

Schieman, S. 2010. Socioeconomic Status and Beliefs about God's Influence in Everyday Life. Sociology of Religion 71(1). 25-51. doi:10.1093/socrel/srq004.

Analyzing data from two national surveys of Americans (n = 3,267) the author found that: (1) overall, socioeconomic status (SES) is associated negatively with beliefs in divine involvement and control; (2) with the exception of reading religious texts, each indicator of religious involvement is associated with higher levels of beliefs in divine involvement or divine control; (3) SES interacts with each dimension of religious involvement such that the negative association between SES and divine involvement or control is attenuated at higher levels of religious involvement.

Schwadel, P. 2010. Age, Period, and Cohort Effects on U.S. Religious Service Attendance: The Declining Impact of Sex, Southern Residence, and Catholic Affiliation. *Sociology of Religion* 71(1). 2-24.

doi:10.1093/socrel/srq005.

Using repeated, cross-sectional data from 1972 to 2006 in the United States, the researcher finds that the frequency of religious service attendance is relatively stable, with a modest period-based decline in the 1990s and little overall cohort effect. Although aggregate rates of attendance are stable, there are large changes across cohorts and periods in differences in attendance between men and women, southerners and non-southerners, and Catholics and mainline Protestants.

Steenwyk, Sherry A. M., David C. Atkins, Jamie D. Bedics & Bernard E. Whitley. 2010. Images of God as They Relate to Life Satisfaction and Hopelessness. *International Journal for the Psychology of Religion* 20(2). 85-96. doi:10.1080/10508611003607942

doi:<u>10.1080/10508611003607942</u>.

In a study of 254 college students, researchers found that participants' God images did not fall into primarily masculine or feminine factors, but rather into Loving, Controlling, and Permissive God factors. Individually, these factors were not found to be significant predictors of hopelessness in a regression analysis, when religious service, participant gender, and religious orientation were controlled. However, an interaction between participant gender

and the Controlling God factor indicated that women with more controlling images of God experienced more hopelessness, whereas men with more controlling images of God experienced less hopelessness.

Verkuyten, Maykel & Ali Aslan Yildiz. 2010. Religious identity consolidation and mobilization among Turkish Dutch Muslims. *European Journal of Social Psychology* 40(3). 436-447. doi:10.1002/ejsp.635.

This paper investigates religious identity consolidation, in terms of the endorsement of the rights of Dutch Muslims to publicly express their identity, and identity mobilization in terms of the attitude towards normative forms of political organization. Identity consolidation and mobilization were examined as a function of the content of Muslim identity. Personal meaning and personal certainty as two aspects of an individualized interpretation were found to be positively associated to the endorsement of Muslim expressive rights, but not to the attitude towards political organization. Behavioral involvement and Muslim group interdependence were positively associated with identity organization. Orthodoxy was related to both identity consolidation and mobilization.

1.4 SCIENTIFIC STUDY OF RELIGION: METHOD & THEORY

Engel Jr., Jerome, Eileen Luders, Ivanka Savic & Anatol Bragin. 2010. Stress, epilepsy, and meditation. *Epilepsy & Behavior* 17(4). 586. doi:10.1016/j.vebeh.2010.01.049.

The authors describe how neurobiological research into meditation and stress have revealed that those two conditions involve structures that are also prominent in epilepsy, particularly mesial temporal lobe epilepsy. Understanding the role of frontal lobe influences in modulating counterproductive behaviors mediated by limbic structures should provide useful insights into the fundamental mechanisms underlying stress, meditation, and epilepsy. Abstract from a paper given at the Epilepsy, Brain and Mind conference in March 2010, in Prague, Czech Republic.

Green, Robin & Gary Turner. 2010. Growing evidence for the influence of meditation on brain and behaviour. *Neuropsychological Rehabilitation* 20(2). 306-311. doi:10.1080/09602010903172239.

In this "Research Digest" the authors identify recent literature regarding the effects that meditation has on cognitive functioning.

Hathcoat, John D. & Laura L. B. Barnes. 2010. Explaining the Relationship Among Fundamentalism and Authoritarianism: An Epistemic Connection. *International Journal for the Psychology of Religion* 20(2). 73-84. doi:10.1080/10508611003607884.

In an effort to investigate the reason for the often-documented relationship between Right-wing Authoritarianism (RWA) and Religious Fundamentalism (RF), researchers analyzed results from psychological testing of a sample of 227 students. The authors found that a fundamentalist meaning system predicts a system of beliefs about knowledge and knowing (e.g., personal epistemology), which is then partially responsible for sustaining authoritarian attitudes. They conclude that the effect of RF to RWA travels through belief in certain knowledge, simple knowledge, and omniscient authority.

Henneberg, Maciej & Arthur Saniotis. 2009. Evolutionary origins of human brain and spirituality. *Anthropologischer Anzeiger* 67(4). 427-438. doi:10.1127/0003-5548/2009/0032. The authors hold that the concept of God is a consequence of natural evolution, in that there is a direct biological benefit of complex ideological superstructure of culture. This complex superstructure most often takes a form of religion, in which logic is mixed with appeals to emotions based on images of spiritual beings.

