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SPIRITUALITY AND HEALTH: WHAT WE KNOW, WHAT WE NEED TO KNOW

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Spirituality and religion have been seen as beneficial, harmful, and irrelevant to health. We examine the recent research on this topic. We focus on (a) defining spirituality and religion both conceptually and operationally; (b) the relationships between spirituality/religion and health; and (c) priorities for future research. Although the effect sizes are moderate, there typically are links between religious practices and reduced onset of physical and mental illnesses, reduced mortality, and likelihood of recovery from or adjustment to physical and mental illness. The three mechanisms underlying these relationships involve religion increasing healthy behaviors, social support, and a sense of coherence or meaning. This research is based on religion measures, however, and it should be emphasized that spirituality may be different.

It is both surprising and encouraging that spirituality is included in this journal issue on classic human strengths. Surprising because spirituality, when considered separate from religiousness, does not have a substantial history of scientific inquiry. Encouraging for two reasons: first, despite relative neglect by social and behavioral scientists, people frequently report that their spiritual beliefs and practices are major sources

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of personal strength. Second, it is timely to examine spirituality because it is beginning to receive scientific attention.

We address three issues in this article. First, we define spirituality, both conceptually and operationally. Second, we selectively review research on the relationships between spirituality and health. Third, we discuss high priority issues for future research.

DEFINING SPIRITUALITY

Defining spirituality is complex, in large part because researchers lack agreement about it. The disagreement is compounded by the degree to which spirituality is linked to religiousness. Moreover, the field remains divided on the conceptualization and measurement of spirituality because (a) extant research examining spirituality, separate from religion, is small and, (b) research on topics other than spirituality may be addressing the same phenomenon (e.g., life purpose, sense of coherence).

CONCEPTUALIZING SPIRITUALITY

Historically, there has been little interest in distinguishing between religion and spirituality, with the two concepts often being intertwined in their cultural meaning. Indeed, it is only recently that spirituality began to acquire meanings separate from religion. The social processes posited as explanations for this separation include secularism and disillusionment with religious institutions (e.g., Sheldrake, 1992).

Recent scientific studies of religion and spirituality reveal both cultural similarities and differences in meaning. Both spirituality and religion focus on the sacred or divine, beliefs about the sacred, the effects of those beliefs on behavior, practices used to attain or enhance a sense of the sacred, and experiences of spiritual or religious states of consciousness (e.g., Wuff, 1997). The major difference is that religion is viewed as being linked to formal religious institutions, whereas spirituality does not depend upon a collective or institutional context (Pargament, 1997). As Pargament points out, the most disturbing element of this distinction is that it can lead to artificial and inaccurate separation between institutions and individuals. Although religious participation often occurs in religious institutions, religiousness is not confined to institutional settings. Nor do religious institutions typically preclude individualized religious expression—in fact, they usually encourage it.

Although some people perceive important differences between religion and spirituality, most do not. A large majority of Americans describe themselves as both religious and spiritual (e.g., Zinnbauer, Pargament, Cowell, Rye, & Scott, 1997). And these individuals do not

view prayer, attendance at religious services, and beliefs about the sacred as being either religious or spiritual, but rather as components of both. So long as most individuals do not distinguish between religion and spirituality, separating these concepts operationally will be impossible. Of course, we can study individuals who report that they are spiritual but not religious—there are a few studies of this kind (e.g. Legere, 1984; Roof, 1993). But such studies will not generate distinct, broadly applicable measures of religiousness and spirituality. (In theory, we also could study individuals who describe themselves as religious but not spiritual, but research suggests that the numbers of such persons are too small for meaningful analysis.)

A recent panel convened by the National Institute of Healthcare Research (NIHR) to comprehensively review extant research on spirituality and health recommended useful definitions of religiousness and spirituality (Larson, Swyers, & McCullough, 1997). The authors of this article were on this panel, and we concur with its recommendations. Thus, we now present those definitions (see panel report for more detailed discussions).

