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ORIGINAL PAPER

Restoring the Spiritual: Reflections on Arrogance and Myopia—Allopathic and Holistic

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Abstract Over the past two decades, researchers have successfully accumulated lots of data pointing to a salutary impact of religious involvement. But progress in the religion and health field has been inhibited by the relative lack of attention to important conceptual and theoretical issues. This paper asserts that until we focus as much on the latter as on the former, this field will remain marginalized and thus ineffective in contributing to understandings of the determinants of health and healing. Careful attention to the how and why of a religion–health connection is imperative for bringing this research into the mainstream of biomedicine.

Keywords Religion · Spirituality · Biomedicine · Holism · Health

Biomedicine versus Holism

With the victory of scientific biomedicine and the biomedical model over the prevailing approaches, which characterized the medical landscape in the late nineteenth Century (Young 1961), came an overconfidence in the validity and promise of the materialist worldview and its concomitant biological and mechanistic perspectives on disease etiology, pathophysiology, and healing (see Weil 1988). This overconfidence, it is often asserted, persists to the present day. According to early proponents of more holistic or integrative approaches to medicine, this overconfidence, moreover, is unwarranted and arrogant (see Ferguson 1980). To the defenders of the predominant biomedical model, no such arrogance exists, and an even more strident apologetics is necessary (Angell 1985) in light of the seemingly bizarre and unproven alternative and new-age therapies which have competed for the patronage of healthcare consumers over the past 25 years (see Levin and Coreil 1986; Vanderpool 1984).

Both of these positions are overstated.

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On one side, we still today find stereotypical holists who issue out-of-hand dismissals of allopathy, the name given by nineteenth Century homeopaths for Western biomedicine and medical practice. In this view, biomedicine is, at best, a misguided and overly rational system mainly good for things like setting broken bones, and, at worst, an evil, patriarchal plot to suppress ancient wisdom and increase suffering all in the name of pharmaceutical profits. To even the most serious critics of Western medicine, this perspective would seem rather paranoid. It is also an affront to the hundreds of thousands of physicians and healthcare practitioners who diligently and sincerely use their best judgment to reduce suffering and improve the lives of their patients, and succeed. Caring allopathic medical doctors, both internists and surgeons, alleviate suffering, cure disease, restore function, and extend life on a daily basis, millions of times throughout the world, through pharmaceutical, surgical, and other interventions.

On the other side, we also still today find many physicians and biomedical scientists eager to dismiss anything outside of the narrow bounds of mid-twentieth-Century norms of medical theory and practice. In this view, even the role of psychosocial factors in morbidity, mortality, and the healing process, by now demonstrated in thousands of studies, is dubious. With such a view of mainstream mind–body science, it is no surprise to find the beliefs and practices of holistic practitioners (whether labeled alternative, complementary, or integrative) even more anathematized. This perspective is an affront to half-a-century of empirical research on the health effects of social and cultural factors, psychological states and traits, and behavior.

Lest this last point itself be thought overstated, let us recall that on the basis of a negative finding from a single, small, nonrandom sample of cancer patients from a single hospital in Pennsylvania, for example, an editor of the *New England Journal of Medicine* in 1985 felt compelled to declare that "belief in disease as a direct reflection of mental state is largely folklore" (Angell 1985, p. 1572). That is not all that long ago, in the timeline of science, and this editorial is still glowingly cited in the present day. It is as if tens of thousands of published studies, 50 years of empirical research, and the entire fields of social and behavioral epidemiology, psychosomatic medicine, behavioral medicine, health psychology, psychoneuroimmunology, psychophysiology, medical sociology, social psychiatry, health behavior and health education, and medical anthropology never existed.

The take-home point is this: the extreme criticisms of expansive alternatives to the traditional biomedical model by the most vocal defenders of Western biomedicine are just as misplaced as the extreme criticisms of biomedicine by the most strident holists. Such criticisms of each opposing "side" also seem to rely on mischaracterization. This is a shame, and unnecessary, as valid critiques can be made of each camp, but they require a more measured approach, something that is often lacking in these discussions.