Hesdorffer, D.C. 2010. 25. Epilepsy and religious experiences - epidemiological evidence. *Epilepsy & Behavior* 17(4). 586-587.

doi:10.1016/j.yebeh.2010.01.050.

The author performed a literature review on the epidemiology of religiosity in the general population, in neurological disorders, and in epilepsy particularly, in order to distinguish the ways in which associations between epilepsy and religiosity may be similar to or different from correlates of religiosity in the general population or among people with other neurological disorders. Religiosity is more commonly reported in epilepsy than other neurological disorders. It is manifest during the ictal and postictal period in focal epilepsy, but interictal religiosity is not increased over controls. This differentiates religiosity from psychiatric comorbidity where interictal symptoms are common. Abstract from a paper given at the Epilepsy, Brain and Mind conference in March 2010, in Prague, Czech Republic.

Skitka, Linda J. 2010. The psychology of moral conviction. *Social and Personality Psychology Compass* 4(4). 267-281.

doi:<u>10.1111/j.1751-9004.2010.00254.x</u>.

This paper reviews current theory and research that indicates that attitudes held with strong moral conviction ("moral mandates") represent something psychologically distinct from other constructs (e.g., attitude strength, partisanship, or religiosity), and that variance in moral conviction has important social and political consequences. The author finds the normative implications of these findings both reassuring (moral convictions can protect against obedience to potentially malevolent authorities) and terrifying (moral convictions are associated with rejection of the rule of law, and can provide a motivational foundation for violent protest and acts of terrorism).

PART 2. ARTICLES IN SPIRITUALITY & HEALTH RESEARCH

2.1 SPIRITUALITY & HEALTH: MENTAL HEALTH

Adkins, Angela, Ashvind Singh, Alan Winton, Gerald McKeegan & Judy Singh. 2010. Using a Mindfulness-Based Procedure in the Community: Translating Research to Practice. *Journal of Child & Family Studies* 19(2). 175-183. doi:10.1007/s10826-009-9348-9.

Community-based therapists taught "Meditation on the Soles of Our Feet," a mindfulness-based practice, to 3 adults with mild intellectual disabilities with the goal of helping them to control maladaptive behaviors that included verbal aggression, disruptive behavior and physical aggression. Following the intervention, all three individuals were able to reduce their maladaptive behaviors to near-zero levels and maintain the community placement they had been at risk for losing due to their maladaptive behavior. Subjective measures of various psychological symptoms also showed a reduction in two of the individuals.

Bradshaw, Matt, Christopher G. Ellison & Jack P. Marcum. 2010. Attachment to God, Images of God, and Psychological Distress in a Nationwide Sample of Presbyterians. *International Journal for the Psychology of Religion* 20(2). 130-147. doi:10.1080/10508611003608049.

This study outlines a series of theoretical arguments linking styles of attachment to God, perceptions of the nature of God (i.e., God imagery), and stressful life events with psychological distress. Main effects and potential stressmoderator effects are then evaluated using data from a nationwide sample of elders and other members of the Presbyterian Church (USA.). Key findings indicate that secure attachment to God is inversely associated with distress, whereas both anxious attachment to God and stressful life events are positively related to distress. Once variations in patterns of attachment to God are controlled, there are no net effects of God imagery on levels of distress. There is only modest support for the hypothesis that God images moderate the effects of stressful life events on psychological distress, but no stress-moderator effects were found for attachment to God.

Britton, Willoughby B, Richard R Bootzin, Jennifer C Cousins, Brant P Hasler, Tucker Peck & Shauna L Shapiro. 2010. The contribution of mindfulness practice to a multicomponent behavioral sleep intervention following substance abuse treatment in adolescents: a treatmentdevelopment study. *Substance Abuse* 31(2). 86-97. doi:10.1080/08897071003641297.

In a multicomponent, mindfulness-based sleep intervention that included mindfulness meditation (MM) for 55 adolescent outpatients with substance use disorders (SUDs), researchers assessed the contributions of MM practice intensity to gains in sleep quality and self-efficacy related to SUDs. Program participation was associated with improvements in sleep and emotional distress, and reduced substance use. MM practice frequency correlated with increased sleep duration and improvement in self-efficacy about substance use. Increased sleep duration was associated with improvements in psychological distress, relapse resistance, and substance use-related problems.

Carei, T. Rain, Amber L. Fyfe-Johnson, Cora C. Breuner & Margaret A. Brown. 2010. Randomized controlled clinical trial of yoga in the treatment of eating disorders. *Journal of Adolescent Health* 46(4). 346-351.

doi:<u>10.1016/j.jadohealth.2009.08.007</u>.

