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Towards a Biopsychosocial–Spiritual Approach in Health Psychology: Exploring Theoretical Orientations and Future Directions

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The current status of the “biopsychosocial” model in health psychology is contested and arguably exists in a stage of infancy. Despite original goals, researchers have developed theoretical integrations across biopsychosocial domains only to a limited extent. In addition, the marginalization of “spirituality” in contemporary biopsychosocial health perspectives is questionable. This article addresses these issues by providing evidence that supports the inclusion of spirituality within current perspectives while at the same time discussing implications this inclusion bears on the concept of health. Overall, a biopsychosocial–spiritual or “holistic” perspective is advanced for use within health psychology, provided it can be approached from a multilevel integrative analysis. In the end, some clinical implications are discussed.

KEYWORDS *spirituality, health, biopsychosocial model, medicine, holistic*

Health psychology emerged as a distinct subfield of psychology when the American Psychological Association’s (APA) Task Force on Health Research (1976) was commissioned to address concerns over increasing rates of “preventable” diseases in the United States. During a 50-year span between 1920 and 1970, the prevalence of acute infectious diseases like influenza, measles, and tuberculosis declined in the United States while what have been termed “preventable” conditions have substantially increased, including cardiovascular disease, drug and alcohol abuse, and lung cancer (Matarazzo,

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1982; Weiss, 1982). After some success in applying psychological theory and practice to the promotion of physical health, health psychology formally became Division 38 of the APA in 1978. Today, Division 38 has over 6,000 formal members, one of the largest in the association, and includes several rigorous research programs, involving: associations among clinically diagnosable mental disorders and the pathogenesis of physical ailments such as cardiovascular disease (clinical health psychology; Baum & Poslunsny, 1999; Salomon, Clift, Karlsdottir, & Rottenberg, 2009); effective health intervention, promotion and prevention of disease and illness in schools, work sites, and “daily living” (public health psychology; Nicassio, Meyerowitz, & Kerns, 2004; Michie & Abraham, 2004); community health justice and social action (community health psychology; Brydon-Miller, 2000; Estacio, 2006; Marks et al., 2005; Murray & Poland, 2006); the identification and comparison of major etiological agents of illness in a variety of cultures (cultural health psychology; Kazarian & Evans, 2001; Kirmayer, 2004; Shweder, Much, Mahapatra, & Park, 1997); critiques of mainstream Western approaches to and understandings of health and illness (critical health psychology; Chamberlain & Murray 2009; Marks, 2002; Murray, 2004; Prilleltensky & Prilleltensky, 2003); psychoneuroimmunology (Kemeny, 2007); and biological models linking the social world and physical health (Cacioppo & Berntson, 2007; Hatala, 2012; Miller, Chen, & Cole, 2009; Sarafino, 2006), to name a few.

Underlying this multifarious collection of research within health psychology is the position that biological (e.g., genetic predisposition), psychological or behavioral (e.g., lifestyles, explanatory styles, and health beliefs), and social factors (e.g., family relationships, socioeconomic status [SES], and social support) are all implicated in the various stages of pathogenesis and health etiology. This position is termed the biopsychosocial model (BPS) and has gradually emerged in consort with related scientific developments in medicine. During the evolution of medical science from the Renaissance to the late 19th and early 20th centuries, advances in biology, anatomy, and physiology eventually crystallized into what is now referred to as a biomedical model. This perspective yielded a shared set of assumptions (i.e., reductionism, naturalism, and mind-body dualism), which relegated illness and healing primarily to a physiological framework with limited attention to social, moral or political dimensions (Cohen, McChargue, & Collins, 2003). It is during this time in the late 1970s that psychiatrist George L. Engel at the University of Rochester, as well as other clinicians and researchers, began to enunciate the limitations of biomedicine and a need for a biopsychosocial perspective.¹ Engel (1977) in particular observed a “medical crisis” that he thought “derives from adherence to a model of disease no longer adequate for the scientific tasks and social responsibilities of either medicine or psychiatry” (p. 129), and that medical practitioners and researchers “should take into account the patient, the social context, the physician’s role and the health care system” (p. 132). Engel’s (1977) articulation of a biopsychosocial

perspective was therefore an important attempt to incorporate the patient's psychological experiences and the social or cultural context into a more comprehensive framework for understanding disease, illness, and health.

Since its introduction, the BPS model has been widely embraced within medical sciences and health psychology. Presently, the American Psychiatric Association and the American Board for Psychiatry and Neurology, as well as several medical schools, psychiatry residencies, and health psychology graduate programs across North America and Europe officially endorse a biopsychosocial approach (Ghaemi, 2009; Tavakoli, 2009). Furthermore, several health psychologists in particular consider the BPS model to be a guiding framework for contemporary research and practice (Adler, 2009; Schwartz, 1982; Sarafino, 2006; Taylor, 1990). In the context of chronic pain, for example, Gatchel (2004) and Gatchel, Bo Pang, Peters, Fuchs, and Turk (2007) argued that the connections among biological changes, psychological status, and the sociocultural context should all be considered in trying to understand an individual's perception of pain. A psychiatric intervention or treatment approach, Gatchel (2004) further argued, "that focuses on only one of these core sets of factors will be incomplete" (p. 797). Leventhal, Weinman, Leventhal, and Phillips (2008) painted a similar picture for addictions, smoking, and alcohol use. To understand these complex "health risk behaviors," these authors suggested researchers must investigate one's cultural, peer, and family environments; one's propensity to risk taking and emotional reactivity; as well as one's genetic and biological predispositions. Underestimating any of these three domains will limit a practitioner or researcher's ability to predict the likelihood of initiation, rapidity of addiction, and the difficulty of cessation (Leventhal et al., 2008).

The status of the BPS model, its use and general acceptance within health psychology, however, is not free from contestation. Several authors over the years have expressed concerns regarding its limitations, specifically including: problems with dichotomizing between biology, psychology, and society (Tavakoli, 2009); problems with its ambiguous status as an actual "scientific model" (McLaren, 1998, 2009; Stam, 2004); problems of masking an underlying biomedical approach (Alonso, 2003; Marks et al., 2005; Stam, 2000); difficulties with the complexity of outlining linkages or prioritizing among its subsystems (Ghaemi, 2009; McLaren, 2002; Pilgrim, 2002; Suls & Rothman, 2004); and a pervasive individualistic focus (Kazarian & Evans, 2001; MacLachlan, 2000; Marks, 1996; Murray, 2004). In addition, the marginalized role of spirituality within the BPS model represents another prominent limitation that is somewhat surprising and unwarranted, not only because of the surmounting empirical evidence linking health outcomes, for better or worse, with spiritual or religious factors (Contrada et al., 2004; Enstrom & Breslow, 2008; Gillum, King, Obisesan, & Koenig, 2008; Idler, 2010; Maltby, 2005; McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000; W. Miller & Thoresen, 1999; Oman & Thoresen, 2003; Perez et al., 2009; Plante

& Sherman, 2001; Siegel & Schrimshaw, 2002; Sloan, Bagiella, & Powell, 1999; Sloan & Bagiella, 2002), but also because the majority of people from diverse cultural systems around the world believe in some kind of “higher power” or faith system (Baetz, Larson, Marcoux, Ruzica, & Bowen, 2002; Noss, 2003; Pargament, 1997), especially during times of experienced illness or disease (Baetz et al., 2006; Becker, 1997; Koenig, 2008; Krause, 2006; Sulmasy, 2002). The absence of a spiritual domain, therefore, represents a significant limitation of the current BPS model as employed within health psychology particularly and medical research and practice more generally.