A good deal of the holistic critique of the biomedical model, since the 1970s, centers on its foundation in a view of human life as an entirely physical and mechanistic phenomenon. The most serious critics of this perspective are not far-out new-agers or promoters of alternative medicine, as tacitly presumed, but are principally proponents of the competing biopsychosocial model (Engel 1977). These men and women of science are squarely in the camp of empirical scientific research and rarely prone to the extravagant claims tacitly ascribed by biomedical-model defenders to the advocates of holistic approaches to medicine. Rather than being dismissive of Western biomedicine, advocates of the biopsychosocial model are largely reformers. They seek to integrate biomedicine's model of the determinants of health and healing into a more extensive and complete model of interpenetrating, interdependent systems (Engel 1980). This, they assert, would promise a truly integrative medicine.

To supporters of a biopsychosocial model, the traditional biomedical model is therefore not believed to be completely wrong or invalid—just a narrow and myopic take on a much broader reality. Further, its component biological, biochemical, biophysical, and biobehavioral tenets are recognized as containing indispensable truths required to explain and elaborate on the interrelations found among psychosocial constructs, human pathophysiological processes, and health outcomes. Advances in the field of psychoneuroimmunology over the past 25 years, for one, exemplify the earnestness with which this integrative charge is taken by many high-level biological scientists (e.g., Ader 2007; Sternberg 2001). There is nothing here of the sort of magical, or wishful, thinking of which critics of the biomedical model are often accused.

Few proponents of the biopsychosocial model would assert that attitudes, beliefs, and emotions have causal effects on cells and molecules wholly unmediated by any physiological pathway, mechanism, or process: i.e., "I think (anger, fear, loneliness), therefore I am (cancerous, diabetic, etc.)"; "I smile, and my tumor vanishes instantly," and no T-cell, hormone, or neuropeptide so much as participates, even for a split second. This sort of thinking is characteristic of neither biopsychosocial theories nor scholarly holistic writing, which is replete with multifactorial etiologic and therapeutic models grounded in the basic sciences of mind-body interaction (see Green and Shellenberger 1991; Rossi 1993). Rather, it exists primarily at the margins of metaphysical writing on healing—for example, in channeled works containing affirmations for use to banish specific illnesses from the body (e.g., Hay 1988).

Curiously, the absolute mental reductionism of some extreme holists is a fitting counterpart to the absolute biological reductionism which can be observed to characterize some steadfast allopaths, as Dossey (1984) insightfully described many years ago in *Beyond Illness*. As he noted, the emphasis of many holists on things that operate on a "mental level," as opposed to merely a "physical level," signifies no less dualistic a view of reality than that of those allopaths so often derided by holists for their own dualism (see Levin 1988). Referring to understandings of disease causation, whereas biomedicine seems to reductionistically force the hierarchy of levels to collapse "downward," focusing entirely on material things, the "pop holism movement" (Dossey 1984, p. 177) forces it "upward" toward "some sort of therapeutic pan-psychism" (Dossey 1984, p. 172). "Each mistake," he notes, "is as naive as the other" (Dossey 1984, p. 172). In other words, the arrogance of allopaths (a physicalistic myopia) and the arrogance of holists (a mentalistic myopia) are mirror images of each other.

Resolving the Conflict

While it might be hard to tell from the strident writing that continues still today to appear on both sides of this issue, most clinicians, biomedically or holistically oriented, influenced by their daily real-world experiences with patients, probably accept some sort of middle ground implicitly and without controversy. If studies find that, say, occupational stress, Type A behavior, dysfunctional family circumstances, low self-esteem, or any of a dozen other psychosocial phenomena increase our risk of adverse health outcomes, then it is reasonable to accept that they do so by way of a complex series of biobehavioral and psychophysiological pathways for which these psychosocial phenomena serve as vital cues or triggers or effect-modifiers. Mind–body medicine is still resisted, in theory, in many places within academic medicine. But in the clinic, the frontlines, so to speak, where the rubber hits the road, the observation of psychosocial influences on etiology, risk, natural

history, and recovery is near ubiquitous among healthcare providers, as any informal conversation with physicians, clinical psychologists, nurses, or allied health practitioners will reveal.