In a study of the effects of yoga on eating disorders, a total of 50 girls and 4 boys aged 11-21 years were randomized to an 8-week trial of standard care vs. individualized yoga plus standard care. Of these, 27 were randomized to standard care and 26 to yoga plus standard care (attrition: n = 4). The Yoga group demonstrated

greater decreases in eating disorder symptoms, whereas the No Yoga group showed some initial decline but then returned to baseline eating disorder examination (EDE) levels at week 12. Food preoccupation was measured before and after each yoga session, and decreased significantly after all sessions. Both groups maintained current BMI levels and decreased in anxiety and depression over time.

Descilo, T., A. Vedamurtachar, P. L. Gerbarg, D. Nagaraja, B. N. Gangadhar, B. Damodaran, B. Adelson, L. H. Braslow, S. Marcus & R. P. Brown. 2010. Effects of a yoga breath intervention alone and in combination with an exposure therapy for post-traumatic stress disorder and depression in survivors of the 2004 South-East Asia tsunami. *Acta Psychiatrica Scandinavica* 121(4). 289-300.

doi:<u>10.1111/j.1600-0447.2009.01466.x</u>.

In this non-randomized study, 183 tsunami survivors who scored 50 or above on the Post-traumatic Checklist-17 (PCL-17) were assigned to one of three groups: yoga breath intervention, yoga breath intervention followed by 3–8 hours of trauma reduction exposure technique, or a 6-week wait list. Over time, those in the first two groups showed significantly reduced PCL-17 scores compared with the wait list control group: decreases of at least 60% in PCL-17 scores and 90% in BDI scores occurred in experimental groups by 6 weeks and were maintained at 24-week follow-up.

Hancock, Lisa & Niko Tiliopoulos. 2010. Religious attachment dimensions and schizotypal personality traits. *Mental Health, Religion & Culture* 13(3). 261-265. doi:10.1080/13674670903334678.

This brief pilot study explored associations between religious attachment and schizotypy in a nonclinical Christian sample (n = 96). Participants responded to questionnaires assessing the above constructs, as well as adult attachment and neuroticism. Religious attachment accounted for 15.2% of the variance in cognitive schizotypy. Anxious religious attachment uniquely predicted cognitive schizotypy, while its effects on other schizotypy traits were accounted for by adult attachment effects.

Hernandez, Giselle, Jessica M. Salerno & Bette L. Bottoms. 2010. Attachment to God, Spiritual Coping, and Alcohol Use. *International Journal for the Psychology of Religion* 20(2). 97-108. doi:10.1080/10508611003607983.

The authors examined the effect of emotional God attachment on undergraduates' alcohol use generally and for coping purposes, and whether spiritual coping styles (collaborative, deferring, and self-directing) drive this effect. As hypothesized, people who feel secure in their emotional relationship with God use significantly more deferring, more collaborative, and less self-directing coping styles than people who feel anxious-ambivalent in their emotional relationship to God. Anxious-ambivalents use significantly more deferring, more collaborative, and less self-directing directing coping from God (avoidants). Secures use alcohol significantly less than anxious-ambivalents, who use alcohol significantly less than avoidants. The effect of God attachment on general alcohol use was mediated by the use of self-directing (but not deferring or collaborative) spiritual coping style.

Huguelet, P, S Mohr, C Gilliéron, P-Y Brandt & L Borras. 2010. Religious Explanatory Models in Patients with Psychosis: A Three-Year Follow-Up Study. *Psychopathology* 43(4). 230-239. doi:10.1159/000313521.

In this follow-up to a study of 92 outpatients, researchers found that a spiritual vision of illness (as part of an explanatory model) was more frequent in patients with psychosis, for whom the subjective dimension of religion was important. However, there was no association between the patients' religious denomination and their spiritual vision of the illness. The analyses showed that the various contents of spiritual visions of illness were not positive or negative per se; instead, they depended on how this religious vision was integrated into the person's experience.

Examining longitudinal aspects of coping showed that the spiritual vision sometimes changed, but was not associated with clinical or social outcome.

Krause, Neal. 2010. The Social Milieu of the Church and Religious Coping Responses: A Longitudinal Investigation of Older Whites and Older Blacks. *International Journal for the Psychology of Religion* 20(2). 109-129.

doi:<u>10.1080/10508611003608007</u>.

The purpose of this study is to see if the social environment of the church influences the use of religious coping responses over time. The following theoretical relationships were embedded in the conceptual model that was developed to evaluate this issue: (a) People who go to church more often are more likely to feel their congregation is highly cohesive (e.g., share the same values and beliefs); (b) individuals who worship in highly cohesive congregations are more likely to receive spiritual support (i.e., encouragement to adopt religious teachings and principles) from their fellow church members; and (c) people who receive more spiritual support will be more likely to adopt religious coping responses. In the process of evaluating this model, tests were performed to examine the influence of racial culture. Data from a nationwide longitudinal survey of older adults provide support for each link in the conceptual model. Pervasive racial cultural differences were also found: Older Blacks were more likely to be deeply involved in each facet of religion than older Whites.

Lazar, Aryeh. 2010. Spirituality and job satisfaction among female Jewish Israeli hospital nurses. *Journal of Advanced Nursing* 66(2). 334-344. doi:10.1111/j.1365-2648.2009.05172.x.

