

ASSESSMENT OF HUMANISTIC, TRANSPERSONAL, AND SPIRITUAL CONSTRUCTS: STATE OF THE SCIENCE



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Summary

This article reports on the current status of psychometric testing as it pertains to the measurement and assessment of constructs relevant to humanistic and transpersonal psychologies. In so doing,

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information is provided on available instruments and associated empirical research findings exploring the relation of humanistic/transpersonal phenomena/concepts to human functioning. The article concludes with a listing of recommendations for investigators who wish to employ standardized assessment instruments in humanistic and/or transpersonal research.

In recent years, interest in spirituality and associated constructs/phenomena has been increasing among scientists, practitioners, and laypersons. As a function of this interest, there has been an impressive rise in the number of studies appearing in the literature that attempt to examine these subjects with varying degrees of rigor and, by association, there is now a staggering number of standardized assessment tools designed specifically to assess spirituality as well as a gamut of other constructs relevant to humanistic and transpersonal psychology (MacDonald, Kuenztl, & Friedman, 1999; MacDonald, LeClair, Holland, Alter, & Friedman, 1995).

However, although we are strongly supportive of research on topics that contribute to humanistic and transpersonal areas, a cursory inspection of the available literature reveals two notable negative trends. First, we have observed a virtual absence of shared measures and/or methodologies across investigations, that is, many studies involve the development of new assessment technologies, most often without efforts being made to address or incorporate extant measures. Consequently, the literature presents a highly confusing picture as to the status of quantitative instrumentation and the actual state of scientific knowledge involving spirituality and humanistic/transpersonal psychology.

Second, the vast majority of research and test development efforts are being put forth not by humanistic or transpersonal psychologists but instead by investigators from a number of conventional areas of psychology including clinical psychology, social psychology, health psychology, and the psychology of religion. Medicine and nursing have also been quite active in the generation of new tests and measurement tools. By extension, it appears that humanistic and transpersonal psychologies are contributing considerably less to the growing scientific interest and evolving research, a fact that has been noted by advocates of the emerging positive psychology movement and used by it as a basis on which to marginalize and exclude humanistic/transpersonal psychology

from the realm of scientific psychology (e.g., see Seligman & Csikszentmihalyi, 2000, p. 7).

The purpose of this article is to present information regarding the current status of quantitative assessment as it applies to the definition and measurement of constructs arising from, or related to, spirituality and humanistic/transpersonal psychology. Our express aim in providing this information is to assist humanistic and transpersonal psychologists in becoming aware of available technologies and to compel researchers from these domains to more seriously consider the incorporation of such technologies in ongoing research. For the sake of clarity, the article is structured around four general questions: (a) What arguments support the use of quantitative assessment in humanistic and transpersonal research? (b) What types of measures are currently available in the literature? (c) What does the available empirical literature that uses these measures tell us about the relation of spiritual and humanistic/transpersonal concepts to human functioning? and (d) What are the recommendations for investigators interested in doing transpersonal research?

ARGUMENTS SUPPORTING THE QUANTITATIVE ASSESSMENT OF SPIRITUAL AND TRANSPERSONAL CONCEPTS

In general, humanistic and transpersonal psychologies have eschewed the use of objective tests, formalized assessment, and conventional empirical research methodologies on the grounds that they are reductionistic and unable to do justice to the inherent richness, complexity, and often ineffability of subjective human experience. In the place of such data-gathering strategies, qualitative research methods, such as the phenomenological method (e.g., Giorgi, 1997; Patrik, 1994; Walsh, 1995), have been advanced as providing greater accessibility to the lived world of experience in a manner that has come to be seen by many as being more consistent with the underlying worldview and values promoted by third- and fourth-force psychologies.

To be sure, the limitations of operationalization (i.e., the definition of a construct according to how it is measured) are great, and we concur with the basic criticism of reductionism. However, we also contend that all conceptual modalities of knowing are inherently reductionistic to some degree; although we subscribe to the

position that the best way of understanding or knowing an experience or state of consciousness is to directly experience it oneself, any attempt to either communicate that to another or, indeed, to internally process that experience with conceptual thought is bound to be at least somewhat reductionistic. Furthermore, we are of the view that qualitative methodologies provide us with perspectives on data that are simply not available through more conventional (e.g., psychometric) means and, as such, have an important place in our armamentarium of available research methods but that they too suffer from their own unavoidable reductionistic implications. Therefore, we believe that quantitative methods, and most centrally psychometric testing, provide an important avenue of information. Briefly, here are some points for consideration. For the interested reader, these issues are discussed at greater length in a number of our existing publications (e.g., Friedman, 1983; Friedman & MacDonald, 1997; MacDonald et al., 1995; MacDonald, Friedman, & Kuentzel, 1999; MacDonald, Kuentzel, et al., 1999; MacDonald, Tsagarakis, & Holland, 1994).

First, the problems with operationalization and reductionism associated with psychometric testing are not unique to humanistic and transpersonal concepts, theory, and experience. These problems exist in all areas of psychological and social science research. However, despite these limitations, the development and application of tests has flourished in all psychological sciences. Why? Because they provide information that, notwithstanding its shortcomings, is open to verification and replication through a standardized methodology that enables the comparison of findings and the evolution of a body of cumulative knowledge. Following from this, it appears reasonable to us to argue that there may be benefits of testing for humanistic and transpersonal psychologies also.

