

# Beyond descriptive research: advancing the study of spirituality and health

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**Abstract** The past three decades have witnessed a surge in research on spirituality and health. This growing body of literature has linked many aspects of spirituality as well as religion to both positive and negative indices of human functioning. However, studies have primarily been descriptive, focusing on identifying associations between spirituality and health, rather than explanatory, focusing on identifying mechanisms underlying observed relationships. Earlier research is also limited by failure to control for salient covariates, apply prospective design, and use sophisticated measurements with well defined and empirically-validated factors. Recent research, however, is advancing the study of spirituality and health by examining not only *whether* religious factors are relevant to human health, but also *how* spirituality may functionally impact medical and psychological wellbeing and illness. This article introduces a special issue on Spirituality and Health containing 12 full-length research reports to further this welcomed, emerging trend.

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On February 23, 2009, the cover of TIME Magazine portrayed the penitent face of a woman immersed in prayer

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with the adjacent caption “How faith can heal” at its side. To the credit of TIME’s senior writer Jeffrey Kluger, the associated cover story provided a thoughtful (if not provocative) update on an emerging trend in the study of spirituality and health to investigate not only *whether* these variables are connected, but *how* they are interrelated.

Of the 47,000 scientific articles on this subject matter (PubMed search—June, 2011), most empirical studies have described simple associations between spirituality and health and provided little explanation for how and why these domains may be functionally connected. Further, significant methodological and statistical limitations have plagued this area of study, including, but not limited to, failure to control for salient covariates and multiple comparisons (Sloan et al., 1999). Measurement and definition of spiritual variables are also concerns, with many studies utilizing crude, single-item indices of global religious involvement (e.g., How often do you attend church or religious services?), which do not assess for specific aspects or positive and negative dimensions of spirituality (Hill & Pargament, 2003). Consequently, findings have been inconsistent, and functional relationships between spirituality and health, including directions and mechanisms of effect, remain largely unclear.

However, this field of study is now moving beyond its ubiquitous descriptive research designs to inform a nuanced, evidence-based perspective on the relevance of spirituality to health. Advances have included the utilization of experimental methodologies (e.g., Wachholtz & Pargament, 2009), longitudinal studies in clinical populations involving biomarkers of illness (e.g., Ai et al., 2006), the advent and utilization of psychometrically sound and clinically-relevant measures of spirituality and religion (e.g., Rosmarin et al. in press), theoretical frameworks to explain links between spirituality and health

(e.g., McCullough & Willoughby, 2009; Park, 2007), and randomized controlled trials of spiritually-integrated psychosocial treatments (e.g., Rosmarin et al., 2010). This growing body of research is slowly unraveling the complexity of relationships between physical health and spiritual/religious variables across cognitive, behavioral, affective and interpersonal dimensions.

Methodological advancement in this area of study is long overdue given the importance of spirituality to the general population. In the United States, for example, 92% of Americans report a belief in God or a higher power and more than 50% indicate that religion/spirituality is “very important” in their lives (Gallup Poll, May 5–8, 2011). More importantly, many patients (up to 50%) receiving medical and psychological care express a desire to discuss spiritual matters with their health care providers (Post et al., 2000; Rose et al., 2001) and 49% of Americans report that they use prayer to address their own health concerns (Wachholtz & Sambamthoori, 2011). In particular, spirituality tends to be important to the growing population of older adults (Koenig & Larson, 1998), including its well recognized role in coping (Pargament, 1997) and medical decisions at the end of life (Daaleman & Vandecreek, 2000). Furthermore, though the importance of spirituality tends to vary with culture and geography, in the midst of economic crises and the looming threat of terrorism, spirituality seems to be increasingly important around the world (Ai et al., 2011). For example, in a recent study conducted within a psychiatric hospital in the greater Boston area (not a hotbed of religious fundamentalism), nearly 40% of 250 patients expressed an interest in spiritually-integrated treatments and “religion” was rated as “moderately” or “very” important to upwards of 30% (Rosmarin et al. in preparation). Is it not incumbent upon the scientific community—regardless of the religious persuasions of its constituents—to study this area of human life in a responsible and methodologically rigorous manner?

### This issue

We therefore feel most privileged to present this special issue of the Journal of Behavioral Medicine, which contains 12 full-length research reports, advancing the study of spirituality and health in a significant way. A brief summary of each contribution follows.

Ironson et al. (this issue) examined a sample of HIV positive participants over a 4 year period and measured changes in CD4 cells and Viral Load. Results showed those with a positive View of God had slower disease progression compared to those with a negative View of God. Participants’ relationships with God likely affected their

health through healthier behavior associated with religious or spiritual activity, and resources (spiritual and social) given through religious association, which protect against depression. These results highlight the salience of religious belief and its associated benefits to immunology.