In a study of 120 female Jewish Israeli hospital nurses, researchers found a positive relationship between life coherency aspects of spirituality and spiritual values with job satisfaction. Hierarchical regression analysis indicated the particular importance of an idealistic spiritual orientation (positive contribution) and a transcendent spiritual orientation (negative contribution) to the prediction of nurses' job satisfaction.

Saeed, Sy Atezaz, Diana J. Antonacci & Richard M. Bloch. 2010. Exercise, yoga, and meditation for depressive and anxiety disorders. *American Family Physician* 81(8). 981-986.

In a review of literature, the authors found evidence of demonstrated therapeutic effectiveness for exercise, yoga, and meditation that is superior to no-activity controls, and comparable with established depression and anxiety treatments (e.g., cognitive behavior therapy, sertraline, imipramine). Mindful meditation and exercise have positive effects as adjunctive treatments for depressive disorders, although some studies show multiple methodological weaknesses. For anxiety disorders, exercise and yoga have also shown positive effects, but there are far less data on the effects of exercise on anxiety than for exercise on depression. Tai chi, qigong, and meditation have not shown effectiveness as alternative treatments for depression and anxiety.

Siev, Jedidiah, Dianne L. Chambless & Jonathan D. Huppert. 2010. Moral thought-action fusion and OCD symptoms: The moderating role of religious affiliation. *Journal of Anxiety Disorders* 24(3). 309-312.

doi:<u>10.1016/j.janxdis.2010.01.002</u>.

In a study of 341 college students, researchers found that (a) Christians endorsed higher levels of moral thoughtaction fusion (TAF) than did Jews, independent of obsessive-compulsive disorder (OCD) symptoms; (b) religiosity was correlated with moral TAF in Christians but not in Jews, suggesting that Christian religious adherence is related to beliefs about the moral import of thoughts; and (c) moral TAF was related to OCD symptoms only in Jews: for Christians, moral TAF was related to religiosity but not OCD symptoms, and for Jews, moral TAF was related to OCD symptoms but not religiosity. The authors conclude that moral TAF is only a marker of pathology when such beliefs are not culturally normative (e.g., as a function of religious teaching or doctrine). Suhail, Kausar & Shabnam Ghauri. 2010. Phenomenology of delusions and hallucinations in schizophrenia by religious convictions. *Mental Health, Religion & Culture* 13(3). 245-259. doi:10.1080/13674670903313722.

To assess the impact of religious affiliations on the phenomenology of delusions and hallucinations, 53 Pakistani Muslim patients with schizophrenia were interviewed using the Present State Examination and Religiosity Index. The results indicated that the more religious patients had greater themes of grandiose ability and identity. These differences were more obvious in groups divided on the basis of practice of Islam. Similar results were obtained in the content of hallucinations. More religious patients were more likely to hear voices of paranormal agents and had visions of the same.

Thombre, Avinash, Allen C. Sherman & Stephanie Simonton. 2010. Religious coping and posttraumatic growth among family caregivers of cancer patients in India. *Journal of Psychosocial Oncology* 28(2). 173-188.

doi:<u>10.1080/07347330903570537</u>.

Researchers evaluated family caregivers in Pune, India and examined discrete dimensions of cancer-specific religious coping, and their associations with posttraumatic growth, among families at a similar phase of treatment. As hypothesized, posttraumatic growth was associated with increased use of positive religious coping strategies and diminished use of negative coping strategies. In multivariate analyses, the strongest predictors were benevolent religious reappraisals and punishing God reappraisals.

2.2 SPIRITUALITY & HEALTH: GENERAL HEALTH & WELL-BEING

Beddoe, Amy E, Kathryn A Lee, Sandra J Weiss, Holly Powell Kennedy & Chin-Po Paul Yang. 2010. Effects of mindful yoga on sleep in pregnant women: a pilot study. *Biological Research for Nursing* 11(4). 363-370.

doi:<u>10.1177/1099800409356320</u>.

Researchers studied 15 healthy, nulliparous women in their second or third trimesters with singleton pregnancies who attended weekly mindfulness meditation and prenatal Hatha yoga classes for 7 weeks. Sleep variables were recorded at baseline (Time 1) and postintervention (Time 2), and control data were obtained by evaluating sleep in the third-trimester group at Time 1. Women who began the intervention in the second trimester had significantly fewer awakenings, less wake time during the night, and less perceived sleep disturbance at Time 2 than at baseline. Those who began during the third trimester had poorer sleep over time in spite of the intervention. Women who began the intervention in their second trimester had less awake time at Time 2 compared to third-trimester controls at Time 1.

Chandwani, Kavita D., Bob Thornton, George H Perkins, Banu Arun, N. V. Raghuram, H. R. Nagendra, Qi Wei & Lorenzo Cohen. 2010. Yoga improves quality of life and benefit finding in women undergoing radiotherapy for breast cancer. *Journal of the Society for Integrative Oncology* 8(2). 43-55.