The search for the sacred is central to definitions of religion and spirituality. This focus on the sacred helps to distinguish both spirituality and religion from other social and personal phenomena (e.g., Berger, 1967). As used here, "sacred" refers to a divine being, higher power, or ultimate reality, as perceived by the individual. For something to be sacred, it must be divine in its character or relationship to the divine. "Search" refers to attempts at identifying, articulating, maintaining, or transforming—knowing, understanding, and embodying.

The NIHR panel defined spirituality as "the feelings, thoughts, experiences, and behaviors that arise from a search for the sacred" (Larson et al., 1997, p. 21). The definition of religion or religiousness included two criteria. The first could be met in one of two ways: (a) as a result of a search for the sacred (identical to the definition of spirituality); or (b) as a search for non-sacred goals in a context where the primary goal is a search for the sacred. The second criterion was that the means and methods of the search receive validation and support from an identifiable collectivity. Thus, the distinctive character of religion is its collective reinforcement and identity.

OPERATIONALIZING SPIRITUALITY

We believe that the previous definitions both do justice to current concern about the overlap and distinctiveness of religion and spirituality and, if broadly adopted, will facilitate communication and the accumulation of knowledge in future research. However, there are two problems with those definitions. First, because they were proposed only a

year ago, they have not been used systematically in research to date. Second, they are highly abstract definitions that do not lead to straightforward operationalization.

Scholars agree that religion is a multidimensional concept and that its various dimensions need to be assessed separately; the same applies to spirituality. Although there are many measures of various components of religious activity, the field lacks consensus on how many dimensions there are and what they are.

The NIHR panel also reviewed the measurement of religion and spirituality. A smaller panel was convened jointly by the National Institute on Aging (NIA) and the Fetzer Institute to identify the conceptual domains and specific measures of religion and spirituality that are the most promising for understanding the links between spirituality and health. One of the authors of this article (LKG) was a member of that panel (NIA/Fetzer Institute Working Group, 1997).

The NIHR panel identified 10 key domains of religion and/or spirituality for which there are at least minimal evidence of links to health. These domains and brief descriptions are as follows:

1. *Religious/Spiritual Preference or Affiliation*: Membership in or affiliation with a specific religious or spiritual group.
2. *Religious/Spiritual History*: Religious upbringing, duration of participation in religious or spiritual groups, life-changing religious or spiritual experiences, and "turning points" in religious or spiritual participation or belief.
3. *Religious/Spiritual Participation*: Amount of participation in formal religious or spiritual groups or activities.
4. *Religious/Spiritual Private Practices*: Private behaviors or activities, including but not limited to prayer, meditation, reading sacred literature, and watching or listening to religious or spiritual radio or television programs.
5. *Religious/Spiritual Support*: Tangible and intangible forms of social support offered by the members of one's religious or spiritual group.
6. *Religious/Spiritual Coping*: The extent to which and ways in which religious or spiritual practices are used to cope with stressful experiences.
7. *Religious/Spiritual Beliefs and Values*: Specific religious or spiritual beliefs and values.
8. *Religious/Spiritual Commitment*: The importance of religion/spirituality relative to other areas of life and the extent to which religious or spiritual beliefs and practices serve to affect personal values and behavior.
9. *Religious/Spiritual Motivation for Regulating and Reconciling Relation-*

ships: Most measures in this domain focus on forgiveness, but other issues may be relevant as well (e.g., confession, atonement).

10. *Religious/Spiritual Experiences*: Personal experience with the divine or sacred, as reflected in emotions and sensations.

There is considerable overlap between these 10 domains and the eight domains identified by the NIA/Fetzer experts. Seven of the domains are identical to those described previously. Rather than the broader net of religious/spiritual motivation for regulating and reconciling relationships, the NIA/Fetzer group identified forgiveness itself as a distinct domain. The two domains that the NIA/Fetzer group did not recommend as particularly important for understanding the links between religion/spirituality and health were religious/spiritual beliefs and religious/spiritual commitment.