The current article addresses this central limitation by providing evidence that supports the inclusion of spirituality within the current biopsychosocial metatheoretical framework. Thus, it is argued that biopsychosocial–spiritual or holistic perspectives are useful to guide future research and practice in health psychology provided that the four domains are approached from what several developmental psychopathologists and researchers refer to as a *multilevel integrative analysis* (Cacioppo, Berntson, Sheridan, & McClintock, 2000; Cacioppo & Berntson, 2007; Hatala, 2011). This analytic perspective is inherently multidisciplinary and multiparadigmatic and assumes equality within all levels of analysis thereby attempting to dismantle conceptual borders between nature and nurture, biology and psychology, or science and spirituality.

To meet these ends, this article first examines and reviews contemporary literature wherein associations between spirituality and health are highlighted. Following this the concept of health is reviewed and critiqued by drawing on previously cited works. Finally, a case for a biopsychosocial–spiritual model is presented and some clinical implications are discussed.

RELATIONS BETWEEN SPIRITUALITY AND HEALTH

Common values underlying research and practice in psychology, which often transmute into naturalism, materialism or a “cult of empiricism” (Nelson & Slife, 2006; Toulmin, 1992), suggest it unusual to address spirituality within the realm of disease, illness and health. If, however, we begin to consider healing not only in light of its original intent, but also in light of surmounting empirical research (McCullough et al., 2000; W. Miller & Thoresen, 1999; Oman, & Thoresen, 2002), it becomes evident that in fact, there are important relationships that exist—ones that contemporary health psychology in particular has all too often neglected. But perhaps what is even more surprising is the neglect of spirituality within “critical” health psychology (Murray, 2004; Prilleltensky & Prilleltensky, 2003). In failing to mention religion and spirituality as a widely available cultural resource for empowerment and health, Oman and Thoresen (2003) argued that critical health psychology risks “a de

facto collaboration with mainstream psychology in propagating and legitimizing cultural disempowerment akin to what Illich long ago termed *cultural iatrogenesis*" (p. 224). Thus, important relationships between spirituality and health may not only exist at an individual level, but amidst broader sociopolitical processes such as group identity, community resilience and collective empowerment as well. Before exploring these relationships in detail and building a case for biopsychosocial-spiritual (BPS-S) perspectives in health psychology, we must first ask what spirituality is.

Not surprisingly, defining spirituality is wrought with complications. For instance, of the eleven studies that Chen and Koenig (2006) analyzed in their review, the term spirituality was operationalized in 10 different ways. Many definitions center on issues of transcendence, where spirituality was related to a sensed relationship with powers transcending the present context of reality. Others, however, defined spirituality as a particular and distinct experience, as for example, when one becomes absorbed in the present and ceases to be preoccupied with the past or the future (Chen & Koenig, 2006). Furthermore, there are also growing trends to define "individual" spirituality in contrast to "collective" religion. In these instances spirituality becomes an individual, subjective, emotional phenomenon; whereas, religion becomes solely institutional, formal, and doctrinal. Although this distinction is often held, some researchers contest the bifurcation of religion and spirituality because most individuals in society do not experience these "inner" and "outer" aspects as separate (Emmons & Paloutzian, 2003; Hall, Koenig, & Meador, 2008; Hill & Pargament, 2003; King et al., 2005). Indeed, for our purposes of exploring spirituality across biopsychosocial domains, which necessarily engenders both individual and collective experiences, spirituality is defined as a search for the sacred, or a process through which people (i.e., individuals and groups) seek to discover, hold on to, and, when necessary, transform whatever they hold sacred in their lives (Pargament, 1997, 2002).

The relations between spirituality and health are attracting researchers from diverse areas such as medicine, public health, psychology and sociology (Idler, 2010). Special issues focusing on spirituality and health research have appeared, for example, in scientific journals including, the *Annals of Behavioral Medicine* (Mills, 2002); the *Psychological Bulletin* (Worthington, Kurusu, McCullough, & Sandage, 1996); and the *American Journal of Physical Medicine and Rehabilitation* (Underwood-Gordon, Peters, Bijur, & Fuhrer, 1997). To highlight some key aspects of this research, and for our current purposes of working towards BPS-S or holistic perspectives, spirituality's demonstrated relation to health is explored through biological pathways (Contrada et al., 2004; Idler et al., 2009); social integration and support (Idler, 2010; Krause, 2006; Oman & Thoresen, 2003); health behaviors (Enstrom & Breslow, 2008; Gillum et al., 2008; Strawbridge, Shema, Cohen, & Kaplan, 2001); a deeper meaning and purpose within illness experiences (Chen &

Koenig, 2006; Kaye & Raghavan, 2002); and negative health effects (Dein & Littlewood, 2005; Sloan & Bagiella, 2002).

Biological Pathways

Contemporary research on spirituality has observed the many positive effects on patients' wellbeing and healing effectiveness. Arndt Büssing, chair of Medical Theory and Complementary Medicine, University of Witten/Herdecke in Germany, for example, analyzed the attitudes of patients with life-threatening or life-altering illnesses and found that when patients embraced spiritual themes (i.e., looking for the positive aspects of a challenging situation, turning to prayer in times of need), they experienced an increased ability to cope and recover from their illness experiences when compared to nonspiritual controls (Büssing, Ostermann, & Matthiessen, 2005). Similarly, Nalini Tarakeshwar and colleagues (2006) observed that the use of positive spiritual coping mechanisms, such as belief in the benevolent purpose of existence, were repeatedly associated with a better overall quality of life for cancer patients, as well as shorter recovery periods following surgical procedures. Matheis, Tulskey, and Matheis (2006) also showed through structured interviews and regression analysis that significant positive correlations between measures of self-efficacy and multidimensional measures of religion and spirituality were apparent in their research among individuals suffering from spinal cord injuries. Taken together, these studies show how individuals who embraced spiritual themes, practices or beliefs, displayed marked increases in healing effectiveness and reduced recovery times after surgeries.