This study examined the effects of yoga on quality of life (QOL) and psychosocial outcomes in women with breast cancer undergoing radiotherapy. Sixty-one women were randomly assigned to either a yoga or a wait-list group. Compared to the control group, the yoga group reported significantly better general health perception and physical functioning scores 1 week postradiotherapy; higher levels of intrusive thoughts 1 month postradiotherapy; and greater benefit finding 3 months postradiotherapy. There were no other group differences in other QOL subscales for fatigue, depression, or sleep scores. Exploratory analyses indicated that intrusive thoughts 1 month after radiotherapy were significantly positively correlated with benefit finding 3 months after radiotherapy.

Cox, Helen, Helen Tilbrook, John Aplin, Ling-Hsiang Chuang, Catherine Hewitt, Shalmini Jayakody, Anna Semlyen et al. 2010. A pragmatic multi-centred randomised controlled trial of yoga for chronic low back pain: trial protocol. *Complementary Therapies in Clinical Practice* 16(2). 76-80. doi:10.1016/j.ctcp.2009.09.010.

The authors present the study protocols of a randomized controlled trial to determine the effectiveness and costeffectiveness of Yoga for chronic Low Back Pain, which is being conducted by the University of York. Patients (n = 262) will be randomized to receive usual care or 12 weekly classes of yoga. A yoga program will be devised that can be delivered by yoga teachers of the two main national yoga organizations in the UK. Clinical outcome measures will be collected via postal questionnaires at baseline, 3 months, 6 months, and 12 months follow-up. The primary outcome measure will be functional limitations and disability as measured by the Roland & Morris Disability Questionnaire.

Diddle, Gina & Sharon A Denham. 2010. Spirituality and its relationships with the health and illness of Appalachian people. *Journal of Transcultural Nursing* 21(2). 175-182. doi:10.1177/1043659609357640.

This article explores the ways spirituality intertwines with the health and culture of those living in the Appalachian region. Literature pertaining to spirituality, health, and the culture of those residing in the Appalachian region was reviewed. Although the review suggests that connections between spirituality and health exist, empirical evidence is limited, somewhat dated, and lacks viable conclusions relative to the diverse needs of the Appalachian population.

Schmid, Arlene A., Marieke Van Puymbroeck & David M. Koceja. 2010. Effect of a 12-week yoga intervention on fear of falling and balance in older adults: a pilot study. *Archives of Physical Medicine and Rehabilitation* 91(4). 576-583. doi:10.1016/j.apmr.2009.12.018.

A sample of 14 adults over the age of 65 who endorsed "fear of falling" (FoF) took part in a biweekly 12-week yoga intervention. After the intervention, FoF decreased by 6%, static balance increased by 4%, and lower-body flexibility increased by 34%.

Trevino, Kelly M., Kenneth I. Pargament, Sian Cotton, Anthony C. Leonard, June Hahn, Carol Ann Caprini-Faigin & Joel Tsevat. 2010. Religious coping and physiological, psychological, social, and spiritual outcomes in patients with HIV/AIDS: Cross-sectional and longitudinal findings. *AIDS* and Behavior 14(2). 379-389.

doi:<u>10.1007/s10461-007-9332-6</u>.

Data from 429 patients with HIV/AIDS collected through patient interview and chart review at baseline and 12–18 months later showed that positive religious coping was associated with positive outcomes while spiritual struggle was associated with negative outcomes. The outcomes studied were viral load, CD4 count, quality of life, HIV symptoms, depression, self-esteem, social support, and spiritual well-being. In addition, high levels of positive religious coping and low levels of spiritual struggle were associated with small but significant improvements over time.

VandeVusse, Leona, Lisa Hanson, Margaret A. Berner & Jill M White Winters. 2010. Impact of selfhypnosis in women on select physiologic and psychological parameters. *Journal of Obstetric, Gynecologic, and Neonatal Nursing* 39(2). 159-168. doi:10.1111/j.1552-6909.2010.01103.x.

After listening to a 30-minute recording of relaxing, affirming hypnotic suggestions, study participants (n = 30 females) showed significantly reduced heart rate, respiratory rate, low-to-high frequency heart rate variability ratio,

and tension-anxiety, whereas high frequency heart rate variability was increased after the 30-minute hypnotic session.

Zautra, Alex J., Robert Fasman, Mary C. Davis & Arthur D. (Bud) Craig. 2010. The effects of slow breathing on affective responses to pain stimuli: An experimental study. *Pain* 149(1). 12-18. doi:10.1016/j.pain.2009.10.001.

A study of 27 women with fibromyalgia syndrome (FM) and a control group of 25 healthy women (HC) showed that, compared to normal breathing, slow breathing reduced ratings of pain intensity and unpleasantness, particularly for moderately versus mildly painful stimuli. The effects of slow breathing on pain ratings were less reliable for FM patients than for HC patients. Slow versus normal breathing decreased negative affect ratings following thermal pain pulses for both groups, and increased positive affect reports, but only for HCs with high trait negative affect. Participants who reported higher levels of trait positive affect prior to the experiment showed greater decreases in negative affect as a result of slow versus normal breathing.