The NIA/Fetzer panel reviewed more than 200 measures in the eight domains it identified. The major product produced by the panel was a recommended battery of measures in each of the eight domains (NIA/Fetzer Working Group, 1997). Both long-form and short-form batteries were developed. Overall, however, the panel was disappointed with the measurement tools available. Many were single-item measures. Most had little if any psychometric assessment, lacking reliability and validity information. Few had been used in a sufficient number of studies to generate a knowledge base about how the measure operated across settings and samples. Thus, the panel's report highlighted the need for the development and/or evaluation of measures of religiousness/spirituality.

Obviously, the measurement tools available were not based on the definitions of spirituality and religion provided by the NIHR panel. Thus, there are major disjunctions between the conceptual definitions proposed here and available measures. First, and most important, available measures do not directly inquire about individuals' conceptions or or experiences with *the sacred*. Given that the sacred is the core requirement of the definitions of spirituality and religion proposed above, this is a substantial problem. Many measures, of course, inquire about belief in God or a higher power, but the issue of the sacred is remarkably absent from extant measures. (Individuals' views of what is sacred may include more than or be based on something other than a higher power.) If there is a desire to link the conceptual definitions offered here with operationalization, research is badly needed to map the links between extant measures and social and personal meanings of the sacred.

Second, fewer than 10% of the measures reviewed by the NIA/Fetzer panel included *any mention of spirituality*; instead they were phrased in terms of religion. And, significantly, those measures that incorporate the

term "spirituality" link it with religion (e.g., inquiring about "your religious or spiritual beliefs"). A few recent measures claim to assess spirituality and assiduously avoid the term religion (e.g., Hutch, Burg, Naberhaus, & Hellmich, 1998; Maugans, 1996). But there is limited research experience with these measures; thus, we do not know the extent to which respondents are thinking in religious terms or how these measures relate to measures that are couched in the language of religion. In the short run, to the extent that the goal of measurement is to capture both religious and spiritual involvement, existing instruments can be modified to include both. This is probably worth doing in order to more broadly assess the relationships between spirituality and health. Whether this inclusive approach is the best one in the longer term cannot be determined until future research informs us about the advantages and disadvantages of measuring religiousness and spirituality separately or together.

SPIRITUALITY AND HEALTH: THE STATE OF THE EVIDENCE

Abundant evidence reveals robust relationships between religiousness and health. Space limitations preclude a detailed review. We will, however, attempt to provide a sense of (a) the depth and breadth of knowledge about the relationships between religion and health, and (b) the dimensions of religion that are most consistently related to health. First, however, one point must be emphasized: *virtually all extant research is based on measures of religion rather than spirituality*. Thus, the extant research base omits an important segment of the population: persons who describe themselves as spiritual, but not religious. Moreover, this group is distinctive, comprised disproportionately of persons with high levels of socioeconomic achievement (e.g., Zinnbauer et al., 1997).

PHYSICAL HEALTH

A growing body of research examines the relationships between religion and physical health (for reviews, see Koenig, 1997; Larson et al., 1997; Levin, 1994). It is useful here to distinguish between the onset of illnesses and the course and outcome of illnesses. Research reports significant relationships between religion and the *onset* of many physical conditions, including coronary disease and heart attacks, emphysema, cirrhosis and other kinds of liver disease (e.g., Comstock & Partridge, 1972; Medalie, Kahn, Naufield, Riss, & Goldbourt, 1973), hypertension (e.g., Larson, Koenig, Kaplan, & Levin, 1989; Levin & Vanderpool, 1989), and disability (Idler & Kasl, 1992, 1997). In all cases where a significant relationship was observed (i.e., 78% of the studies), religion reduced the likelihood of disease and disability (Larson et al., 1997). Religion also is associated with

perceptions of health, energy, and vitality (e.g., Frankel & Hewitt, 1994; Shuler, Gelberg, & Brown, 1994). Although multiple dimensions of religion are related to the onset of illness and disability, the strongest predictor of the prevention of illness onset is attendance at religious services.

A substantial number of studies has examined the relationships between religion and *mortality*. Again, in the majority of studies it is reported that religion is associated with longevity. Studies have documented this relationship for all-cause mortality (e.g., Idler & Kasl, 1992; Kark, Shemi, & Friedlander, 1996; Strawbridge, Cohen, Shema, & Kaplan, 1997), and for deaths from cardiovascular disease and cancer (Dwyer, Clarke, & Miller, 1990; Goldbourt, Yaari, & Medalie, 1993; Medalie et al., 1973). Again, multiple dimensions of religion are associated with longevity, but attendance at religious services is the most strongly related to longevity.