Second, and more specific to the transpersonal area, much of the literature concentrates on transcendent states of consciousness and, as such, creates the impression that spiritual and transpersonal experience represents the totality of the area. It must be pointed out, however, that humanistic and transpersonal psychologies are not exclusively concerned with experience. Rather, they are much broader enterprises. Perhaps nowhere better is this communicated than by Roger Walsh and Frances Vaughan (1993), two recognized authorities in the transpersonal movement, who define transpersonal psychology as "the area of psychology that focuses on the study of transpersonal experiences and related phenomena. These phenomena include the causes,

effects, and correlates of transpersonal experiences and development, as well as the [theories], disciplines and practices inspired by them" (p. 203). If we take this definition at face value, it may readily be contended that the study of relevant theory and behavior, both of which are much more amenable to conventional scientific inquiry than experience, is as central to defining a scientific transpersonal psychology as is the exploration of nonordinary experience.

Third, and most generally, in response to the sweeping changes in service provision arising from economic (e.g., increased involvement of third-party payers such as insurance companies) and legal (e.g., increased likelihood of malpractice litigation) factors, psychometric testing and formalized psychological assessment are finding use as one of the primary modalities through which psychological service providers justify and validate clinical diagnoses and interventions. However, Friedman and MacDonald (1997) noted that

in showing reluctance to embrace assessment . . . transpersonal [and humanistic] practitioners appear to be putting themselves at unnecessary risk. . . . Without significant energy being directed at demonstrating the validity and usefulness of [relevant] theory and associated practices, [humanistic and] transpersonal psychological practice can be seen as being in an increasingly defenseless position relative to the larger psychological and scientific community, since . . . practitioners are not making satisfactory attempts at being accountable for the quality and effectiveness of their work to their clients, their profession, and their science. (p. 106)

Stated differently, due to social and political factors, both the science as well as the practice of humanistic/transpersonal psychologies may be in jeopardy because of the gross underutilization of recognized technologies in verifying theory and professional judgment. In this vein, psychometric tests appear to hold the potential of adding credibility to humanistic/transpersonal theory and practices due to their wide acceptance within scientific and social institutions.

Taken together, these points should make apparent the need for, and the possibility of, psychometric testing in the humanistic and transpersonal areas. As a matter of clarity and summarization, psychometric testing may be seen as providing six concrete benefits for transpersonal research. As stated by MacDonald et al. (1995), these may be described as follows:

TABLE 1: Listing of Selected Extant Measures of Spirituality and Related Constructs

Spirituality
Expressions of Spirituality Inventory (MacDonald, 2000)
Psychomatrix Spirituality Inventory (Wolman, 1997)
Spiritual Orientation Inventory (Elkins, Hedstrom, Hughes, Leaf, & Saunders, 1988)
Well-Being
Integration Inventory (Ruffing-Rahal, 1991)
Mental, Physical, and Spiritual Well-Being Scale (Vella-Brodrick & Allen, 1995)
Spiritual Well-Being Scale (Ellison, 1983; Paloutzian & Ellison, 1982)
Experience and Consciousness
Assessment Schedule for Altered States of Consciousness (VanQuekelberghe, Altstotter-Gleich, & Hertweck, 1991)
Ego Permissiveness Inventory (Taft, 1969, 1970)
Mystical Experiences Scale (Hood, 1975)
Phenomenology of Consciousness Inventory (Pekala, 1982; Pekala, Steinberg, & Kumar, 1986)
Beliefs, Orientation, and Identity
Ego Grasping Orientation (Knoblauch & Falconer, 1986)
Feelings, Reactions, Beliefs Survey (Cartwright & Mori, 1988)
Self-Expansiveness Level Form (Friedman, 1983)
Transpersonal Orientation to Learning (Shapiro & Fitzgerald, 1989)

1) once adequate training in psychometrics and test construction is obtained, tests are relatively easy to construct, use, score, and interpret; 2) tests can be completed in a relatively short period of time and can be administered both individually or to groups; 3) tests allow for standardized measurement of a construct thereby making it easier to compare findings from different studies and easier to replicate existing findings; 4) tests allow for fast accumulation of empirical literature on a wide variety of theories and phenomena; 5) tests can be used to verify [humanistic/transpersonal theory . . . and 6) tests allow for easier comparison between [humanistic/transpersonal conceptions and mainstream psychological concepts. (p. 175)

AVAILABLE INSTRUMENTATION

Recent literature reviews (MacDonald et al., 1995; MacDonald, Kuentzel, et al., 1999) reveal more than 100 extant instruments of spirituality and transpersonal constructs. To give the reader some idea of their breadth and flavor, Table 1 presents a partial listing of some of the tests that we felt were representative of the range of

available tools and which appear to hold some promise for research.

As can be seen in the table, we present 14 measures grouped into four general categories: (a) Spirituality, (b) Well-Being, (c) Experience and Consciousness, and (d) Beliefs, Orientation, and Identity. Please note that these categories are being used for illustrative purposes and not because they are an accurate and reliable taxonomic classification system. Nonetheless, all instruments included here are standardized paper-and-pencil measures.