Nevertheless, despite the accessibility of this middle ground, the mind–body debate in medicine continues just as heatedly as ever, resembling its cousin, the heredity–environment debate, which itself continues on in psychology, genetics, and other fields. This debate, while intellectually stimulating to a point, is not a particularly useful endeavor in the long run, as it typically bogs down in efforts to prove or disprove one or another of a set of exaggerated propositions ("mental factors have nothing to do with our health—it's all biology," or, "health is all in our mind") or to conjure up a singular number or proportion which applies universally to all populations and all outcomes ("70 [or 50 or 90] percent of all disease is psychosomatic").

The tendency to view this issue in black and white has served to isolate physicians, biomedical scientists, and epidemiologists, on the one hand, from social and behavioral scientists and medical humanists, on the other. The latter have decades of experience in negotiating the intersection of the human mind and body, and have developed theories and models that accommodate such a connection. Multidisciplinary conversations would go a long way toward resolving the still narrowly cast perspectives of Western biomedicine about a health-impacting role of psychological functions—i.e., thoughts, attitudes, beliefs, emotions, conations, behaviors, and the like. Whether the most extreme holists can similarly be reached and led to reconsider their own biases—that is another issue for another day. For the record, the present author is dubious.

This existing conflict in worldview, however, has had another damaging effect—a collateral casualty, if you will. The never-ending mind–body debate has served to discourage consideration of issues of even more "ultimate concern," as Tillich (1957) would say, than the interplay of mind and body. Foremost is the influence on health and healing of realms of human existence and experience subtler even than what is conventionally conceived of as "mind": the realms of the numinous, the hidden, the esoteric, the mystical, the superempirical or supernatural, the transcendent, the superconscious, the spiritual. In other words, the domain of the forbidden "r-word," religion, also known as the "anti-tenure factor," two of Larson's tongue-in-cheek descriptors for religion and health research back in the formative years of the field (Larson et al. 1994; Sherrill and Larson 1994).

This avoidance of things of a spiritual nature is quite understandable, actually, notwithstanding the well-known accumulation of empirical data in support of a "religion–health connection" (Ellison and Levin 1998). As the present author noted over 20 years ago, "Western biomedicine… is still wrestling with a body–mind dualism that defies consensus; thus, for most… any resolution of a body–mind–spirit pluralism is simply beyond consideration" (Levin and Vanderpool 1987, pp. 590–591). Yet while many of today's physicians and biomedical scientists still seem unwilling to broach this issue, many of the greatest scientific intellects of the past century have wrestled with the relationship between the well-being of spirit and flesh, and their thoughts remain relevant, outlining vital issues amenable to scientific investigation.

Among medical pioneers, Billings (1891), founder of the *Index Medicus*, published one of the earliest epidemiologic studies of religious affiliation. Later, Osler (1910), a seminal figure in U.S. medical education and instrumental in the establishment of the medical school at Johns Hopkins, reflected on "the faith that heals." Among theologians, Tillich (1946), over 60 years ago, described the relationship among religion, faith, health, and healing and, subsequently, identified a spiritual dimension of health status (Tillich 1961). Among philosophers, James (1917), in his classic, *The Varieties of Religious Experience*,

contrasted the religion of sick and healthy minded souls. Russell (1970), while not a follower of religion, asserted the salience of religion, for good or bad, for the psychological status of believers. Among psychiatrists, Freud (1930), likewise antipathetic toward religious beliefs, nonetheless also acknowledged their salience, again for better or worse, for the psychological well-being of individuals.

Other psychiatrists have been more optimistic regarding religion. Jung (1934) and Fromm (1950), for example, recognized the potentially salutary role of a religious outlook on life and of humanistic (as opposed to authoritarian) religion, respectively. Frank (1975), echoing Osler, discussed how "the faith that heals" also extends to faith in the physician. Among psychologists, Allport (1963), in a seminal paper published in this very journal, hypothesized that intrinsic religion serves an integrative function and thus benefits mental health. Maslow (1964) proposed that transcendent experiences (defined as peaks or plateaus of unitive consciousness) are more common in emotionally healthy individuals.