Previous research also suggests that spiritually inclined individuals may be more "susceptible" to positive psychological states (i.e., joy, hope, compassion), when compared to non-spiritual controls (Koenig et al., 2001; Pargament, 1997); which, in turn, leads to improved physical health through enhanced immune and endocrine function (Kiecolt-Glaser & Glaser, 1995), or reduced allostatic stress load (McEwen, 1998). In a recent study published in *Health Psychology* investigating the impact of religious or spiritual striving on patients recovering from heart surgery, for example, Contrada et al. (2004) observed that "stronger religious beliefs were associated prospectively with fewer surgical complications and shorter hospital stays" (p. 234), and that "religiousness predicted surgical recovery with statistical control of other psychosocial factors" (p. 235). These researchers suggest that religious beliefs and practices (i.e., prayer, reading scripture, attending worship services, etc.) may influence cognitive appraisals or coping strategies activated during pre and postsurgical periods that have modulating effects on neuroendocrine and immunological activity, which, in turn, bolster recovery (Contrada et al., 2004). The inverse of these enhanced recovery effects have

also been shown with clinically depressed individuals in delayed healing of experimentally administered wounds and increased inflammatory activity via immuno-suppressive alterations (Bosch, Engeland, Cacioppo, & Marucha, 2007; Miller et al., 2009). Spiritual inclinations, therefore, may not only protect against these ill effects but also add additional modulating effects as well. In a related manner, Idler et al. (2009) suggested that attendance at spiritual or religious gatherings act as “exposure variables” or markers for “multidimensional experiences” that activate and integrate sensory, cognitive, and somatic processes leading to “holistic” spiritual psychosomatic states connected with health outcomes. These holistic experiences, Idler et al. (2009) observed, typically occur in congregate settings wherein individual effects are amplified by synchronized performance and action with others. Thus, in addition to operating along biological pathways, spirituality also impacts health through increased social integration, networking or social support.

Social Integration and Support

It is well documented that spiritually inclined individuals have greater access to and contact with co-spiritualists. Indeed, Putnam (2000) argued, “faith communities in which people worship together are arguably the single most important repository of social capital in America” (p. 66). This enhanced sense of community, in turn, leads to larger and stronger social networks and greater availability of social support, both of which are robust predictors of salutary health effects (Idler, 2010). In addition, actual and anticipated social support is correlated with enhanced recovery from heart surgery (Contrada et al., 1994) and more adaptive psychological states, such as optimism (Krause, 2006; Pargament, 1997). Aside from these individual factors, Oman and Thoresen (2003) question whether spirituality and religion can produce health benefits at group levels by fostering collective empowerment. These authors review a large amount of social justice literature and conclude that in several social movement cases—in North America and around the world—spirituality has served as an important, if not primary, source of motivation, guidance and sustenance. When reflecting on recent calls to address health issues at macro socio-political levels, and thereby align health psychology with social justice initiatives (Estacio, 2006; Murray & Poland, 2006), Oman and Thoresen (2003) urged researchers to consider how spirituality and religion can be used to foster health and empowerment—issues of “power” in particular being an important agenda proposed in 2003 by Prilleltensky and Prilleltensky. Previous research suggests, then, that spirituality fosters health both through individual social support as well as collective community empowerment—important considerations for health researchers.

Another aspect of spirituality as a source of social integration and support relies in its ability to engender altruism. Altruism in this context is generally understood as the human capacity to give one’s self to a goal

or purpose that is greater than one's self, usually to the service and devotion of others (Frankl, 1984; Hatala, 2011). Several studies observed that service to others not only bestows psychological benefit on the practicing individual, but also, and perhaps more importantly, serves to link the individual to the broader social world. Rachman, (1979), for instance, suggested that individuals who helped others by caring for their immediate needs following collective traumatic events, were characterized with a "survivor mission" that was associated with decreased trauma-related mood and anxiety symptoms. Furthermore, by turning tragedies into opportunities for activism, these individuals who adopt a survivor mission were seen to be the most psychologically resilient during the 9/11 attacks on New York as well as more adept to find a deeper meaning within the face of adversity (Bonanno, 2006; Rachman, 1979). Thus, altruistic behaviors that are promoted and often sustained by spiritual practices can foster positive health responses through psychological states such as hope, a sense of achievement and optimism, while at the same time serving as a means by which greater connections to the social world are constructed and nurtured (Hatala, 2011).

Health Behaviors

Another way in which spirituality is associated with health is through the simultaneous promotion of health-enhancing behaviors and the restriction of health-impairing behaviors. During the middle of the 20th century, several epidemiological studies began to document the significantly lower rates of all-cause mortality, cancer and cardiovascular disease among highly observant sectarian groups (i.e., Seventh-Day Adventists, Mormons, Amish) when compared to the general population (Idler, 2010). It was thought that these groups discouraged smoking, drinking and other negative behaviors as well as encouraged healthy diets largely on the premise that the body was seen as an instrument of God's service. In one classic study, for example, Fuchs (1974) observed a stark difference between child and adult mortality when comparing Utah and Nevada. Although many important characteristics are similar between states, such as income, health care status, climate and population density, all-cause mortality in Nevada for males between 40 and 50 was 55% higher than Utah in 1973. Moreover, deaths due to respiratory cancer and cirrhosis of the liver were 111% higher in Nevada. Fuchs (1974) conclusion was that differing life styles were largely responsible for the variance since Utah's population, in contrast to Nevada's, consists of 70% abstinent, nonsmoking Mormons who generally live stable productive lives. Similar findings have been replicated more recently. During a 24-year follow-up study, for instance, Enstrom and Breslow (2008) found a 45% lower standardized mortality ratio (SMR) for religiously active Mormon females, and a 55% lower SMR for males, compared to a nationally representative sample. Similarly, Strawbridge et al. (2001) followed 2,500 adults in California

over 29 years and found that more frequent religious activities (e.g., worship attendance or daily prayer) were significantly related to the adoption of positive health behaviors, such as commitment to close social relationships, regular exercise, and decreased alcohol abuse. Finally, another recent nine year follow-up study found that in a U.S. national cohort of people over 40 ($N = 8,450$), all-cause mortality for those who attended religious services more than weekly was over 30% lower than for those who never attended (Gillum et al., 2008). Taken together, these studies point to the importance of spirituality and religion in health promotion, and should be considered more closely by health psychologists working to improve health status at individual or community levels.