Spirituality Category

All measures listed in the spirituality category define and assess spirituality as a multidimensional construct. Given our knowledge of the existing instrumentation, the conceptualization of spirituality as involving more than one component appears to be the rule rather than the exception (i.e., most instruments define spirituality as consisting of two or more dimensions). In many cases, religion and/or religiousness finds representation either through the formal inclusion of items or scales or through the (usually) inadvertent confounding of religion and spirituality.

1. *Spiritual Orientation Inventory (Elkins, Hedstrom, Hughes, Leaf, & Saunders, 1988)*. This measure is composed of 85 items which are unequally divided into nine subscales. The subscales, in turn, embody the major features of spirituality identified by the test authors through their content analysis of available relevant literature. The subscales consist of the following: (a) Transcendent Dimension, (b) Meaning and Purpose in Life, (c) Mission in Life, (d) Sacredness in Life, (e) Material Values, (f) Altruism, (g) Idealism, (h) Awareness of the Tragic, and (i) Fruits of Spirituality. This instrument is rare in that it is only one of a few which assess a model of spirituality that has good support of its content validity (i.e., the nine components of spiritual orientation have been seen by a range of experts as representing key elements of the construct). Furthermore, this test embodies one of the first, and, to date, one of the most effective, efforts at devising a measure of spirituality that minimizes the confound with conventional religion and religiousness.

2. *Psychomatrix Spirituality Inventory (PSI) (Wolman, 1997)*. Designed to tap what spirituality means to Americans today, the

PSI is a 105-item test which encapsulates “seven clearly differentiated categories” (Wolman, 1997, p. 80) of spirituality. The items themselves were developed through the extensive surveying of persons ranging from lay people to experts in the areas of religion and spirituality, and the dimensions derived from analyses of scores obtained from a sample of about 700 participants. The categories are as follows: (a) Awareness of a Higher Power, (b) Spiritual Activities or Practices, (c) Use of Healing Practices, (d) Experience of Physical and Emotional Trauma, (e) Body Awareness, (f) Religious History, and (g) Current Religious Practices. The method of development of the PSI (i.e., social survey research) is noteworthy because the dimensions appear to represent aspects of spirituality that are of significant interest to investigators in a range of fields (e.g., conventional and alternative medicine; nursing; clinical, health, and rehabilitation psychology; psychology of religion).

3. *Expressions of Spirituality Inventory (ESI) (MacDonald, 2000)*. Named as such so as to avoid the reification of spirituality in measurement, the ESI is a 98-item test developed to assess a five-dimensional measurement model of spirituality. The model itself was constructed through the factor analyses of several representative measures of spirituality and related constructs. In essence, the five dimensions may be best understood as capturing (at least some of) the major facets of spirituality as represented in existing paper-and-pencil tests. The dimensions consist of the following: (a) Cognitive Orientation Towards Spirituality (i.e., spiritual beliefs and perceptions), (b) Experiential/Phenomenological Dimension (i.e., spiritual experience), (c) Existential Well-Being, (d) Paranormal Beliefs, and (e) Religiousness.

Well-Being Category

Measures in this category all concern themselves with the assessment of positive states of functioning and/or factors contributing to quality of life.

1. *Integration Inventory (Ruffing-Rahal, 1991)*. This 37-item instrument was developed to serve as a measure of well-being integration in older persons. The test author equates the notion of well-being integration with the Jungian concept of individuation (i.e., the conscious differentiation and integration of aspects of the psyche into itself) and sees the questionnaire as tapping the meaning-

fulness of daily life. Although not utilized in much research to date, this test is unique in attempting to objectively assess a concept akin to the theorizing of Jung.

2. *Mental, Physical, and Spiritual Well-Being Scale (Vella-Brodrick & Allen, 1995)*. Based on the earlier Holistic Living Inventory (Stoudenmire, Batman, Pavlov, & Temple, 1985), this 30-item scale was constructed to serve as an easy-to-use measure of holistic health and well-being. As its name indicates, it consists of three subscales that assess mental, physical, and spiritual aspects of well-being. Initial psychometric work suggests that this test produces scores with decent reliability and validity.

3. *Spiritual Well-Being Scale (SWBS) (Ellison, 1983; Paloutzian & Ellison, 1982)*. The SWBS is perhaps the single most commonly used instrument in the literature. It consists of 20 items divided into two subscales: Religious Well-Being and Existential Well-Being. This two-component model of spiritual well-being was derived from the work of Moberg (Moberg, 1971; Moberg & Brusek, 1978), who described the construct as consisting of vertical (i.e., well-being in relation to a Higher Power) and horizontal (i.e., well-being independent of anything religious) dimensions. Although some difficulties with factor structure and score distributions with certain populations have been shown to exist, the available research using this test suggests that it holds very good potential for exploring the relation of spirituality to psychological functioning.

Experience and Consciousness Category

In this category, we include measures designed explicitly to assess experience and states of consciousness. Akin to the spirituality measures, all of these measures are multidimensional.