2.3 SPIRITUALITY & HEALTH: RELIGIOSITY

Jansen, Kate L., Rebecca Motley & Joseph Hovey. 2010. Anxiety, depression and students' religiosity. *Mental Health, Religion & Culture* 13(3). 267-271. doi:10.1080/13674670903352837.

In a study of college students, self-reported religious influence and self-reported religiosity were significantly related to depression but not anxiety. Religious service attendance was negatively correlated with both anxiety and depression. No difference was found between Catholic and other Christian denominations in rates and levels of depression and anxiety.

Schnall, Eliezer, Sylvia Wassertheil-Smoller, Charles Swencionis, Vance Zemon, Lesley Tinker, Mary Jo O'Sullivan, Linda Van Horn & Mimi Goodwin. 2010. The relationship between religion and cardiovascular outcomes and all-cause mortality in the women's health initiative observational study. *Psychology & Health* 25(2). 249-263. doi:10.1080/08870440802311322.

In a study of 92,395 women, followed for 7.7 years, researchers found that after controlling for demographic, socioeconomic, and prior health variables, self-report of religious affiliation, frequent religious service attendance, and religious strength and comfort were associated with reduced risk of all-cause mortality. However, self-report of religiosity was associated with increased risk of coronary heart disease morbidity and mortality in some models.

Tanaka, Kimiko. 2010. The Effect of Divorce Experience on Religious Involvement: Implications for Later Health Lifestyle. *Journal of Divorce & Remarriage* 51(1). 1-15. doi:10.1080/10502550903423149.

This study reviewed evidence that divorce, rather than being a single event, is a process with effects that linger even after remarriage, including effects on religious involvement. The author presents divorce as an active or passive choice that some individuals make in their life course and the life event influences their social behaviors in later life, which could provide another possible explanation why divorce can negatively influence health even after remarriage.

2.4 SPIRITUALITY & HEALTH: METHOD AND THEORY

Alladin, Assen. 2010. Evidence-based hypnotherapy for depression. *International Journal of Clinical and Experimental Hypnosis* 58(2). 165-185. doi:10.1080/00207140903523194. This article describes the major components of cognitive hypnotherapy (CH), which integrates hypnosis with cognitive-behavior therapy. The major components of CH for depression are described in sufficient detail to allow replication, verification, and validation of the techniques delineated. CH for depression provides a template that clinicians and investigators can utilize to study the additive effects of hypnosis in the management of other psychological or medical disorders.

Amaro, Hortensia, Cielo Magno-Gatmaytan, Michael Melendez, Dharma E Cortes, Sandra Arevalo & Arthur Margolin. 2010. Addiction treatment intervention: an uncontrolled prospective pilot study of spiritual self-schema therapy with Latina women. *Substance Abuse* 31(2). 117-125. doi:10.1080/08897071003641602.

This study conducted a preliminary evaluation of Spiritual Self-Schema (3-S) with 13 urban, low-income Latinas in residential addiction treatment. 3-S is a weekly 8-session, mindfulness-based, manual-guided, individual intervention targeting addiction and human immunodeficiency virus (HIV) risk behaviors that integrates cognitive behavioral strategies with Buddhist principles and clients' religious/spiritual beliefs. Data showed high rates of 3-S acceptability and positive changes in a number of outcomes relevant to recovery from addiction and to HIV prevention, including impulsivity, spirituality, motivation for change, and HIV prevention knowledge.

Barua, Ven. Sreemat Swapan Kumar. 2010. 65. Cognitive process: A Buddhist explanation of information process and its congruent reactions. *Epilepsy & Behavior* 17(4). 598. doi:10.1016/j.yebeh.2010.01.090.

The author presents a Buddhist understanding of the cognitive process of incoming information, its circulation and its congruent reactions based on the Buddhist spiritual meditative tradition of South and Southeast Asia. He asserts that Buddha can be credited as the first cognitive psychologist who propounded one of the most comprehensive analytic systems of cognitive process with an ultimate aim of achieving an altered psychological state of positive change and equilibrium reaction. Abstract from a paper given at the Epilepsy, Brain and Mind conference in March 2010, in Prague, Czech Republic.

Bray, Peter. 2010. A broader framework for exploring the influence of spiritual experience in the wake of stressful life events: examining connections between posttraumatic growth and psychospiritual transformation. *Mental Health, Religion & Culture* 13(3). 293-308. doi:10.1080/13674670903367199.

This paper explores the role that spiritual experience might play in the process of posttraumatic growth by examining two quite different approaches to transformational growth: Lawrence Calhoun and Richard Tedeschi's posttraumatic growth model; and Stanislav and Christina Grof's framework of psycho-spiritual transformation. Both approaches are briefly outlined, compared and discussed, and some observations are made about their shared understanding of the human potential for growth and the significance of spiritual experience in the struggle to master distressing life events.