Meaning and Purpose in Illness

Spiritual aspirations have long since been understood to provide individuals with a sense of meaning, hope and purpose in life. Fromm (1964) postulated that spiritual systems potentially satisfy one of the five basic human needs: *a frame of orientation* or the need to understand the world and our place within it.² In effect, Fromm suggested that humans desire answers to questions about their life's purpose, existence after death, and their origin, which only spiritual systems may appropriately address. When the need for a frame of orientation is satisfied, hope through adversity is strengthened and well-being ensues. Similarly, Geertz (1973) and Frankl (1984) suggested that sacred conceptions of life foster hope as well as make moral sense of negative experiences (i.e., inequality and injustice), by relating them to a wider sphere of reality within which they become meaningful. In this way, psychological resilience springs from the spiritual re-interpretation of one's sufferings and the realization that meanings can be found in and constructed from distressing life events.

Theories about spirituality as a source of meaning and purpose and its connection to hope, healing, and resilience are increasingly being empirically investigated. For example, in an extensive meta-analysis investigating 42 samples of some 126,000 people, McCullough et al. (2000) reported that spiritual inclinations have protective impact on emotional and physical well-being, can enhance coping for individuals suffering with severe medical illnesses, and are associated with lower odds of death. In exploring the relations between spirituality and health, several researchers have also looked at the importance of spirituality in the midst of and during negative or disruptive illness experiences. Berger (1990) observed that spirituality can offer a source of comfort, meaning, and purpose for those experiencing extremely difficult and negative life events. Similarly, Chen and Koenig (2006) suggested that spirituality serves to integrate seemingly incomprehensible traumas into a "sacred order," ultimately providing the knowledge that even traumatizing events have a place within a larger purposeful universe

(p. 372). Kaye and Raghavan (2002) also observed that spirituality relates to coping and facilitates the process of transcending perceptions of helplessness. In a way, perceptions of God being in control of the overall universe—when an illness has resulted in loss of function and control within one's current life—may help, these authors suggested, transcend feelings of helplessness (Kaye & Raghavan, 2002). Along these lines, Idler et al. (2009) suggested:

Religious traditions offer frameworks of meaning built on symbols, rituals, and liturgies for making sense of the painful, threatening, and ultimate experiences of illness and dying. There is evidence that these frameworks are sought out, that they may affect behavior in critical decisions, and that they may provide benefits in the form of quality of life and emotional adjustment. (p. 145)

Moreover, spiritual traditions for many centuries have provided theories of human nature and strategies for wellness, whether explicit or implicit, within dogma, practices, ritual, or sacred texts (Koenig et al., 1998; McCullough & Larson, 1999; Spilka & Bridges, 1989). Prayer and meditation, for instance, are often cited as valuable resources that reduce stress while fostering resilience and healing (Baetz Bowen, Jones, & Koru-Sengul, 2006; Hatala, 2008, 2011; Shapiro, 2009). Indeed, Baetz et al. (2006) examined the relation between worship frequency and psychiatric disorders by examining a diverse Canadian data set from 37,000 individuals from the Canadian Community Health Survey (CCHS). Overall, these researchers report that worship frequency or regular devotion was significantly associated with lower odds of lifetime, current, and past depression, mania, and social phobia (Baetz et al., 2006). Meditation as a regular spiritual practice, in particular, is considered to be a primary mechanism by which the previous positive results occur. In a recent review by Shapiro (2009), meditation has been associated with positive physiological findings such as stress reduction, enhanced immune efficiency and positive psychological findings such as improved memory and intelligence, enhanced creativity, strengthened hope, advanced attention and concentration, general happiness, increased empathy for others, optimism, self-actualization, self-compassion, moral maturity, and relapse prevention. Overall, these perspectives suggest that spirituality can assist individuals to transcend suffering and regain or redefine a sense of purpose—to find meaning or sense making within the context of illness experiences.

Negative Health Effects

No study of the relation between spirituality and health would be complete without commenting on spirituality's potential for ill effects. Miller and

Thoresen (2003) stated that researchers must acknowledge the abuses within various spiritual or religious systems—just as they would for any major social institution—and that it is highly probable that certain spiritual practices or beliefs are related to negative health effects. Indeed, regarding the ill effects of spirituality, Idler (2010) outlines the tendency for some spiritually inclined individuals to make less use of health services, to engage in fewer positive health behaviors, to interact negatively with other members of a congregation, to hold destructive and prejudicial attitudes towards minority groups, and to struggle with issues of sin or anger, to name a few. Dein and Littlewood (2005) also remind us of the large sociocultural disruptions that occur during and after “fanatical” mass suicides such as those of Jonestown, Waco, or Heaven’s Gate. At a more individual level, Pargament (1997) observed significant health outcome differences between his three types of “religious coping orientations,” or the ways that people draw on religion or spirituality during times of stress. Those individuals with “deferring” orientations, wherein God is expected to somehow resolve all of the individuals’ problems with little effort required on behalf of the individual, is consistently shown to have the poorest overall health outcomes, both psychologically and physically (Pargament, 1997).

In the end, it is clear from these examples that religion and spirituality can both impair and promote health (Sloan & Bagiella, 2002). Rather than dismissing these negative health effects, it is suggested that they ultimately add weight to arguments for the inclusion of spirituality into BPS perspectives insofar as they further document a relation that can and does exist between spirituality and health. Just as research in health psychology looking into sociocultural, biological or psychological factors attempts to understand the situations and contexts that both promote and impede health, so too examinations into spirituality need to consider its potential ill and positive effects.

THE CONCEPT OF HEALTH

The concept of health can be defined from many different perspectives and has important implications for theory, policy, and health promotion. Biomedical perspectives of health are critiqued because of their reductive, materialistic, naturalistic, and dichotomistic tendencies, wherein disease is conceptualized largely as somatic pathology. Health from this perspective, then, becomes the state in which somatic signs and symptoms are not present (Engel, 1977). In contemporary literature, the biopsychosocial critique of these perspectives suggests that health is best understood as a state of physical, mental and social well-being and not merely the absence of disease or infirmity (Cohen et al., 2003; Sarafino, 2006). Upon further reflection, however, and despite good intentions, researchers that do attempt to define

health from BPS perspectives essentially retain many of the assumptions that underlie and inform biomedicine (Alonso, 2003; Marks et al., 2005; Stam, 2000). Indeed, in reviewing the concept of health and its use within medical fields, Alonso (2003) suggested that there are essentially no changes in the conceptualization of health in medical research articles written 20 years ago and now and that “the spreading of the biopsychosocial model in other contexts has not been substantially reflected in the practical areas of medicine” due to “the still deep-rooted dominance of the biomedical model” (p. 243). According to Marks et al. (2005), many of the underlying assumptions in biomedicine—such as moral discourses centered on autonomy and individual rights—can be observed within contemporary health psychology and perspectives of health espoused therein. Although research in medicine and health psychology pays “political lip service” to biopsychosocial perspectives (Tavakoli, 2009), the deep rooted cultural contours of biomedicine and its assumptions of individualism and materialism still pervade as a kind of “folk model” or “cultural imperative” in both research and practice (Engel, 1977; Hatala, 2008, 2012).