Past studies have focused primarily on the effect of religious struggle on mental but not physical wellbeing. Thus, Park et al. (this issue) conducted a longitudinal study examining 111 patients with congestive heart failure to evaluate how religious struggle predicted subsequent wellbeing (life satisfaction, wellbeing, physical impairment, and length of hospitalization). Results showed that increased religious struggle at the initial assessment predicted greater subsequent depression, longer hospitalization—especially in those highly religious—but shared little relationship with health-related quality of life. Because congestive heart failure is among the most prevalent and expensive chronic diseases resulting from recurring hospitalization, better understanding of religious struggle and its effect on length of stay can help reduce existing expense and alleviate problems associated with such struggle.

Religion has traditionally played an integral part in African American culture; compared to other patients, African American patients suffering from cancer are more likely to find solace within religion and spirituality (Dessio et al., 2004). To this end, in the third paper in this issue, Holt et al. (this issue) studied 100 African American participants to test a mediational model explaining possible mechanisms by which religiousness and spirituality relate to positive health outcomes. The foundation for this model was drawn from qualitative data gathered through interviews, quantitative data drawn from relevant measures, and supporting literature suggesting potential mediators (sense of meaning and positive affect). Results showed that religious involvement and spiritual and emotional wellbeing played an important role in positive affect, which may mediate between religiousness or spirituality and better health outcome.

While religiousness has been shown to have positive health effects in general, such effect may be limited or minimal depending on religious motivation. Better understanding of religious motivation may allow for better psychological portraits of patients and prediction of health outcomes, thus creating opportunities for potential intervention. Masters and Knestel (this issue) therefore examined the effect of religious motivation (intrinsic, pro-religious and non-religious) on cardiovascular response. Though the study had predicted that those with non-religious and intrinsic motivation would have lowest cardiovascular responses, results showed instead that pro-religious people did. These findings may be attributable to personality measurements showing that pro-religious people tend to be higher on neuroticism; thus, chronic arousal

may exhaust physiological pathways resulting in a dampened cardiovascular response. However, pro-religious people also labeled themselves as being less healthy in this study. How these seemingly contradictory results fit together requires more research.

Religious attendance has previously been shown to have positive effects on physical and mental health through promotion of health care use. To further investigate these relationships, Benjamins et al. (this issue) studied a national sample within the Presbyterian Church (USA), predicting that use of preventive services would be positively correlated with frequency of health discussions with other members, awareness of health care providers in congregation or family, promotion of healthy lifestyle by others, and belief in the sanctity of the body and God's control over health. While attendance did predict increased health service use, there was lack of support for the explanatory mechanisms mentioned, raising the possibility that this association is a function of age.

Spirituality has to do with the thoughts, feelings, and behaviors experienced through a person's search for the sacred (Pargament, 2007). Given known links between human cognition, affect and behavior and the cardiovascular system, it stands to reason that spirituality, which intersects many aspects of a person's life, may be tied to cardiovascular health. To further develop this area of study, Holt-Lunstad et al. (this issue) identified links between spirituality and physiological markers of risk for cardiovascular disease, (blood pressure, inflammation, fasting glucose and blood lipids). Results showed that higher levels of spirituality were consistently associated with lower levels of risk factors, except cholesterol, triglycerides, and VLDL with which it shared insignificant or marginal linkage. Even when controlling for socio-demographic information, these associations remained, suggesting that higher spirituality can exert protective influence over many health factors.

While intrinsic religiosity can ameliorate the effects of poor physical health on depressive symptoms, the mediating pathways for this effect may vary according to the characteristics of one's religion and culture. Pirutinsky et al. (this issue) therefore compared the influence of social support and intrinsic religiosity among Orthodox and non-Orthodox Jews. Because non-Orthodox Jews place higher emphasis on social support than the Orthodox, the authors predicted that while intrinsic religiosity would weaken the effect of poor physical health on depression for both groups, intrinsic religiosity would be mediated by social support only for non-Orthodox Jews. Results supported this theory, highlighting the importance of examining interactions between religious affiliation, culture and religious factors in spirituality and health research.

One complex issue in the study of spirituality and health relates to definition and measurement (Hill & Pargament,

2003). In particular, while spirituality and religiosity are associated concepts, they are not the same and may not necessarily predict health outcomes similarly. McIntosh et al. (this issue) therefore examined both spirituality (defined as subjective beliefs) and religiosity (defined as traditionally shared social practices), and hypothesized that these factors would independently affect physical and mental health in a national longitudinal study of participants before and after 9/11. Results supported this hypothesis; while religiosity predicted fewer mental and musculoskeletal ailments and lower levels of cognitive intrusions, spirituality predicted fewer infectious ailments and more cognitive intrusions with steeper decline rate. This difference may be due to the greater social support associated with religiosity, and the flexible cognitive framework offered by spirituality, which promotes reassessment of past trauma to arrive at greater understanding.