In addition to helping to keep us healthy, religious involvement may influence the course and outcome of illnesses. Research suggests that religion is associated with better recovery from physical illness, including better health and longer survival after heart transplant (Harris, Dew, & Lee, 1995), reduced mortality following other cardiac surgeries (Oxman, Freeman, & Manheimer, 1995), reduced risk of both fatal and non-fatal repeat heart attacks (Thoresen, 1990), and reduced mortality among breast cancer patients (Spiegel, Bloom, & Kraemer, 1989). In addition, religious practices have been associated with increased tolerance of pain and higher quality of life (Kaczorowski, 1989; Landis, 1996; O'Brien, 1982). Religious coping is the dimension most strongly associated with recovery and outcome.

Without going into a detailed assessment of the quality of these studies, two important points can be made. First, virtually all of these studies are multivariate, in which other possible determinants of physical health are statistically controlled (although the number and combinations of control variables vary widely across studies). Second, most of the studies are based on cross-sectional data, making temporal order ambiguous. This is especially problematic for associations between public religious participation and health in that one must meet a certain threshold of functioning in order to attend church. Fortunately, longitudinal studies of the relationships between religion and physical health are increasingly common. And research suggests that the patterns in cross-sectional studies also are observed in longitudinal studies.

MENTAL HEALTH AND SUBSTANCE ABUSE

Research also suggests that religion is related to the prevention of mental illness and substance abuse (for reviews, see Bergin, 1983;

Gardner, Larson, & Allen, 1991; Koenig, 1997; McCullough & Larson, in press; Miller, 1998; Worthington, Kurusu, McCullough, & Sandage, 1996). Indeed, religious involvement is more strongly related to mental health outcomes than to physical illness and mortality. Specifically, religious involvement is associated with a reduced likelihood of anxiety disorders (Koenig, Ford, George, Blazer, & Meador, 1993; Koenig, George, Blazer, Pritchett, & Meador, 1993), depression (Koenig, Hays, George, & Blazer, 1997; Meador et al., 1992), and alcohol and drug abuse and dependence (Amoateng & Bahr, 1986; Amodeo, Kurtz, & Cutter, 1992; Francis, 1994; Gorsuch, 1993; Koenig, George, Meador, Blazer, & Ford, 1994). Again, public religious participation is most strongly predictive of better health.

Religious involvement also is associated with recovery from mental illnesses and substance abuse/dependence. For mental illness, evidence supporting this assertion comes from longitudinal studies of patients with depression (George, 1992; Koenig, in press; Koenig, George, & Peterson, 1998). Compared to patients who report no or low levels of religious involvement, those who report stronger religious involvement are more likely to recover and do so more quickly. Evidence relating religious or spiritual involvement to recovery from substance abuse is based largely on studies of the effectiveness of Alcoholics Anonymous (AA) and other 12-Step Programs (e.g., Emrick, 1987; Montgomery, Miller, & Tonigan, 1995; Project MATCH Research Group, 1997). A central component of these programs is the belief that one has no personal control over the addiction, but that there is a higher power who can help the individual to conquer it. Of course, the relationship to a higher power is only one component of AA and other 12-Step Programs. It is not clear that the spiritual/religious component of the program would have a significant effect on rates of recovery in the absence of the other elements of the program; nor is it clear how much of the effectiveness of these programs can be attributed to its spiritual dimension. Nonetheless, the research base documenting the effectiveness of AA and similar programs is the best evidence to date that spiritual or religious issues can have positive effects when used in behavioral interventions.

The aforementioned findings are from multivariate studies in which variable sets of potential confounding factors are statistically controlled or, in the case of treatment programs for addictions, controlled by use of a randomized experiment. Also, although earlier studies often were cross-sectional, longitudinal studies now are quite prevalent in this research area—both in studies of the onset and outcome of mental illness and, virtually uniformly, in studies of the treatment of substance abuse and/or dependence.