Moreover, since many underlying Western assumptions of autonomy and individualism still influence contemporary discourse in health psychology, researchers and practitioners risk a de facto impression of these assumptions on those with whom they work (Harvey, 2008; Kirmayer, 2007; Marks et al., 2005). Indeed, Kazarian and Evans (2001) noted that the consequences of a Western bias in the concept of health can manifest as, among others: the neglect of cultural and linguistic demographics; the lack of consideration of cultural diversity in health service planning, implementation, and evaluation; the creation of discriminatory health service practices and disparities in health care access, utilization and outcome; and the marginalization of a diverse array of indigenous health structures, belief systems, and practices. Many of these issues are clearly exposed in Fadiman’s (1997) narrative wherein several Hmong peoples in the United States are observed to struggle with contemporary medical approaches—at the core of which lies differing conceptions of health. Can a holistic perspective of health address some of these issues?

In an article that looks at the meaning of healing and a concept of health from holistic perspectives, Egnew (2005) reminds us that linguistically, the term *to heal* means “to make sound or whole” and stems from the root, *baelan*, the condition or state of being *hal*, or whole, while *hal* also has the root of “holy,” meaning “spiritually pure” (p. 258). From this perspective, Egnew (2005) suggested that illness was a threat to the existential integrity of personhood or identity as conceived within a “whole” relation to physical (i.e., body functioning), mental (i.e., psychological well-being), social (i.e., interpersonal or family relations), or spiritual (i.e., connections with God or the transcendent) experiences. Health and healing occur, then, by removing threats to any of these experiences in order to allow for the reinstatement of

the patient's sense of personhood. Egnew (2005) understood, for example, that removing a threat might entail curing a specific disease itself, but not exclusively. Healing may also involve overcoming psychological barriers to personhood related to the illness experience, from fears of how others will perceive the illness, to fears of death and dying, or even to fears related to being a burden on loved ones. Removing a threat may also include addressing sociocultural disruptions, such as those related to economic constraints surrounding an illness. As such, Egnew (2005) proposed that individuals can transcend suffering when a circumstance is invested with meaning that fosters a reinterpretation of personal wholeness, and concludes by providing a comprehensive definition of health and healing as "the personal experience of the transcendence of suffering" (p. 58).

Adding to these perspectives, Sulmasy (2002) suggested that sickness was primarily a disruption of "right" relationships. Even at the heart of biomedical concepts of health and healing, Sulmasy (2002) observed are the concepts of relations. This is seen, for example, when a physician attempts to lower one's blood pressure so that the heart can be in a proper relationship with other vital organs. Sulmasy (2002) continued by suggesting that illness experiences often disrupt more than relationships within the body, they "disrupts families, and workplaces and raise questions about one's relationship with the transcendent and one's own self" (p. 26). Health is therefore a term that refers to a condition of being in right relations in all its variations:

A human person is a being in relationship—biologically, psychologically, socially, and transcendentally. Illness disrupts all of the dimensions of a relationship that constitute the patient as a human person, and therefore only a biopsychosocial-spiritual model can provide a foundation for treating patients holistically. (Sulmasy, 2002, p. 32)

It is important to note, in addition, that from these perspectives one level of orientation may be "out of balance" yet the overall functioning of the individual still can remain in a state of health (Sulmasy, 2002). For example, people can find meaning and purpose within a serious biological condition, which allows them to lead healthy and productive lives despite disrupted relations at the biological level (Becker, 1997; Hatala, 2011). Similarly, individuals struggling with existential questions can report illness experiences in the absence of any physiological conditions (Kirmayer, 2004). Health, then, from a more holistic perspective, is more than the absence of disease and includes social and spiritual factors such as meaning and purpose in life, ability to contribute to the social well-being of others, and the quality of intimate personal relationships.

TOWARDS A BIOPSYCHOSOCIAL–SPIRITUAL MODEL

At its inception, there was minimal empirical evidence supporting the importance of a biopsychosocial approach to health promotion (Engel, 1977). After several decades of research in health psychology and related health fields, however, the support for a biopsychosocial perspective is growing. In the previously reviewed studies, spirituality was seen to enhance, foster or augment already existing pathways in biopsychosocial domains, such as social support, behavior, and psychosomatics. In other cases spirituality was seen as an independent domain that potentially has its own beneficial characteristics such as a meaning and purpose within illness experiences, the importance of ritual and reading from sacred texts, or prayer and meditation. Overall, following a multilevel integrative analysis (Cacioppo et al., 2000; Cacioppo, & Berntson, 2007; Hatala, 2011)—which takes into account multiple levels of orientation—it is suggested that health and successful mental health promotion necessarily involves the dynamic interaction of biological, psychological, social and spiritual domains. Figure 1 extends on Gatchel's (2004) previous work by adding a spiritual perspective.

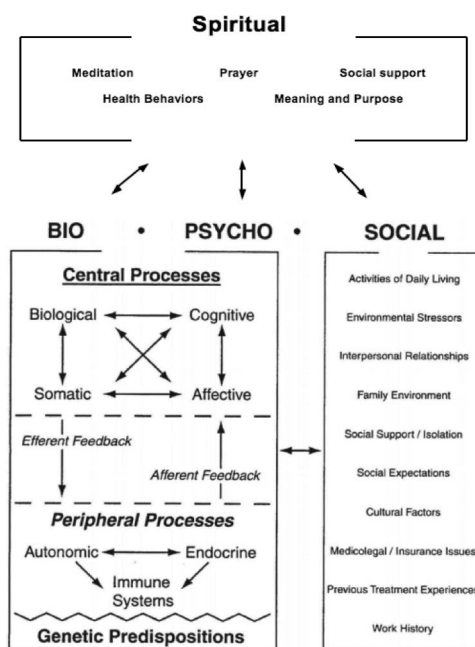


FIGURE 1 A Biopsychosocial–Spiritual Interactive Processes Involved in Health and Illness.

Adapted from Gatchel, R. J. (2004). Comorbidity of chronic mental and physical health conditions: The biopsychosocial perspective. *American Psychologist*, 59, 792–805. Copyright 2004 by the American Psychological Association.