Cashwell, Craig S., Harriet L. Glosoff & Chereé Hammond. 2010. Spiritual Bypass: A Preliminary Investigation. *Counseling & Values* 54(2). 162-174.

This study examines the phenomenon of "spiritual bypass" by considering how spirituality, mindfulness, alexithymia (emotional restrictiveness), and narcissism work together to influence depression and anxiety among college students. Results suggested that mindfulness and alexithymia accounted for variance in depression beyond what is accounted for by spirituality and that all 3 factors (mindfulness, alexithymia, and narcissism) accounted for variance in anxiety beyond what is accounted for by spirituality.

Harandy, Tayebeh Fasihi, Fazlollah Ghofranipour, Ali Montazeri, Monireh Anoosheh, Mohsen Bazargan, Eesa Mohammadi, Fazlollah Ahmadi & Shamsaddin Niknami. 2010. Muslim breast

cancer survivor spirituality: coping strategy or health seeking behavior hindrance? *Health Care for Women International* 31(1). 88-98.

doi:10.1080/07399330903104516.

The authors explored the role of religiosity and spirituality on (i) feelings and attitudes about breast cancer, (ii) strategies for coping with breast cancer, and (iii) health care seeking behaviors among 39 breast cancer survivors in Iran. Though almost all participants attributed their cancer to the will of God, spirituality was also found as the primary source of psychological support among participants, and all had been engaged with their medical treatment. This is in contrast to Western cultures in which a belief in an external health locus of control diminishes participation in cancer screening, detection, and treatment.

Kane, Michael N. 2010. Predictors of university students' willingness in the USA to use clergy as sources of skilled help. *Mental Health, Religion & Culture* 13(3). 309-325. doi:10.1080/10371390903381106.

In a study of 186 American college students, researchers found seven variables affecting the students' willingness to use clergy as a source of help: (a) trust of clergy, (b) empathic ability of clergy, (c) having previously sought help from clergy, (d) respondents' dominant/minority cultural identification, (e) attendance at religious services at least once a year, (f) believing that spiritual counselling is as effective as psychotherapy, and (g) receiving religious/spiritual education as a child. Further analysis of survey results are detailed.

Koszycki, Diana, Kelley Raab, Fahad Aldosary & Jacques Bradwejn. 2010. A multifaith spiritually based intervention for generalized anxiety disorder: a pilot randomized trial. *Journal of Clinical Psychology* 66(4). 430-441. doi:10.1002/jclp.20663.

Researchers studied 18 patients with generalized anxiety disorder (GAD), who were randomized to either 12 sessions of the a spiritually-based intervention (SBI; n=11) delivered by a spiritual care counselor, or 12 sessions of psychologist-administered cognitive-behavioral therapy (CBT; n=11). The SBI produced robust and clinically significant reductions from baseline in psychic and somatic symptoms of GAD and was comparable in efficacy to CBT. Treatment response occurred in 63.6% of SBI-treated and 72.3% of CBT-treated patients, and gains were maintained at 3-month and 6-month follow-ups.

Ku, Ya-Lie, Shih-Ming Kuo & Ching-Yi Yao. 2010. Establishing the validity of a spiritual distress scale for cancer patients hospitalized in southern Taiwan. *International Journal of Palliative Nursing* 16(3). 134-138.

Through research with 85 patients in the oncology unit of a medical centre in southern Taiwan, the authors verified the validity of the spiritual distress scale (SDS), a scale developed as part of a qualitative study in which 20 cancer patients were interviewed about spiritual needs in 2003-2004.

Loriedo, Camillo & Chiara Torti. 2010. Systemic hypnosis with depressed individuals and their families. *The International Journal of Clinical and Experimental Hypnosis* 58(2). 222-246. doi:10.1080/00207140903523277.

The authors advance an interpersonal view of depression, emphasizing the role of family and cultural influences on the evolution of depression and its successful treatment. Patterns of hypnosis that can be applied in a systemic treatment framework are described and illustrated with case examples.

Lundberg, Pranee C & Petcharat Kerdonfag. 2010. Spiritual care provided by Thai nurses in intensive care units. *Journal of Clinical Nursing* 19(7-8). 1121-1128. doi:10.1111/j.1365-2702.2009.03072.x.

After interviews with 30 Thai nurses in Bangkok, researchers identified 5 themes related to the provision of spiritual care: giving mental support, facilitating religious rituals and cultural beliefs, communicating with patients and patients' families, assessing the spiritual needs of patients and showing respect and facilitating family participation in care. Nurses also suggested several ways of improving spiritual care.

Lyon, Emily. 2010. The Spiritual Implications of Interpersonal Abuse: Speaking of the Soul. *Pastoral Psychology* 59(2). 233-247.

doi:<u>10.1007/s11089-009-0238-2</u>.

The author explores the concepts of "soul" and "radical evil" within the context of destructive interpersonal abuse. With the help of information from the field of neuroscience, as well as other theological perspectives, some pathways for healing of the soul following abuse are discussed.