ARE THE EFFECTS OF RELIGION/SPIRITUALITY ON HEALTH UNIFORMLY POSITIVE?

Is this evidence about the role of religion in preventing illness and in recovery from illness the whole story? Is there evidence that religion can harm health? This is a difficult issue on which to offer conclusions.

The vast majority of studies report that religion has salubrious effects on health. Indeed, beyond case-reports and samples of fewer than 10 people, we have found no evidence that religion can harm health in *representative samples of community residents* or in *systematically sampled clinical populations*. There is some evidence that religion-motivated medical neglect can harm health. Simpson (1989) reported that a sample of Christian Scientists died at younger ages than their peers, although the sample was restricted to students attending one college. Methodologically more compelling is Asser and Swan's study (1998) of child deaths in families that eschewed medical care in favor of faith healing. And Pargament has identified both "positive" and "negative" modes of religious coping, although the latter's effects on health have not been documented yet (Pargament, 1997; Pargament, Smith, Koenig, & Perez, in press).

We believe that the state of the evidence probably reflects reality. That is, there are undoubtedly specific subgroups in the population who have been harmed by religious involvement, which has led to either direct or indirect negative health effects. Identification of those subgroups is an important area for future research. Nonetheless, the dominant pattern is one in which religious involvement either has no effect or has positive effects on health.

WHY IS RELIGION/SPIRITUALITY RELATED TO HEALTH?

Perhaps even more important than documenting the associations between religion/spirituality and health is the identification of the mechanisms by which religion affects health (Ellison & Levin, 1998). This is the major issue now being addressed by social and behavioral scientists. Three hypothesized mechanisms have received most attention and empirical support.

Health Behaviors. The first possible mechanism by which religion benefits health is via its effects on health behaviors. Some religions include specific prohibitions against behaviors that place health at risk (e.g., use of tobacco, use of alcohol at all or in excess, use of illegal drugs, risky sexual behavior, and violence). Many other religions encourage health promotion as a result of viewing the body as having spiritual as well as material significance.

Evidence supports this hypothesis. It is in this area that denominational differences in health are most striking. The Mormons, Seventh Day Adventists, and other denominations with strict behavioral prescriptions concerning health-related behaviors are healthier and live longer, on average, than members of other faiths, as well as those persons who are not involved in religion (Enstrom, 1978, 1989; Gardner & Lyon, 1982; Lyon, Klauber, & Gardner, 1976; Phillips, Kuzma, & Beeson, 1980). The effects of religious participation on health behaviors extends beyond doctrine-based prohibitions, however. Persons who report high levels of religious involvement engage in fewer risky health behaviors than their nonreligious peers, regardless of denomination (e.g., Kark et al., 1996). Thus, evidence suggests that health behaviors is one of the mechanisms by which religious involvement benefits health. The amount of variance explained by health behaviors is small, however—about 10%.

Social Support. A second possible mechanism by which religion affects health is social support. There are multiple reasons that religious participation, especially public religious participation, might facilitate social support which, in turn, has been demonstrated to protect health and facilitate recovery from illness. Most obviously, religious participation may be one of the major avenues available for developing close social bonds outside the nuclear family and can be depended upon during times of trouble. Moreover, religious organizations frequently make support (i.e., fellowship) an explicit part of their organizational mandate.

Research on the mediating role of social support in the relationship between religion and health is complex and intriguing. As predicted, relative to their nonreligious peers, persons with high levels of public religious participation report: (a) larger social networks, (b) more interaction with their social networks, (c) receiving more assistance from others, and (d) higher levels of satisfaction with their social support (Ellison & George, 1992; Zuckerman, Kasl, & Ostfeld, 1984). Despite this, social support explains only 5% to 10% of the relationship between religion and health (Idler, 1987; Zuckerman et al., 1984).