1. *Assessment Schedule for Altered States of Consciousness (ASASC) (VanQuekelberghe, Altstotter-Gleich, & Hertweck, 1991)*. This measure is composed of 325 items that are divided across 14 subscales. The subscales, in turn, embody major categories of altered states experience. The ASASC was developed to serve as a comprehensive measure of nonordinary states of consciousness. The subscales are: (a) Personal Data (e.g., demographic/descriptive information as well as items on history of substance use and

involvement in consciousness altering practices); (b) Extraordinary Mental Processes (e.g., unusual trains of thought); (c) Parapsychology, Own Experiences; (d) Parapsychology, Own View; (e) Esoterics (e.g., astrology, spiritual healing); (f) Positive Mystic Experiences; (g) Negative Mystic Experiences; (h) Imagination; (i) Dreams; (j) Dissociation; (k) Hallucinations; (l) Hypersensitiveness; (m) Changed Feeling of Time and Space; and (n) Change (i.e., long-term effects of nonordinary experiences on functioning). The inclusiveness and comprehensiveness of this test is impressive and its design facilitates the use of selected subscales for any given research purpose, thereby minimizing the administration of undesirable or redundant questions.

2. *Ego Permissiveness Inventory* (Taft, 1969, 1970). This 72-item test taps a nine-factor conception of ego permissiveness (i.e., the ability of the ego to relinquish “some of its power in order to allow the actualization of the [positive] potentialities of the pre-conscious and unconscious aspects of the personality” [Taft, 1969, p. 36]). The nine factors are (a) Peak Experiences, (b) Dissociated Experiences, (c) Acceptance of Fantasy, (d) Belief in the Supernatural, (e) Automatic Thought, (f) Confidence in Cognitive Control, (g) Cognitive Adaptability, (h) Playfulness Versus Endogenous Arousal, and (i) Emotional Arousal From Social Sources. Subsequent to his initial efforts (i.e., Taft, 1969), Taft (1970) refactored the items and revised the measure to consist of eight 10-item subscales labeled: (a) Peak Experiences, (b) Dissociated Experiences, (c) Openness to Inner Experiences, (d) Belief in the Supernatural, (e) Emotional Extraversion, (f) Intrinsic Arousal, (g) Controlled Adaptability, and (h) Intellectual Control. Although he found an additional factor in his second analyses (called Cognitive Regression), he did not include it in his revised instrument.

3. *Mystical Experiences Scale* (Hood, 1975). The M-Scale is a 32-item instrument designed to assess eight of the nine dimensions of mystical experience identified by Stace (1960) in his phenomenological analysis of reports of such experience (i.e., all of Stace’s dimensions except paradoxicality). The dimensions are (a) Ego Quality, (b) Unifying Quality, (c) Inner Subjective Quality, (d) Temporal/Spatial Quality, (e) Noetic Quality, (f) Ineffability, (g) Positive Affect, and (h) Religious Quality. Next to the Spiritual Well-Being Scale, the M-Scale has been among the most commonly used measures in research.

4. *Phenomenology of Consciousness Inventory (PCI)* (Pekala, 1982; Pekala, Steinberg, & Kumar, 1986). The PCI is a 53-item paper-and-pencil measure that is designed to tap 12 major dimensions of phenomenological experience, including: (a) Positive Affect, (b) Negative Affect, (c) Altered Experience, (d) Visual Imagery, (e) Attention, (f) Self-Awareness, (g) Altered Awareness, (h) Internal Dialogue, (i) Rationality, (j) Volitional Control, (k) Memory, and (l) Arousal. Due to its relative comprehensiveness, the PCI may be seen as a reasonably good tool for use in place of, or more ideally, as augmentation to, qualitative research methods.

Beliefs, Orientation, and Identity Category

In our final category, we include instruments that assess a more eclectic variety of constructs.

1. *Ego Grasping Orientation (EGO)* (Knoblauch & Falconer, 1986). The EGO is a 20-item true/false measure of Taoist orientation designed to measure ego grasping, a concept defined as “a dualistic stance that is marked by the person’s attempts to make things more positive while striving to eliminate the negative aspects of human experience” (Knoblauch, 1985, p. 55). The concept itself was developed based on a therapeutic adaptation of the Taoist concepts of yin-yang, wu-wei, and te.

2. *Feelings, Reactions, Beliefs Survey* (Cartwright & Mori, 1988). This 130-item instrument taps nine main aspects of personality functioning as delineated by Carl Rogers. These are labeled: (a) Focusing Conscious Attention, (b) Openness to Feelings in Relationships, (c) Trust in Self as an Organism, (d) Fully Functioning Person, (e) Feeling Uncomfortable With People, (f) Struggling With Feelings of Inferiority, (g) Feeling Ambivalent in Relationships, (h) Openness to Transcendent Experiences, and (i) Religio-Spiritual Beliefs. This measure is distinctive in its attempt to formalize and operationalize central personality functions as seen by Rogers.