Among contemporary epidemiologists, Comstock, longtime editor-in-chief of the *American Journal of Epidemiology*, published a dozen empirical papers, which included religious measures as independent variables (e.g., Comstock and Partridge 1972). Jenkins (1971), in a classic review of psychosocial precursors of coronary disease published in the *New England Journal of Medicine,* included a lengthy listing of studies pointing to a statistically significant religious factor. Kaplan (1976), one of the preeminent theorists in the field of social epidemiology, posed over a dozen thoughtful questions to guide research on patterns and mediators of both the protective and risk-inducing effects of religious commitment.

Finally, the present author has developed a theoretical model for epidemiology, which outlines hypothetical relationships among features of body, mind, and spirit (Levin 1996b, 2001). This model details how characteristics, functions, expressions, and manifestations of religious life serve to protect against subsequent physical and psychological morbidity in populations through a variety of possible salutary mechanisms that bolster the host resistance of individuals and communities. These include promotion of healthy behaviors that lower disease risk, establishment of supportive social relationships that buffer stress, engendering of positive emotions that stimulate beneficial psychophysiological and psychoneuroimmunologic responses, sanctioning of religious beliefs consonant with healthy beliefs and personality styles, and provision of faith and positive expectations that impact health through the salutary sequelae of hopeful or optimistic cognitions and attitudes.

This model demonstrates that it is possible to posit a coherent multifactorial framework in which spiritual aspects of life impact on physical and psychological health through the mediation of cognitions, attitudes, behaviors, affects, and interpersonal relationships—in other words, a model of the interaction of body, mind, and spirit consonant with current knowledge in psychology, sociology, epidemiology, and medicine. It is an integral piece of a larger model of what is termed "the natural history of health" (Levin 2007). This is a salutogenic counterpart to the familiar natural history of disease that efforts, unsuccessfully, to describe and understand health solely in terms of pathogenesis, or the disease-making process.

Of likely interest to readers of the *Journal of Religion and Health* is the observation that certain salutary religious effects, such as an effect of religious faith on healing, can thus be understood in terms of naturalistic phenomena or processes (Levin in press). Messages promulgated in the sacred writings of respective religions may marshal a faith among believers that can engender psychological responses conducive to healing. Expressions of faith mobilize beliefs and attitudes and thoughts that, along with concomitant affects, may elicit a cascade of physiological sequelae that impact on immunity and, as a result, on

parameters of health and disease (Levin in press). The recent publication of a conference proceedings detailing psychoneuroimmunologic mediation of a link between religion and health is an example of the seriousness with which scientists are beginning to explore this issue (Koenig and Cohen 2002).

To be clear, this is not to say that a religion–health connection is fully understandable without reference to God or to other "divine" forces that may exist in the universe. The present author, for one, is an unapologetic believer. The how and why of the relation between spirit and flesh is a cosmic issue that has challenged the greatest minds for thousands of years. If one is looking to science, and to scientific methodology, to fully adjudicate this matter, then one is probably looking in the wrong place. Not everything about an observed religion–health association can be made sense of by reference to theory and research from contemporary psychology, for example. Other pathways or "mechanisms" may exist, to use the causal language of science. Some of these mechanisms may be challenging to those of us who see the world through the lens provided by the mainstream of science and biomedicine.

For example, the possibility of "superempirical" explanations for religious effects on health has been proposed (Levin and Vanderpool 1989). By this is meant that set of concepts related to things like human bioenergies, altered states of consciousness, and the functions of what Dossey (1989) has called "nonlocal mind." This area of science, conceptually and theoretically, derives from observations of what Einstein famously termed "spooky actions at a distance" (Born 2004, p. 155), his reference to the phenomenon of quantum entanglement (see Radin 2006). Accordingly, the term superempirical implies that, while presently controversial and not accepted by most scientists or physicians, these phenomena are ultimately naturalistic. That is, they are consistent with natural laws of the universe, at least in principle, even if such laws, which are coming to be accepted by some physical scientists, are considerably stranger than those acknowledged by the mainstream of biomedical science. So, while distinct from explanations for religion–health associations based on psychosocial theories, such superempirical explanations are nonetheless "scientific," although not all scientists would accept the validity of the proposed mechanisms. But there is another possibility to consider, farther out even than the superempirical.