Coherence Hypothesis. A third possible explanation for the health benefits of religion is the coherence hypothesis, which posits that religion benefits health by providing a sense of coherence and meaning so that people understand their role in the universe, the purpose of life, and develop the courage to endure suffering. Note that there is no assumption that the meaning fostered by religious faith is exclusively positive. Indeed, one of the central components of this hypothesis is that people can suffer mightily, yet minimize the risks of that suffering for health and well-being if they find meaning in that suffering. Note also that, to the

extent that this hypothesis receives support, it can help to explain how very private religious practices and experiences, as well as public religious participation, benefit health.

Of the mechanisms proposed to explain the links between religion and health, the coherence hypothesis has received the most support. Although the number of studies testing this hypothesis is small, they consistently report that a sense of coherence explains a significant proportion of the relationship between religious involvement and health (20%-30%) (Antonovsky, 1980; Idler, 1987; Zuckerman et al., 1984). Moreover, some of these studies report an interaction between sense of coherence and stress, such that a sense of coherence buffers the effects of stress on health.

Studies of the mechanisms by which religion/spirituality affects health have been limited to either cross-sectional or longitudinal designs exploring the effects of religion on protecting against illness onset. Studies that examine the mechanisms by which religion or spirituality promote recovery from disease are virtually nonexistent. As a consequence, we also do not know anything about the mechanisms by which religious coping affects the courses of illnesses.

HIGH PRIORITIES FOR FUTURE RESEARCH

Several priority areas for future research already have been mentioned. First, it would be extraordinarily helpful to the integration of the field if consensual conceptual definitions of spirituality and religiousness were adopted. The definitions offered by the NIHR panel are grounded in the best of available scholarship, but conceptual consensus, however attained, is the important goal.

Second, despite the efforts to date, much additional work is needed in the area of measurement. Critical to such efforts is the extent to which the sacred, in fact, is an inherent part of what we have been labeling measures of religiousness and/or spirituality. Moreover, the researchers in the field either must develop empirically distinct measures of religiousness and spirituality, or explicitly incorporate both concepts into their measurement tools. Additionally, and unlike previous measures, the new instruments will require attention to careful psychometric assessments.

Third, research that assesses spiritual experience, as well as the conditions that foster that experience, is needed. One of the possible mechanisms intervening between religious or spiritual involvement and health may be spiritual experience—the transcendent sense of being in direct touch with the sacred. We not only do not know anything about the degree to which spiritual experience may intervene between religion and health, we know almost nothing about the spiritual experience it-

self. Pursuit of an "epidemiology of spiritual experience" would add to the field. How many people have experiences in which they achieve a transcendent state of being in the sacred? How frequently do they achieve this state? Do they experience this state while they are alone, or in the presence of others? Do certain conditions facilitate this state? Is religious faith a primary route to this state? We would argue that spiritual experience is the most-ignored dimension of spirituality.

Another high priority for further inquiry is religious or spiritual history. Current measures of spiritual history are sparse and they lack psychometric assessments. There are a number of ways in which spiritual history may be linked to health. Previous research, even that longitudinal in design, has focused on religious involvement over a short interval. But spiritual involvement is a life course phenomenon in which there is likely to be significant variability. Does a lifetime of religious involvement have greater health benefits than a shorter, more recent history of spirituality? Epidemiologists, who think in terms of length of exposure to risk and protective factors, would think so. What about dramatic changes in the parameters of one's spiritual involvement (e.g., conversion experiences, switching denominations, losses of faith)? Any or all of these might have differential effects on health.

Finally, studies of specific subgroups are needed to flesh out our understanding of the links between spirituality and health and to point the way to new theories and hypotheses. Groups of people who feel that their religion has harmed them (not necessarily their health) should be studied in depth. It also would be helpful to study people who profess no religious or spiritual involvement. Some of these people will have a life-long pattern of uninvolvedness; others will have left religious or spiritual involvement. These patterns may have different implications for health.

These are exciting times in the study of the relationship between spirituality and health. So much effort is needed in so many areas that the field is wide open in terms of the potential for significant contributions. Thanks to the efforts of a cadre of tireless scholars who explored these issues before there were professional rewards for doing so, the field has achieved credibility and some measure of respect. Momentum is building and there is important work to be done.

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