3. *Self-Expansiveness Level Form* (Friedman, 1983). This is an 18-item test designed to measure a model of self-concept delineated according to three levels of self-expansiveness. Self-expansiveness is defined as “the amount of True Self which is contained within the boundary demarcating self from not-self through the process of self-conception” (Friedman, 1983, p. 38). The three levels

of self-expansiveness were derived through the use of a spatial-temporal cartography of self-concept (i.e., identity defined as existing in time and space). Each level of self-concept corresponds to a subscale on the measure. The Personal subscale is concerned with the here-and-now level of identity. The Transpersonal subscale, conversely, taps aspects of self-concept in which identity extends sufficiently beyond the present time and place to involve the dissolution of self as a separate egoic entity. The Middle subscale occupies the area between the Personal and Transpersonal and, though not developed conceptually by Friedman, appears to relate to self-concept as involving an expanded sense of identity beyond the Personal level that does not qualify as sufficiently expanded as to be considered Transpersonal (e.g., identification with social behavior and the environment). This instrument is one of the only existing tests designed to explicitly incorporate transpersonal theories of identity.

4. *Transpersonal Orientation to Learning (Shapiro & Fitzgerald, 1989)*. This 40-item measure was constructed to tap the extent to which a person's attitudes and beliefs about learning and education are transpersonal in nature. The test authors comment that a transpersonal orientation to learning advocates the use of educational environments as contexts for facilitating spiritual development. As such, transpersonally minded individuals give considerable weighting to intuitive and receptive modes of consciousness in education as opposed to the usual rational/logical modes. The 40 items of the instrument are equally divided into four subscales, which the test authors developed from the results of an item-level factor analysis. The subscales are (a) Fantasy Techniques Applied in Schools, (b) Mysticism Preferred to Science as an Epistemology, (c) Mystical/Occult/Paranormal Techniques Applied to Schools, and (d) Transcendent Consciousness. This assessment tool was devised by educational researchers to use in exploring the role of transpersonal value systems in education. As such, it is the only measure of its kind.

THE STATE OF SCIENTIFIC KNOWLEDGE DERIVED THROUGH SPIRITUAL AND TRANSPERSONAL MEASURES

What does the available empirical literature that uses standardized measures tell us about the relation of spiritual and

transpersonal concepts to human functioning? Does it provide strong evidence of a positive link between spirituality and health? Two general comments can be made about the literature. First, it is in such disarray that the discovery of cogent trends is challenging. The task is made significantly more difficult by the fact that there is not a formally developed nomological net of humanistic and transpersonal constructs. That is, as we have already commented, there is little agreement between measures in what constitutes any given construct and, by association, little basis on which to assume any equivalence of measurement. Ostensibly, if we cannot assume that tests claiming to measure the same construct are, in fact, measuring the same construct, then we cannot assume that the findings obtained with one test are applicable or generalizable to findings involving other tests.

Second, in virtually all studies that report a significant relationship between some aspect or element of spirituality and functioning, the effect size is poor to marginal at best. For example, the religiousness-addictions research has been one of the more salient areas that demonstrates a robust inverse relationship, an association that has held up across different demographic groups and substances. However, when these findings are examined, it has been observed that the upper limit of effect size falls at a correlation of about .25 (Connors, Tonigan, & Miller, 1996). Such a correlation is equivalent to explaining just more than 6% of the variance between these variables. Clearly, whether a finding is significant, when it only accounts for 6% of the score variance on average, it is difficult to substantiate its clinical and pragmatic import.

Notwithstanding effect size considerations, the more than 1,100 published studies examining the relation of spirituality and associated transpersonal constructs to psychological and physical functioning may yield a more intelligible picture if there were an empirically based organizational model through which the findings could be structured and interpreted. The emphasis on empirically based is important because such an organizational model could only have scientific value if it empirically demonstrates how different operationalizations of transpersonal constructs relate to and influence one another. In other words, if the organizational model does not lend to the development of a nomological net of constructs and the identification of central structural elements within that net, then, from a scientific standpoint it remains practically impossible to determine which, if any, existing theoretical model offers the most valid and useful perspective for understanding the

available findings. With this empirical requirement in mind, the five-dimensional model of spirituality devised by MacDonald (1997, 2000) may be seen as a viable candidate for bringing order to the literature.

As stated earlier in the context of describing the ESI, MacDonald (2000) developed a five-factor model of spirituality based on the factor analyses of several representative measures of spirituality and associated constructs. Spirituality is approached by MacDonald as a broad-order construct domain that subsumes most constructs falling in the realm of transpersonal psychology (i.e., he essentially adopts the position that the study of spirituality is synonymous with transpersonal psychology) as well as many related subdisciplines (e.g., parapsychology, psychology of religion, existential psychology). Each of the five factors are presented by MacDonald as embodying robust common dimensions which account for a wide range of constructs.

To give an idea of its potential as an organizing framework, Table 2 shows the classification of 17 tests (or subscales from these tests) across the dimensions as per MacDonald's correlational and factor analytic findings. If the table is closely inspected, it will be noted that the test or subtest classifications appear theoretically consistent for the most part. That is, measures that were designed to tap certain constructs seem to contribute to factors that are conceptually similar. For example, measures of spiritual experience seem to belong to the factor identified as such; measures of religiousness, paranormal beliefs, and existential well-being appear to do so also. There are, however, a few tests that do not follow the same trend. In particular, the Spirituality Assessment Scale and the Spirituality Self-Assessment Scale, two measures intended to tap general spirituality, as well as the Index of Core Spiritual Experience, a test designed to assess spiritual experience, are all categorized on dimensions that do not appear immediately consistent with their theoretical underpinnings. MacDonald's (1997, 2000) examination of the content of these measures provides an answer for this. The former two measures of general spirituality mostly contain items that concern themselves with self-perceived functioning and quality of life without any reference to anything overtly spiritual or religious (e.g., I am happy; I feel strong; My life is rewarding), thus explaining why they were found to significantly contribute to the Existential Well-Being dimension and were categorized as measures of such. In a similar vein, the Index of Core Spiritual Experience, although designed to serve as a nontheistic