Currently, a provocative and highly charged theoretical debate persists on which of these perspectives best describes the anomalous results of studies, which seem to demonstrate physiological or healing effects due to non-contact forms of spiritual intervention, such as prayer from a distance. This refers to the roughly 200 experimental trials of prayer or directed intention targeting various biological systems and organisms, including the health of humans. Positive results, obtained in a majority of these studies, would seem to suggest that absent prayer can heal, through means about which one is left to wonder. As might be expected, this work is controversial, to say the least, perhaps hopelessly so. Both skeptics and religious professionals have found much to object to in these studies (see VandeCreek 1998). Things are so hot that one of the leading proponents of research on this subject has reluctantly called for a temporary moratorium on further such studies (Dossey in press). This will no doubt please many people!

Yet such scholarly debates over "how prayer heals" (Levin 1996a) are actually a healthy sign. Scientists should always be willing to broach cutting-edge issues and to enter into dialogue with others with differing views, even if the discussion risks becoming strident. Envelope-pushing is not always fruitful, of course, but neither is it inherently misguided. This is one of the ways through which scientific knowledge in medicine is advanced (Levin and Steele 2001). Rather than something to fear or deride, the existence of this debate is a sign of the maturation and development of discourse in the religion and

health field. It ought to be appreciated and embraced, even if the substance of empirical findings and the methods that produced them remain contentious.

Still, not to lose sight of what really matters here, most research on religious factors in health is not at all controversial in the manner of investigations into superempirical forces or unusual healing-power-of-prayer studies. For one, there have only been a few dozen successful and methodologically vetted trials, mostly in non-human subjects (Benor 2001). By contrast, thousands of published studies have explored effects of personal religious characteristics on a host of physical and psychological outcomes, and upwards of three quarters of these studies have obtained positive and statistically significant results (see Koenig 2008). These studies use accepted epidemiologic, social, and behavioral research methods, and their results are consistent with mainstream theory and research on psychosocial factors in health and healing.

There is thus no longer any need to be reticent about supporting such research, which has by now insinuated itself close to the mainstream of several social science fields, including medical sociology, health psychology, social gerontology, and social epidemiology, thanks to the persistent efforts of a cadre of top-notch social scientists (see Schaie et al. 2004). It is not surprising that it has been social scientists, for the most part, who have led the way. They may not be as beholden, and thus tied to, orthodoxies of belief about health and religion as are physicians and theologians, respectively. Thus, they seem to have been more comfortable, as a group, in tackling this issue—a putative connection between the spiritual and the physical—without the baggage of likely professional censure.

Restoring the Spiritual

This essay is entitled, "Restoring the Spiritual," because, this author contends, efforts to incorporate the spiritual into models of the determinants of health and healing represent nothing more than a contemporary attempt to make whole what was torn asunder over a century ago. Those of us laboring in this task do not merit any praise for original thinking. We simply wish to put back on the table those characteristic features of human reality that were swept aside in the enthusiasm over the rationalization of medical education and medical practice in the early years of the twentieth Century.

So what is called for is not necessarily a "new paradigm," or anything that radical. Just a modest effort to take a more expansive view of what makes us ill and what makes us well, based firmly on accumulated empirical evidence, established theoretical perspectives consonant with mainstream scientific thinking, and the clinical experience of thousands of practitioners. What is needed is a way to negotiate through the arrogance and myopia of combatants who have turned this subject into a polarized battle between extreme and overstated positions.

With these considerations in mind, and after considerable reflection, some guidelines are respectfully offered for redressing this grievous state of affairs which has served only to impair thoughtful engagement of the role of the human spirit in health. The following constitutes an agenda for advancing theoretical and empirical work in religion and health. The emphasis is on action—on things that we can do, now, whether theory building, conceptual development, or the conduct of empirical studies. Were this agenda to be implemented successfully, the religion and health field could finally hope to move beyond the contention that characterizes so much of what goes on to a newer era of principled and spirited discourse.