In terms of clinical implications, this review suggests that future health intervention programs and research should focus on the holistic interaction between these four domains rather than addressing them as separate aspects of the individual or environment. The continual maturing of the BPS model may also depend upon the extent to which any and all of these levels (genetics, biology, psychology, sociality, ecology, and spirituality) are involved and overlap within even the simplest of interventions (Kirmayer, 2004). Future research could examine the effectiveness of these claims in the context of clinical practice, explore the concept of health from these perspectives, and how these perspectives may influence current trends in the promotion of health, mental health and well-being.

NOTES

1. Ghaemi (2009) observed that the biopsychosocial concept was actually coined by Roy Grinker in the 1950s. Other medical researchers such as Knowles (1977), Leigh and Reiser (1977), and Lipowski (1977) also supported and outlined a biopsychosocial position. Engel (1977), however, is still largely responsible for its popularization in medical science and health psychology.

2. Erich Fromm (1964) postulated five basic human needs: (a) relatedness, relationships with others, care, respect, knowledge; (b) transcendence, creativity, developing a loving and interesting life; (c) rootedness, a feeling of belonging; (d) sense of identity, to see ourselves as a unique person and part of a social group; and (e) a frame of orientation, the need to understand the world and our place in it.

REFERENCES

- Adler, R. (2009). Engel's biopsychosocial model is still relevant today. *Journal of Psychosomatic Research*, 67, 607–611.
- Alonso, Y. (2003). The biopsychosocial model in medical research: The evolution of the health concept over the last two decades. *Patient Education and Counseling*, 53, 239–244.
- American Psychological Association. (1976). Task force on health research. Contributions of psychology to health research: Patterns, problems, and potentials. *American Psychologist*, 31, 263–274.
- Baetz, M., Bowen, R., Jones, G., & Koru-Sengul, T. (2006). How spiritual values and worship attendance relate to psychiatric disorders in the Canadian population. *Canadian Journal of Psychiatry*, 51(10), 652–661.
- Baetz, M., Larson, D., Marcoux, G., Ruzica, J., & Bowen, R. (2002). Religious psychiatry. The Canadian experience. *The Journal of Nervous and Mental Disease*, 190(8), 557–559.
- Baum, A., & Poslunsny, D. (1999). Health psychology: Mapping biobehavioral contributions to health and illness. *Annual Review of Psychology*, 50, 137–163.
- Becker, G. (1997). *Disrupted lives: How people create meaning in a chaotic world*. Berkeley, CA: University of California Press.
- Berger, P. L. (1980). *The heretical imperative: Contemporary possibilities of religious affirmation*. Garden City, NY: Doubleday.

- Bosch, J. A., Engeland, C. G., Cacioppo, J. T., & Marucha, P. T. (2007). Depressive symptoms predict mucosal wound healing. *Psychosomatic Medicine*, 69, 597–605.
- Brydon-Miller, M. (2004). Using participatory action research to address community health issues. In M. Murray (Eds.), *Critical health psychology* (pp. 187–202). New York, NY: Palgrave Macmillian.
- Büssing A., Ostermann T., & Matthiessen P. F. (2005). The role of religion and spirituality in medical patients in Germany. *Journal of Religion and Health*, 44(3), 321–338.
- Cacioppo, J., & Berntson, G. (2007). The brain, homeostasis, and health: balancing the demands of the internal and external milieu. In H. Friedman & R. Cohen (Eds.), *Foundations of health psychology* (pp. 73–91). Oxford, England: Oxford University Press.
- Cacioppo, J. T., Berntson, G. C., Sheridan, J. F., & McClintock, M. K. (2000). Multilevel integrative analyses of human behavior: Social neuroscience and the complementing nature of social and biological approaches. *Psychological Bulletin*, 126(6), 829–843.
- Chamberlain, K., & Murray, M. (2009). Critical health psychology. In D. Fox, I. Prilleltensky, & S. Austins (Eds.), *Critical psychology: An introduction* (2nd ed., pp. 144–158). London, England: Sage.
- Chen, Y. Y., & Koenig, H. G. (2006). Traumatic stress and religion: Is there a relationship? A review of empirical findings. *Journal of Religion and Health*, 45(3), 371–381.
- Contrada, R. J., Goyal, T. M., Cather, C., Rafalson, L., Idler, E., & Krause, T. J. (2004). Psychosocial factors in outcomes of heart surgery: The impact of religious involvement and depressive symptoms. *Health Psychology*, 23(3), 227–238.
- Cohen, L. M., McChargue, D. E., & Collins, F. L., Jr. (Eds.). (2003). *The health psychology handbook: Practical issues for the behavioral medicine specialist*. Thousand Oaks, CA: Sage.
- Dein, S., & Littlewood, R. (2005). Apocalyptic suicide: From a pathological to an eschatological interpretation. *International Journal of Social Psychiatry*, 51, 198–210.
- Egnew, T. R. (2005). The meaning of healing: Transcending suffering. *Annals of Family Medicine*, 3(3), 255–262.
- Emmons, R., & Paloutzian, R. (2003). The psychology of religion. *Annual Review of Psychology*, 54, 377–402.
- Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. *Science*, 96, 129–136.
- Enstrom, J. E., & Breslow, L. (2008). Lifestyle and reduced mortality among active California Mormons, 1980–2004. *Preventative Medicine*, 46, 133–136.
- Estacio, E. (2006). Going beyond the rhetoric: The movement of critical health psychology towards social action. *Journal of Health Psychology*, 11(3), 347–350.
- Fadiman, A. (1997). *The spirit catches you and you fall down: A Hmong child, her American doctors, and the collision of two cultures*. New York, NY: Farrar, Straus and Giroux.
- Frankl, V. E. (1984). *Man's search for meaning*. New York, NY: Pocket Books.