TABLE 2: Categorization of Spirituality Instruments Based on Factor Analytic and Correlational Results Found in MacDonald (1997, 2000)

Cognitive Orientation Toward Spirituality
Spirituality Assessment Scale–Innerness
Spiritual Orientation Inventory—All subscales save Transcendent Dimension
Death Transcendence Scale–Religious Mode
Intrinsic-Extrinsic Religious Orientation Scale–Intrinsic Religiousness
Spiritual Well-Being Questionnaire–Subjective Spiritual Well-Being
Experiential/Phenomenological Dimension
Mystical Experiences Scale–All eight subscales
Peak Experiences Scale
Spirituality Assessment Scale–Transcendence
Spiritual Orientation Inventory–Transcendent Dimension and Sacredness in Life
Assessment Schedule for Altered States of Consciousness–Positive Mystical Experiences
Death Transcendence Scale–Mystical Experience
Ego Permissiveness Inventory (Taft, 1969)–Peak Experience and Dissociated Experience
Existential Well-Being
Ego Grasping Orientation
Spirituality Assessment Scale—Innerness, Transcendence, Unifying Consciousness, Purpose, and Meaning in Life
Spirituality Self-Assessment Scale
Spiritual Well-Being Questionnaire–Self-Satisfaction
Spiritual Well-Being Scale–Existential Well-Being
Paranormal Beliefs
Paranormal Beliefs Scale–Extraordinary Life Forms, Precognition, Psi Beliefs, Spiritualism, Superstitiousness, Witchcraft
Transpersonal Orientation to Learning–Mystical/Occult/Paranormal Techniques to Learning
Assessment Schedule for Altered States of Consciousness–Parapsychology, Own Beliefs, and Esoterics
Ego Permissiveness Inventory–Belief in the Supernatural
Religiousness
East-West Questionnaire–Man and the Spiritual, Eastern and Man and the Spiritual, Western
Index of Core Spiritual Experience
Intrinsic Religious Motivation Scale
Mystical Experiences Scale–Religious Quality
Paranormal Beliefs Scale–Traditional Religious Beliefs
Death Transcendence Scale–Religious mode
Intrinsic-Extrinsic Religious Orientation Scale–Intrinsic religiousness
Spiritual Well-Being Questionnaire–Christian Faith, Personal Piety, Religious Cynicism
Spiritual Well-Being Scale–Religious Well-Being

SOURCE: Adapted from MacDonald (1997)

measure of spiritual experience, consists of items that are heavily laden with theistic terminology and concepts. Consequently, it seems reasonable that the scale would load on a religiousness factor in analytic work, and it appears appropriate to categorize the instrument in the Religiousness dimension.

With the illustration of how the five dimensions can organize existing measures of spirituality and related constructs completed, let us now turn to the application of these dimensions to assisting us in understanding how spirituality relates to conventional psychological variables. We will adopt two approaches to accomplishing this task. First, we briefly summarize the empirical trends that emerge for each dimension separately as they relate to the existing literature. Second, based on the ongoing work of MacDonald and Holland (in press, 2002a, 2002b, 2002c), we provide summary information on empirical correlates of the dimensions as measured by the Expressions of Spirituality Inventory.

Research Trends in the Literature

Cognitive Orientation Toward Spirituality. This dimension refers to spirituality as expressed through nonreligious means. In particular, it embodies beliefs, attitudes, and perceptions about the relevance of spirituality to one's daily functioning. When the literature is examined from the perspective of this dimension, surprising little research is found. In fact, there is a real paucity of studies exploring how nontheistically based conceptions of spirituality relate to psychological functioning. This appears to be largely the result of the limited number of existing spirituality measures that partition out religiousness. However, there are some indications that persons who are high on this dimension may tend to demonstrate higher levels of self-actualization and ego resiliency and lower levels of depression (e.g., Ellason, 1992; Tloczynski, Knoll, & Fitch, 1997; Zainuddin, 1993).

Experiential/Phenomenological Dimension. As its name implies, this dimension involves spiritual and mystical experience. Unfortunately, the research using measures that fall under this dimension provides a mixed picture of how spiritual experience relates to psychological functioning. For example, there are a number of studies that find positive associations with self-actualization and personality variables, suggestive that spiritual

experiences are connected with a healthy orientation toward self. However, for every study that supports such an association, there seems to be another that either fails to replicate it or finds the opposite pattern of results. One finding that seems fairly robust, incidentally, is a positive correlation between spiritual experience and temporal lobe signs (see Lukoff & Lu, 1988; MacDonald et al., 1995; MacDonald, Friedman, et al., 1999).