One note: other agendas for this field already exist, replete with items calling for more attention to particular research topics or for methodological tweaks (i.e., more longitudinal studies, more controls for race and sex, more multidimensional measures, more qualitative analyses). Many such agendas have been published over the years, and they remain mostly ignored (see Levin and Chatters 2008). What follows is quite different; it is not a work plan. Rather, it serves a very specific objective: to facilitate restoring consideration of the human spirit to understandings of what matters for health or healing. Each item below, if implemented, can help to achieve that end.

1. The religion and health field would benefit most of all from a renaissance of theory. By theory is meant theory-based research—studies and analyses informed by reasoned theoretical expectations. These may derive from the findings of past research studies, from clinical observation, from the writings of experts or classical theorists in pertinent fields, or from prior observations by investigators. Theory can be used to develop testable hypotheses in order to guide analyses and interpret research findings for the purpose of drawing conclusions about, and ultimately making sense of, said findings. This is how new knowledge is gained. Theory-based research on religion and health is thankfully prevalent in certain fields, notably social gerontology (e.g., Krause 2006) and health psychology (e.g., Smith et al. 2003), but is visibly absent in others. This needs remedying. The alternative is to persist in almost random, meaningless number-crunching ventures, with little reference to past work or to how it may be built upon. Little or nothing is gained, or learned, and what is published serves only as a distraction to newcomers seeking to familiarize themselves with the field.
2. The religion and health field would benefit from fewer studies of "health," left undefined, and more of well-defined biologically or biobehaviorally based endpoints. This is not an argument against the study of global (i.e., whole-person) outcomes such as general well-being, self-rated health status, and the like. There are numerous helpful and well-executed studies of such global outcomes, which are easy to use and are themselves powerful determinants of a host of additional outcomes such as healthcare use, objective health status, mental health, and even longevity (Idler and Benyamini 1997). Rather, this is a call for more studies of whatever outcomes—global, specific, physical, psychological—to emphasize indicators constructed on the basis of meaningful clinical or physiological observations. If investigators in this field, many of whom are not trained in health-related disciplines, wish to investigate health-related outcomes, then it would benefit them to consult with healthcare or medical professionals or with the medical literature in order to identify or construct outcome measures that reflect real, observable, underlying health-related states, not simply idealized constructs developed by social scientists. As with point "1," above, the top tier of researchers in this field already does an excellent job of this, but not so the majority of the field.
3. The religion and health field would benefit from a greater willingness among researchers to tap into the domain of subjective religious expression, including the experiential realm. As anyone familiar with this field will attest, this is a topic left mostly unexplored by researchers (Levin 2003). What is to be gained is insight into how a life of religion, of faith, of spirituality, of piety, is actually lived and felt and experienced by people of professed faith. Most existing research characterizes a life of faith solely by observation of how that life interfaces with the outside world, in rates of public and private behaviors, for example. This valid and useful approach has contributed greatly to our understanding of religious expression and its instrumentality

for other domains of life. But it only takes us so far. Until we make the effort to gaze into the human psyche, or to characterize the workings of the spirit, we will not be successful in depicting the life of the spirit in its fullness. This will not be easy. But according to a review recently published in this journal, it is feasible, with some effort, and certainly worthwhile (Hall et al. 2008). While much less frequently assessed in studies, some guidance does exist for the measurement of things like religious questing, religious beliefs and values, stages of religious maturity, personal religious history, and religious and mystical experiences (Hall et al. 2008).