McCann, Barbara S. & Sara J. Landes. 2010. Hypnosis in the treatment of depression: Considerations in research design and methods. *International Journal of Clinical and Experimental Hypnosis* 58(2). 147-164. doi:10.1080/00207140903523186.

The authors present arguments for the inclusion of hypnotic approaches in the array of current strategies for dealing with depression. Adoption of hypnosis may be inhibited, however, because some research methods, namely randomized controlled trials, have many shortcomings for identifying the potential impact of hypnosis on depression. Other strategies, notably single-case design and benchmarking approaches, may offer a more practical solution to the problem of determining "what works for depression."

Mok, Esther, Frances Wong & Daniel Wong. 2010. The meaning of spirituality and spiritual care among the Hong Kong Chinese terminally ill. *Journal of Advanced Nursing* 66(2). 360-370. doi:10.1111/j.1365-2648.2009.05193.x.

From interviews with 15 terminally ill Chinese patients, researchers found that participants described "spirituality" as a unique personal belief which gives strength and relates to meaning of life. Participants did not expect nurses to provide spiritual care, but when quality interpersonal care was given it gave them strength and spiritually supportive.

Namini, Sussan, Claudia Appel, Ralph Jürgensen & Sebastian Murken. 2010. How is well-being related to membership in new religious movements? An application of person environment fit theory. *Applied Psychology: An International Review* 59(2). 181-201. doi:10.1111/j.1464-0597.2009.00377.x.

This study of new members of three new religious movements (NRMs) applied person-environment fit theory to investigate whether the fit between persons' needs for autonomy and relatedness, on the one hand, and the commensurate supplies of the groups, on the other, are related to well-being and mental health. Results indicate that, for autonomy and relatedness, well-being measures tend to decrease as supplies exceed needs. Little support was found for a moderator effect of centrality of religiosity. The authors found support for the application of person-environment fit theory to the study of membership in NRMs.

Sherry, Alissa, Andrew Adelman, Margaret R. Whilde & Daniel Quick. 2010. Competing Selves: Negotiating the Intersection of Spiritual and Sexual Identities. *Professional Psychology: Research and Practice* 41(2). 112-119. doi:10.1037/a0017471.

This study uses a mixed method design to investigate the relation between religious and sexuality variables in a sample of 422 lesbian, gay, and bisexual respondents. Quantitative results indicated that conservative religious beliefs were related to higher levels of shame, guilt, and internalized homophobia. Qualitative results appeared to

highlight eight themes, the more dominant of which indicated that issues around sexual orientation were the catalyst for questioning or changing religious affiliation or beliefs.

Shores, Cynthia I. 2010. Spiritual perspectives of nursing students. *Nursing Education Perspectives* 31(1). 8-11.

The purpose of this descriptive, non-experimental study was to describe spiritual perspectives of nursing students (n = 205). Findings suggest that nursing students in this sample perceived themselves as having a high level of spirituality as indicated by scores on the SPS.

Steffen, Edith & Adrian Coyle. 2010. Can "sense of presence" experiences in bereavement be conceptualised as spiritual phenomena? *Mental Health, Religion & Culture* 13(3). 273-291. doi:10.1080/13674670903357844.

This article explores the possibility of conceptualizing the frequently occurring experience of "sensing the presence of the deceased" in bereavement as a spiritual phenomenon. The authors argue that "sense of presence" experiences are expressions of the continuing relationship with the deceased that can be spiritually understood but that pose various challenges for their meaningful integration into the bereaved person's worldview or meaning structures.

Walker, Donald F., Jennifer B. Reese, John P. Hughes & Melissa J. Troskie. 2010. Addressing Religious and Spiritual Issues in Trauma-Focused Cognitive Behavior Therapy for Children and Adolescents. *Professional Psychology: Research and Practice* 41(2). 174-180. doi:10.1037/a0017782.

The authors discuss the relevance of religious and spiritual issues in trauma-focused cognitive behavior therapy for children and teens. Using three case studies, they then present a model for assessing and treating religion and spirituality in trauma-focused cognitive behavior therapy. This model focuses on the client's pre-existing religious and spiritual functioning as well as changes in religion/spirituality after abuse, suggesting that this approach will assist clients from various religious and spiritual affiliations to process childhood abuse.

Yapko, Michael D. 2010. Hypnotically catalyzing experiential learning across treatments for depression: actions can speak louder than moods. *The International Journal of Clinical and Experimental Hypnosis* 58(2). 186-201. doi:10.1080/00207140903523228.

This article describes the use of hypnosis to catalyze experiential learning and to encourage behavioral activation in the depressed client by directly addressing and transforming cognitive and perceptual patterns that can impede such behavioral activation, especially global thinking and ruminative coping styles.

PART 3. BOOKS

3.1 SCIENTIFIC STUDY OF RELIGION, BRAIN, AND BEHAVIOR

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3.2 SPIRITUALITY & HEALTH RESEARCH

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PART 4. ARTICLES IN PRESS

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doi:<u>10.1007/s10943-010-9351-x</u>.

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