Existential Well-Being. This dimension involves aspects of spirituality relating to existential aspects of human functioning. More specifically, it appears to involve three general components: purpose and meaning in life (derived from any source), a sense of inner strength and perception of self as able to cope with the basic issues of life, and a relaxed orientation towards self and day-to-day matters. Research involving this dimension of spirituality appears to be the most consistent in its support of a positive relation with health and well-being and a negative association with pathology and general dysfunction. As examples, existential well-being seems to be robustly and negatively associated to depression, anxiety, and adjustment problems (MacDonald, 2000).

Paranormal Beliefs. In contrast to the research with Existential Well-Being, research involving Paranormal Beliefs has generally shown a positive relation with indices of pathology and with psychological variables typically thought of as reflecting negative aspects of functioning. For example, paranormal beliefs have been found to be related to unusual thought and behavioral patterns including psychotic disorders (e.g., schizophrenia, schizotypy), external locus of control, suggestibility, and temporal lobe signs (MacDonald et al., 1995; MacDonald, Friedman, et al., 1999).

Religiousness. In MacDonald's model, Religiousness refers to what is more conventionally known as intrinsic religious orientation or engaging in religious practice for its own sake. Extrinsic religious orientation (i.e., using religion as a means to accomplish another end, such as acquiring social status in one's community) and formal aspects of institutional religion are explicitly excluded. Both nondenominational beliefs about the existence of a higher power and religious practice (including prayer, meditation, and attendance at religious services) comprise the two key components of this dimension. In his survey of the religious commitment–mental health literature, Gartner (1996) noted that the manner in

which religiousness relates to psychological and physical functioning varies as a function of mode of measurement. In particular, hard variables (e.g., behavioral observations, physiological indices) have been observed to produce more consistent positive associations between religiousness and health as compared to soft variables (e.g., psychometric tests), which themselves generate more neutral to negative relations. He attributes this difference in findings to the fact that hard variables tend to be more objective and accurate indicators of religiousness and functioning, whereas standardized tests often operationalize health in terms that pathologize religion (e.g., the Minnesota Multiphasic Personality Inventory [MMPI] and Personal Orientation Inventory both have religion items that are used as indicators of dysfunction). Nonetheless, in his review of existing studies, Gartner reported that religiousness appears to demonstrate different patterns of relationship with different variables. Evidence supportive of an association with mental health is found in studies on physical health and mortality, treatment outcome, marital satisfaction and divorce, general well-being, antisocial behavior, and depression. Evidence consistent with a religiousness-pathology connection is noted with authoritarianism, dogmatism, tolerance of ambiguity, suggestibility and dependence, self-actualization, and temporal lobe epileptic signs. Inconsistent evidence has been observed with anxiety, psychosis, self-esteem, sexual disorders, prejudice, and intelligence/education.

*Empirical Findings Using the
Expressions of Spirituality Inventory*

It should be apparent from this brief literature overview that even with an organizing model, there exists considerable points of ambiguity and murkiness. Why does such ambiguity exist? Is it because the available research is poorly done across the board? Is it because the various aspects of spirituality actually do produce different configurations of relationships with different variables and/or different populations?

Table 3 presents a summary of empirical findings obtained by MacDonald (1997, 2000) and MacDonald and Holland (in press, 2002a, 2002b, 2002c) involving the Expressions of Spirituality Inventory Dimensions and a number of psychological variables. Included in the table are correlational results between the ESI and two comprehensive measures of personality (i.e., the NEO Person-

TABLE 3: Significant Empirical Correlations for the Five Dimensions of the Expressions of Spirituality Inventory (ESI) With Conventional Psychological Constructs

<i>ESI Dimension</i>	<i>Variable Domain</i>		
	<i>Personality</i>	<i>Pathology</i>	<i>Other</i>
Cognitive Orientation Toward Spirituality	NEO-PI-R: E, O, A, C ; TCI: C, NS (-), P, RD, SD, ST	MMPI-2: None, CPES: (+)	BPS: (-), Social Desire: (+)
Experiential/Phenomenological Dimension	NEO-PI-R: E, O ; TCI: HA (-), P, ST	MMPI-2: Si (-), CPES: (+)	BPS: No relation, Social Desire: No
Existential Well-Being	NEO-PI-R: N (-), E, A, C ; TCI: C, HA (-), P, SD	MMPI-2: L, F (-), K, Hs (-), D (-), Hy, Pd (-), Pa (-), Pt (-), Sc (-), Si (-); CPES: (-)	BPS: (-), Social Desire: (+)
Paranormal Beliefs	NEO-PI-R: O ; TCI: NS, ST	MMPI-2: Pa, CPES: (+)	BPS: No relation, Social Desire: No
Religiousness	NEO-PI-R: A, C; TCI: C, NS (-), RD, SD, ST	MMPI-2: Pd (-), CPES: No relation	BPS: No relation, Social Desire: (+)

SOURCE: Findings for NEO-PI-R and social desirability were taken from MacDonald (2000). Findings for the TCI were taken from MacDonald and Holland (2002a). Findings for the MMPI-2 were taken from MacDonald and Holland (in press). Findings for CPES were taken from MacDonald and Holland (2002b). Findings for boredom proneness were taken from MacDonald and Holland (2002c).