To summarize points "2" and "3," reference to the hard-versus-soft dichotomy sometimes used to characterize research might be helpful. Most existing research in the religion and health field utilizes "hard" religious measures and "soft" health measures. That is, religion is typically assessed through measures of observable behaviors, public or private—numerical counts or population-wide rates of going to worship services, praying, reading the Bible, doing this or that—or, alternatively, measures of specific reported attitudes, scaled and validated appropriately. Health, by contrast, is still typically assessed via subjective self-reports, whether of global states or of specific symptoms, or via self-reports of diagnosed conditions, such as chronic diseases. To reiterate, there is nothing wrong with this approach. It is valid and has been highly productive for this field. But it strikes the present author that this field would benefit, instead, from a move in the opposite direction: toward "softer" religious measures and "harder" health measures. There are innumerable studies reporting on the impact of weekly church attendance on self-ratings of well-being or health. Hundreds by now? By contrast, how many studies have explored the impact of spiritual rebirth experiences, attainment of unitive states of consciousness, a history of baptism by the Holy Spirit, and so forth, on immune system markers, hormone levels, neurological functioning, or psychophysiological indicators? Hardly any, one would guess. It may be a personal preference, but the former seems old hat; the latter seem like a true cutting edge. This may also facilitate communication with medical professionals and biomedical scientists and thus kindle their interest in this field.

4. The religion and health field would benefit from a concerted effort to investigate religion's impact throughout the stages and phases of the natural history of disease. The predominant type of research in this field is population-based, specifically prevalence studies. Religious and health-related characteristics of well populations are assessed at one point in time and their correlations examined. Where positive associations are observed, they are then typically attributed to a salutary and protective effect of religion, which, in point of fact, as any epidemiologist could explain, cannot be validated through such studies. Alternatively, and fewer in number, longitudinal studies in psychiatric epidemiology and gerontology, for example, have enabled identification of primary-preventive effects of religion on a variety of outcomes, including physical and mental illness, disability, and mortality. For these studies of the effects of religious indicators on well populations, going forward in time, the operant question is this: is religion associated with less subsequent morbidity or disability or mortality? If answered affirmatively, then one can say that religion exhibits a protective or primary-preventive effect.

   But none of this tells us anything about "healing," that much overused buzzword especially in the alternative medicine literature on spirituality (see Levin in press). To identify whether religion indeed is capable of healing effects—that is, a therapeutic and not just a preventive function—requires a different kind of research involving

different kinds of populations. To clarify, we are not speaking here of the controversial randomized controlled trials (RCTs) of prayer-at-a-distance, or RCTs of anything, actually. Rather, the methods used here go by the label of clinical epidemiology or medical outcomes research. They are population-based and observational, just like most social and epidemiologic research. For studies of the effects of religious indicators on clinical (i.e., ill, hospitalized, patient) populations, going forward in time, the operant question is this: is religion associated with parameters of recovery, remission, or cure? If answered affirmatively, then one can say that religion exhibits a therapeutic effect. In the author's opinion, the more of this kind of research the better.

5. The religion and health field would benefit from investigators repeatedly asking themselves this simple question: "But what does this mean?" Speculation as to the how or why of a putative religion-health connection is rarely seen, but, to be fair, nor is it a consistent feature of epidemiologic research on any psychosocial construct (Levin 2004). Still, reflection of this kind is of considerable value. It encourages investigators to focus and refocus on the content and implications of their work in a way that can repair the damage done by years of conceptual and theoretical neglect and indifference, as outlined above. Reflecting on this question should be done before designing a study, before formulating hypotheses, before conducting an analysis, and, once results are in, before interpreting them and writing them up. This will ensure that reanalyses and follow-up studies are intelligently crafted and contribute to the ongoing evolvement of knowledge in this field. The cost of continued neglect will be the continued stagnation of knowledge in this field.