- Fromm, E. (1964). *The heart of man, its genius for good and evil*. New York, NY: Harper & Row.
- Fuchs, V. F. (1974). *Who shall live? Health, economics, and social choice*. New York, NY: Basic Books.
- Gatchel, R. J. (2004). Comorbidity of chronic pain and mental health: The biopsychosocial perspective. *American Psychologist*, 59, 792–794.
- Gatchel, R. J., Bo Pang, Y., Peters, M. L., Fuchs, P. N., & Turk, D. C. (2007). The biopsychosocial approach to chronic pain: Scientific advances and future directions. *Psychological Bulletin*, 133(4), 581–624.
- Geertz, G. (1973). *The interpretation of cultures*. New York, NY: Basic Books.
- Ghaemi, N. S. (2009). The rise and fall of the biopsychosocial model. *The British Journal of Psychiatry*, 195, 3–4.
- Gillum, R. F., King, D. E., Obisesan, T. O., & Koenig, H. G. (2008). Frequency of attendance at religious service and mortality in a US national cohort. *Annals of Epidemiology*, 18, 124–129.
- Hall, D., Koenig, H., & Meador, K. (2008). Hitting the target: Why existing measures of “religiousness” are really reverse-scored measures of “secularism.” *Explore*, 4(6), 368–372.
- Harvey, T. S. (2008). Where there is no patient: An anthropological treatment of a biomedical category. *Culture, Medicine, & Psychiatry*, 32, 577–606.
- Hatala, R. A. (2012). The status of the “biopsychosocial” model in health psychology: Towards an integrated approach and a critique of cultural conceptions. *Open Journal of Medical Psychology*, 1, 51–62.
- Hatala, R. A. (2011). Resilience and healing amidst depressive experiences: An emerging four-factor model from emic/etic perspectives. *Journal of Spirituality in Mental Health*, 13(1), 27–51.
- Hatala, R. A. (2008). Spirituality and aboriginal mental health: An examination of the relationship between aboriginal spirituality and mental health. *Advances in Mind Body Medicine*, 23(1), 6–12.
- Hill, P., & Pargament, K. (2003). Advances in the conceptualization and measurement of religion and spirituality: Implications for physical and mental health research. *American Psychologist*, 58(1), 64–74.
- Idler, E. (2010). Health & religion. In W. Cockerham (Eds.), *The new Blackwell companion to medical sociology* (pp. 133–158). Malden, MA: Blackwell.
- Idler, E. L., Boulifard, D. A., Labouvie, E., Chen, Y. Y., Krause, T. J. & Contrada, R. J. (2009). Looking inside the black box of “attendance at services”: New measures for exploring an old dimension in religion and health research. *The International Journal for the Psychology of Religion*, 19, 1–20.
- Kaye, J., & Raghavan, S. K. (2002). Spirituality in disability and illness. *Journal of Religion and Health*, 41(3), 231–242.
- Kazarian, S., & Evans, D. (2001). Health psychology and culture: Embracing the 21st century. In S. Kazarian & D. Evans (Eds.), *Handbook of cultural health psychology* (pp. 3–43). San Diego, CA: Academic Press.
- Kemeny, M. (2007). Psychoneuroimmunology. In H. Friedman & R. Cohen (Eds.), *Foundations of health psychology* (pp. 92–116). Oxford, England: Oxford University Press.

- Kiecolt-Glaser, J. K., & Glaser, R. (1995). Psychoneuroimmunology and health consequences: Data and shared mechanisms. *Psychosomatic Medicine*, 57(3), 269–274.
- King, M., Jones, L., Barnes, K., Low, J., Walker, C., Wilkinson, S., Tookman, A. (2005). Measuring spiritual belief: Development and standardization of Beliefs and Values Scale. *Psychological Medicine*, 36, 417–425.
- Kirmayer, L. J. (2004). The cultural diversity of healing: meaning, metaphor and mechanism. *British Medical Bulletin*, 69, 33–48.
- Kirmayer, L. J. (2007). Psychotherapy and the cultural concept of the person. *Transcultural Psychiatry*, 44(2), 232–257.
- Knowles, J. H. (1977). The responsibility of the individual. In J. H. Knowles (Ed.), *Doing better and feeling worse: Health in the United States*. New York, NY: Norton.
- Koenig, H. G. (2008). *Medicine, religion & health: Where science and spirituality meet*. West Conshohocken, PA: Templeton Foundation Press.
- Koenig, H. G., Georg, L. K., & Peterson, B. L. (1998). Religiosity and remission of depression in medically ill older patients. *American Journal of Psychiatry*, 155, 536–542.
- Krause, N. (2006). Church-based social support and change in health over time. *Review of Religious Research*, 48, 125–140.
- Leigh, H., & Reiser, M. F. (1977). Major trends in psychosomatic medicine: The psychiatrists evolving role in medicine. *Annals of Internal Medicine*, 87, 233–239.
- Leventhal, H., Weinman, J., Leventhal, E., & Phillips, A. (2008). Health psychology: The search for pathways between behavior and health. *Annual Review of Psychology*, 59, 477–505.
- Lipowski, Z. J. (1977). Psychosomatic medicine in the seventies: An overview. *American Journal of Psychiatry*, 134, 233–244.
- MacLachlan, M. (2004). Culture, empowerment and health. In M. Murray, (Eds.), *Critical health psychology* (pp. 101–118). New York, NY: Palgrave Macmillan.
- Maltby, (2005). Protecting the sacred and expressions of ritualty: Examining the relationship between extrinsic dimensions of religiosity and unhealthy guilt. *Psychology and Psychotherapy: Theory, Research and Practice*, 78, 77–93.
- Marks, D. F. (2002). Freedom, responsibility and power: Contrasting approaches to health psychology. *Journal of Health Psychology*, 7(1), 5–19.
- Marks, D. F. (1996). Health Psychology in context. *Journal of Health Psychology*, 1, 7–21.
- Marks, D. F., Murray, M., Evans, B., Willig, C., Woodall, & Sykes, C. (2005). *Health psychology: Theory, research and practice* (2nd ed.). Thousand Oaks, CA: Sage.
- Matarazzo, J. D. (1982). Behavioral health's challenge to academic, scientific, and professional psychology. *American Psychologist*, 37, 1–14.
- Matheis, E. N., Tulskey, D. S., & Matheis, R. J. (2006). The relation between spirituality and quality of life among individuals with spinal cord injury. *Rehabilitation Psychology*, 51(3), 265–271.
- McCullough, M., Hoyt, W., Larson, D., Koenig, H., & Thoresen, C. (2000). Religious involvement and mortality: A meta-analytic review. *Health Psychology*, 19(3), 211–222.