NOTE: For the NEO Personality Inventory–Revised (NEO-PI-R), N = Neuroticism, E = Extraversion, O = Openness, A = Agreeableness, and C = Conscientiousness; for the Temperament and Character Inventory (TCI), RD = Reward Dependence, NS = Novelty Seeking, HA = Harm Avoidance, P = Persistence, C = Cooperativeness, SD = Self-Directedness, and ST = Self-Transcendence; for the Minnesota Multiphasic Personality Inventory (MMPI-2), Hs = Hypochondriasis, D = Depression, Hy = Hysteria, Pd = Psychopathic Deviate, Pa = Paranoia, Pt = Psychasthenia, Sc = Schizophrenia, and Si = Social Introversion; CPES = Complex-Partial Epileptic Signs; and BPS = Boredom Proneness Scale. Boldface items generated correlations of .30 or greater, and (+) and (-) denote positive and negative correlation, respectively.

ality Inventory–Revised and the Temperament and Character Inventory), two measures of pathology (i.e., the MMPI-2 and the Complex Partial Epileptic Signs), and two additional constructs of general interest (i.e., boredom proneness and social desirability). In all cases, data were obtained from university student samples.

As can be seen in the table, although there are some points of overlap, basically, each of the five dimensions produce a differential pattern of findings across all measures. For three of the dimen-

sions, the findings appear generally consistent with our literature overview. That is, Existential Well-Being seems to most clearly demonstrate an inverse relation with measures of pathology and neuroticism, Paranormal Beliefs seems to produce a pattern of association with measures of unusual thought processes and nonordinary temporal lobe activity, and the Experiential/Phenomenological Dimension shows a bidirectional constellation of relationships indicating the presence of links to both positive and negative aspects of functioning.

The results for the remaining two ESI dimensions, on the other hand, are less copasetic with the research. In the case of Religiousness, although the obtained significant results appear congruent with existing studies, nonsignificant relations with indices of depression (not included in the table), and temporal lobe signs do not replicate available findings. Cognitive Orientation Toward Spirituality, although producing a set of coefficients with the TCI and NEO-PI-R suggestive of healthy personality correlates, did not obtain any significant correlations with MMPI-2 scales, and a positive correlation was observed with a measure of complex-partial epileptic signs.

When the trends in the research are taken into consideration, what can be said about spirituality and human functioning? Assuming that the Expressions of Spirituality Inventory and its underlying factor model are robust, only one conclusion seems defensible: Spirituality and associated transpersonal constructs are not related to psychological and physical functioning in a simple, unidirectional manner. Rather, it appears that the association is best characterized as complex, multidirectional, and at least partly the product of how constructs are operationalized.

RECOMMENDATIONS FOR FUTURE RESEARCH

In light of all that we have discussed, we have a number of recommendations for anyone interested in using psychometric tests to scientifically explore the domains of spirituality and humanistic/transpersonal psychology. As we are sure you will note, many of these recommendations are relevant to virtually all psychological research. Despite the universal applicability of some of these suggestions, however, we believe it prudent to make explicit all elements of the research process that require augmentation or revision for investigations in the humanistic and transpersonal

domains to reach a level of rigor that is at least on par with the quality of science done in mainstream psychology.

1. When employing psychometric tests as the quantitative method, studies should incorporate multidimensional measures of constructs of interest and/or multiple measures. This should be done in response to the fact that most concepts and phenomena of interest to humanistic and transpersonal researchers are complex and unlikely to be adequately represented by a simple one-dimensional test.
2. Consistent application of same method and tests across studies is essential. Research traditions and subdisciplines are built and maintained through the ongoing use of a theory and/or methodology in exploring a phenomena/behavior.
3. Pay attention to issues around statistical power. Because effect sizes tend to be weak, efforts need to be made to best augment the power of variables used in an investigation. This can be done through sample size (larger samples have greater power), by selecting measures that are known to demonstrate sensitivity to the variable of interest (e.g., including some hard behavioral measures), and by choosing appropriate statistics.
4. Give regard to possible confounding variables and covariates and make efforts to address them. Variables such as age, gender, race, and intelligence, as well as a variety of social (e.g., socioeconomic status) and socialization factors (e.g., education, early exposure to religion/spirituality) need to be controlled so their effects can be explained and/or eliminated.
5. Efforts should be made within studies to provide some evidence of the replicability of findings. That is, whenever possible, studies should focus on producing reliable empirical findings through the replication of results with a different sample or methodology.
6. Exercise caution in the interpretation of information coming from tests. Do not reify tests or scientific concepts. Interpret and report findings appropriately with sensitivity given to their limitations (especially in terms of generalizability).

CONCLUSION

As stated in the introduction, interest in topics central to humanistic and transpersonal psychologies is blooming in all segments of society, including within the scientific establishment. However, in this age of acceptance and exploration of ideas once taboo in empirical traditions, a time where one would assume that humanistic/transpersonal psychology should be serving a leading role, what in fact is happening is that these psychologies are becoming marginalized and even excluded from scientific develop-

ments due to their lack of commitment to recognized psychological research methods. It is our sincere hope that investigators take heed of the arguments and information presented here and make strong efforts to have humanistic and transpersonal psychology placed back in the forefront of spirituality and consciousness studies.

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