While mindfulness-based treatments are ostensibly secular in nature (Segal et al., 2004), they are associated with spiritual meaning for many Americans. Greeson et al. (this issue) therefore hypothesized that increased daily spiritual experiences would mediate the relationship between enhanced mindfulness and improved health-related quality of life, over the course of participation in a Mindfulness-Based Stress Reduction (MBSR) program. Participants reported an increased number of spiritual experiences and enhanced mindfulness, which was associated with improved mental health-related quality of life. Though the original hypothesis was unsupported, results suggested that mindfulness partly explained associations between increased daily spiritual experiences and improved health-related quality of life. This may suggest that enhanced mindfulness facilitates shifts away from self-centered narratives, leading to more perceptiveness of feelings and interconnections related to spirituality.

Many cancer patients use prayer to cope with depression, however few studies have evaluated the effects of different types of prayer. Perez et al. (this issue) therefore examined multiple types of prayer, hypothesizing that thanksgiving and supplication prayer for the wellbeing of others would predict lower depressive symptoms among cancer patients, through the mediating mechanisms of social support and rumination. Results supported these hypotheses; while the two prayers previously mentioned predicted less symptoms of depression through the proposed mechanisms, adoration (praising God), confession (admission of misdeed), and reception (passively awaiting spiritual direction) did not. These results suggest that certain forms of prayer may facilitate diversion from ruminative self-focus thus interrupting maladaptive cognitive processes involved in prolonged melancholia, and further increase perceptions of social support and feelings of interconnectedness, thus decreasing distorted thinking in a social context.

A substantial number of people have turned away from traditionally organized religion towards a secular reverence of an impersonal transcendent force, but few studies have examined the health correlates of such involvement. Ai et al. (this issue) therefore studied how secular reverence would relate to health outcomes among patients undergoing open-heart surgery. As predicted, secular reverence predicted shorter hospital stay after controlling for key medical indices, while traditional religious reverence alone did not. These results highlight the importance of assessing for diverse beliefs and practices, in research on spirituality and health.

Chronic pain can impair daily functioning and interpersonal relationships, however, traditional treatment often cannot fully reduce pain severity or increase tolerance and there is a need for utilization of complementary strategies. One prominent strategy, religiosity, may facilitate pain management through augmenting appraisals and perceptions of pain, and adding to one's resources by affirming belief in God and personal strength. Dezutter et al. (this issue) therefore examined this possibility among 202 individuals with chronic pain, and found that prayer had a significant effect on pain tolerance, but not on pain severity, and that re-appraisal served as the mediator between prayer and tolerance. Effects were accentuated when members were religious. These results support the integration of spiritual content into the transactional theory of stress and coping, and further highlight the need for more research on religious coping with pain.

Given the inherent overlap between many spiritual and religious constructs, novel methods are necessary to untangle the complex nature of this domain. To this end, Kristeller et al. (this issue) utilized a cluster analysis in a sample of 124 cancer patients to identify four subgroups: (1) individuals with high levels of both spirituality and religion; (2) individuals with high spirituality and low religion; (3) individuals with high religion and some religious struggle; and (4) individuals low in both spirituality and religion. This novel approach is vital for the selection of appropriate candidates for spiritually-based interventions. For example, while groups 1, 2 & 3 may benefit from the integration of spirituality into treatment, such approaches may not be appropriate for group 4.

## Conclusion

In sum, the 12 articles in this special issue represent important advancements in the study of spirituality and health. The sheer breadth of the topics—religious struggle, religious motivation, attendance of religious services, belief in the sanctity of the body, belief in God's control over health, daily spiritual experiences, secular reverence,

use of mindfulness and types of prayer—speaks to the need for nuanced, specific, hypothesis-driven research in this area of inquiry. The range of impact on human health is also remarkable—from physical health variables such as immunology and HIV progression, congestive heart failure, cardiovascular reactivity, post-surgery recovery, and pain tolerance/severity, to mental health variables such as depression in the context of cancer and heart failure, posttraumatic stress, and behavioral factors such as the utilization of healthcare resources—spiritual and religious life seem to be robustly linked to numerous indices of human health (in both positive as well as negative ways). Most importantly, however, the number of explanatory mechanisms identified—sense of meaning, positive affect, neuroticism, social support (for some), focus on interconnectedness, decreasing self-centered rumination, and facilitating cognitive reappraisals—highlights the complexity of this area of study and points towards countless areas for further inquiry and examination. To this end, it is disconcerting that the National Institutes of Health have funded very little research in this area (particularly given the relevance of spirituality and religion to the public interest of American tax payers). It is hoped that national funding bodies worldwide will begin to make this area of study a priority, and thus enable continued advancement in the science of spirituality and health.

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