An additional benefit of asking, "What does this mean?": investigators will reinforce a much needed emphasis on mechanisms of explanation for observed religion-health associations. This matters. There is a prevailing sentiment among the top tier of researchers in this field that, by now, with thousands of published studies containing positive findings linking religious indicators and health outcomes, skeptics will finally have to acknowledge a salutary effect of religious participation, faith, or spirituality. Such a view is naive. It is not how science works, nor should work. The present author, by contrast, has long believed that there is no number of positive studies that will ever convince those who do not recognize how or why the spiritual can be productive of salutary or salutogenic effects. A million perfectly designed studies will not do the trick. And they should not. On that point, the naysayers are standing on reasonably solid ground. Until and unless investigators begin to do a better job at conveying how and why religion and health are or should be related, then one should not expect people unfamiliar with the scope and depth of research to instantly climb aboard. As a field, despite several key papers on this topic (e.g., Ellison 1994; Ellison and Levin, 1998; George et al. 2002; Idler 1987; Levin 1996b; McIntosh and Spilka 1990), as a whole we have done a very poor job at conveying and acting on such information. We thus cannot expect doubters to be persuaded until which time that mechanisms of explanation are more thoroughly posited, tested, and documented. For this issue, theory matters as much as data. As the saying goes, I will see it when I believe it—not the other way around.

Fortunately, recent efforts have achieved a high level of elucidation of the how and why of a religion-health connection. Several outstanding scholarly books, especially, have summarized a good deal of associated research and writing related to specific mechanisms or mediating factors. These include comprehensive summary overviews of religious coping (Pargament 1997), social relationships (Krause 2008), psychoneuroimmunology (Koenig and Cohen 2002), and positive-psychological constructs such as forgiveness (McCullough

et al. 2000). Other books have made important conceptual and theoretical points regarding the salient influence of race and ethnicity (Taylor et al. 2004), aging and life course socialization (Eisenhandler 2003), neurophysiology (Newberg et al. 2001), and states of consciousness (Murphy 1992) on the relationship between religion and health. As Fox Mulder would say, "The truth is out there." But, at the same time, that is not to say that everybody reading about this field, or conducting research in this field, is aware of this work.

The new book by Krause (2008) nicely exemplifies the promise of a more concerted and systematic effort to explore how and why religion and health are associated. It is no longer enough, as per the norm for this field, to run a perfunctory analysis and then, after the fact, attribute results to a hypothesized effect of "social support." These two words cover an awful lot of ground, and Krause devotes over 250 pages to a detailed unpacking of the conceptual, theoretical, and methodological specifics and nuances and complexities of how characteristics of social relationships might account for a religion–health connection and how we might validate this empirically. His work is a model for all of us on how to proceed.

It has now been over 20 years since the present author, in the pages of this journal, posed the question, "Is there a religious factor in health?" (Levin and Schiller 1987). In that article, the first comprehensive review of empirical research in this field, an optimistic tone is apparent. There was much left to do, it was stated, but all of it was do-able. From the present vantage point, it would be foolish, and wrong, to assert that we have not come far in the past two decades. At the same time, we continue to be neglectful of the same things that were observed to have been neglected back then. Of the most important requirements for this field to advance, it was concluded that one, above all, "must head the agenda for empirical inquiry into religion and health" (Levin and Schiller 1987, p. 22):

> This field calls for the development of a paradigm hypothesizing how and why religion affects health, and guiding research in this area…. Empirical studies informed by such a paradigm should be launched…. Clearly, as readers of the *Journal of Religion and Health* appreciate, religion is a most complex issue; and if epidemiologists aim to uncover meaningful relationships between religion and health, then they simply *must* engage these epistemological issues before proceeding (Levin and Schiller 1987, pp. 22–23).

This is much the same issue as is addressed in point "5," above. If researchers indeed seek to restore the spiritual to models of the determinants of health and healing, then they must give more serious attention to making sense of the empirical findings that they tacitly presume to validate this pursuit. By themselves, accumulations of data can do only so much to engender shifts in perception about a scientific issue. Alongside of well-designed studies, there must also be well thought out frames or grids of interpretation—lenses through which the findings can be viewed and placed in context. The observational methodologies used in nearly all of the studies in this field, whether epidemiologic, social, behavioral, or clinical, only underscore the importance of attention to theory, to meaning, to how and why questions. This is not an experimental field. There is no religion-and-health version of physics' Aspect experiment (Aspect et al. 1982), for example, which, if successful, will conclusively overturn the existing biomedical paradigm by "proving," once and for all, a salutary function of human spirituality. But a strong case can be built if we make the effort to transcend the myopia and arrogance of our theoretical presumptions and labor to truly understand a religion–health connection, not just to document it.

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