- McCullough, M. E., & Larson, D. B. (1999). Prayer. In W. R. Miller (Ed.), *Integrating spirituality into treatment* (pp. 85–110). Washington, DC: American Psychological Association.
- McEwen, B. S. (1998). Protective and damaging effects of stress mediators. *New England Journal of Medicine*, 338(3), 171–179.
- McLaren, N. (1998). A critical review of the biopsychosocial model. *The Australian and New Zealand Journal of Psychiatry*, 32(1), 86–96.
- McLaren, N. (2002). The myth of the biopsychosocial model. *Australian and New Zealand Journal of Psychiatry*, 36(5), 701–703.
- McLaren, N. (2009). *Humanizing psychiatry*. Ann Arbor, MI: Loving Healing Press.
- Michie, S., & Abraham, C. (Eds.). (2004). *Health psychology in practice*. London, England: BPS Blackwells.
- Miller, W., & Thoresen, C. (2003). Spirituality, religion, and health: An emerging research field. *American Psychologist*, 58(1), 24–35.
- Miller, G., Chen, E., & Cole, S. (2009). Health psychology: Developing biologically plausible models linking the social world and physical health. *Annual Review of Psychology*, 60, 501–524.
- Mills, P. J. (2002). Spirituality, religiousness, and health: From research to clinical practice. *Annals of Behavioral Medicine*, 24, 1–2.
- Murray, M. (2004). Conclusion: Towards a critical health psychology. In M. Murray, (Ed.), *Critical Health Psychology* (pp. 222–229). New York, NY: Palgrave Macmillan.
- Murray, M., & Poland, B. (2006). Health psychology and social action. *Journal of Health Psychology*, 11(3), 379–384.
- Nelson, J. M., & Slife, B. D. (2006). Philosophical issues in psychology and religion: An introduction. *Journal of Psychology & Theology*, 34(3), 191–192.
- Nicassio, P. M., Meyerowitz, B. E., & Kerns, R. D. (2004). The future of health psychology interventions. *Health Psychology*, 23(2), 132–137.
- Noss, D. (2003). *A history of the world's religions* (11th ed.). New York, NY: Prentice Hall.
- Oman, D., & Thoresen, C., (2002). “Does Religion Cause Health?”: Differing Interpretations and Diverse Meanings. *Journal of Health Psychology*, 7(4), 365–380.
- Oman, D., & Thoresen, C., (2003). Without spirituality does critical health psychology risk fostering cultural iatrogenesis? *Journal of Health Psychology*, 8(2), 223–229.
- Pargament, K.I. (1997). *The psychology of religion and coping*. New York, NY: Guilford.
- Pargament, K.I. (2002). The bitter and the sweet: An evaluation of the costs and benefits of religiousness. *Psychological Inquiry*, 13(3), 168–181.
- Perez, J., Chartier, M., Koopman, C., Vosvick, M., Gore-Felton, C., & Spiegel, D. (2009). Spiritual striving, acceptance coping, and depressive symptoms among adults living with HIV/AIDS. *Journal of Health Psychology*, 14(1), 88–97.
- Pilgrim, D. (2002). The biopsychosocial model in Anglo-American psychiatry: Past, present and future. *Journal of Mental Health*, 11(6), 585–559.
- Plante, T. G., & Sherman, A. C. (Eds.). (2001). *Faith and health: Psychological perspectives*. New York, NY: Guilford Press.
- Prilleltensky, I., & Prilleltensky, O. (2003). Towards a critical health psychology. *Journal of Health Psychology*, 8(2), 197–210.

- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York, NY: Simon & Schuster.
- Rachman, S. (1979). The concept of required helpfulness. *Behavioral Research Theory*, 17, 1–6.
- Salomon, K., Clift, A., Karlsdóttir, M., & Rottenberg, J. (2009). Major depressive disorder is associated with attenuated cardiovascular reactivity and impaired recovery among those free of cardiovascular disease. *Health Psychology*, 28(2), 157–165.
- Sarafino, E. (2006). *Health psychology: Biopsychosocial interactions* (5th ed.). Hoboken, NJ: John Wiley & Sons.
- Schwartz, G. E. (1982). Testing the biopsychosocial model: The ultimate challenge facing behavioral medicine? *Journal of Consulting and Clinical Psychology*, 50, 1040–1053.
- Shapiro, S. (2009). Meditation and positive psychology. In S. J. Lopez & C. R. Snyder (Eds.), *Oxford handbook of positive psychology* (2nd ed., pp. 601–610). Oxford, England: Oxford University Press.
- Shweder, R. A., Much, N. C., Mahapatra, M., & Park, L. (1997). The big three of moralism (autonomy, community, divinity) and the big three explanations of suffering. In A. M. Brandt & P. Rozin (Eds.), *Morality and health* (pp. 119–172). London, England: Routledge.
- Siegel, K., & Schrimshaw, E. W. (2002). The perceived benefits of religious and spiritual coping among older adults living with HIV/AIDS. *Journal for the Scientific Study of Religion*, 41, 91–102.
- Sloan, R., & Bagiella, E. (2002). Claims about religious involvement and health outcomes. *Annals of Behavioral Medicine*, 24, 14–21.
- Sloan, R. P., Bagiella, E., & Powell, T. (1999). Religion, spirituality and medicine. *Lancet*, 353, 664–667.
- Spilka, B., & Bridges, R. A. (1989). Theology and psychological theory: Psychological implications of some modern theologies. *Journal of Psychology and Theology*, 17, 343–351.
- Stam, H. J. (2000). Theorizing health and illness: functionalism, subjectivity and reflexivity. *Journal of Health Psychology*, 5, 273–284.
- Stam, H. (2004). A sound mind in a sound body: A critical historical analysis of health psychology. In M. Murray (Ed.), *Critical health psychology* (pp. 15–30). New York, NY: Palgrave Macmillan.
- Strawbridge, W. J., Shema, S. J., Cohen, R. D., & Kaplan, G. A. (2001). Religious attendance increases survival by improving and maintaining good health practices, mental health, and stable marriages. *Annals of Behavioral Medicine*, 23(1), 68–74.
- Sulmasy, D. P. (2002). A biopsychosocial–spiritual model for the care of patients at the end of life. *The Gerontologist*, 42(3), 24–33.
- Suls, J., & Rothman, A. (2004). Evolution of the biopsychosocial model: Prospects and challenges for health psychology. *Health Psychology*, 23(2), 119–125.
- Tarakeshwar, N., Vanderwerker, L. C., Paulk, E., Pearce, M. J., Kasl, S. V., & Prigerson, H. G. (2006). Religious coping is associated with the quality of life of patients with advanced cancer. *Journal of Palliative Medicine*, 9(3), 646–657.
- Tavakoli, H. R. (2009). A closer evaluation of current methods in psychiatric assessments: A challenge for the biopsychosocial model. *Psychiatry*, 6(2), 25–30.

- Taylor, S. E. (1990). Health psychology: The science and the field. *American Psychologist*, 45, 40–50.
- Toulmin, S. (1992). The cult of empiricism in psychology, and beyond. In S. Koch & D. Leasry (Eds.), *A century of psychology as science* (pp. 594–617). New York, NY: McGraw-Hill.
- Underwood-Gordon, L., Peters, D. J., Bijur, P., & Fuhrer, M. (1997). Roles of religiousness and spirituality in medical rehabilitation and the lives of persons with disabilities. *American Journal of Physical Medicine and Rehabilitation*, 76, 255–157.
- Weiss, S. (1982). Health psychology: The time is now. *Health Psychology*, 1(1), 81–91.
- Worthington, E. L., Kurusu, T. A., McCullough, M. E., & Sandage, S. J. (1996). Empirical research on religion and psychotherapeutic processes and outcomes: A 10-year review and research prospectus. *Psychological Bulletin*, 119(3), 468–487.