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The Integrated Spiritual Intelligence Scale (ISIS): Development and Preliminary Validation

by

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Abstract

This paper describes the development and preliminary validation of an ecumenical measure of spiritual intelligence (SI), the Integrated Spiritual Intelligence Scale (ISIS). SI was defined as the ability to apply, manifest, and embody spiritual resources, values, and qualities to enhance daily functioning and wellbeing. ISIS is an 83-item long form, and a 45-item short form, self-report instrument. ISIS has shown satisfactory factor structure, internal consistency, test-retest reliability, and construct validity. It contains 22 subscales assessing separate SI capabilities related to Beauty, Discernment, Egolessness, Equanimity, Freedom, Gratitude, Higher-self, Holism, Immanence, Inner-wholeness, Intuition, Joy, Mindfulness, Openness, Practice, Presence, Purpose, Relatedness, Sacredness, Service, Synthesis, and Trust. These 22 subscales are grouped into 5 domains: Consciousness, Grace, Meaning, Transcendence and Truth. ISIS predicted satisfaction with life and correlated with existing measures of spirituality. ISIS scores were significantly different among the different groups such that spiritual teachers and business leaders who were nominated for their embodiment of spirituality in daily life scored higher than other groups such as MBA students, even when controlling for other confounding variables.

Introduction

Over the last few decades, theories of multiple intelligences have broadened our concept of intelligence beyond traditional cognitive, largely linguistic and logical abilities associated with IQ testing, to include emotional, creative, practical, social, existential and spiritual intelligences (Bar-On, 2000; Gardner, 1983, 2000; Emmons, 1999; Halama & Strizenec, 2004; Goleman, 2001; Mayer & Salovey, 1993; Sternberg, 1997a, 1997b). Associated with each form of intelligence, a theoretical model and an assessment instrument were developed and validated to operationally measure the corresponding new intelligence construct (Bar-On, 2000; Boyatzis, Goleman, & Rhee, 2000; Mayer, Salovey, Caruso, & Sitarenios, 2003; Sternberg, 1997a, 1997b). Indeed, development of a reliable and valid measurement instrument is often seen as a criterion for establishing a new form of intelligence construct (Mayer, 2000; Hedlund & Sternberg, 2000).

Much as emotional intelligence (EI) defines a set of abilities that draw on emotional resources, spiritual intelligence (SI) involves a set of abilities that draw on spiritual resources. Whereas spirituality per se refers to the search for, and experiential elements of, the sacred, ultimate meaning, higher-consciousness, and transcendence, spiritual intelligence (SI) emphasizes the abilities that draw on such themes to predict functioning and adaptation (Emmons, 2000a). Hence, just as EI can be differentiated from emotionality, SI can be differentiated from spirituality in general, spiritual experience (e.g. a unitary state), or spiritual belief (e.g., a belief in God.) In this research, SI was defined as the ability to apply, manifest, and embody spiritual resources, values, and qualities to enhance daily functioning and wellbeing (Amram, in press).

Despite prior discussions of SI (Emmons, 2000b; Nasel, 2004; Vaughan, 2002; Wolman, 2001) until now little or no universal measurement instrument of spiritual intelligence has been developed and validated. The purpose of our research is to provide a measure of spiritual

intelligence. We address the question of whether a reliable, ecumenical, integrated, self-report measure of spiritual intelligence can be developed and validated. In the present study, we address this research question using a multi-sample, observational quantitative study and present results for a new scale, the Integrated Spiritual Intelligence Scale (ISIS).

Literature Review

Intelligence Beyond IQ

In a review of prior research, Hedlund and Sternberg (2000), and Goleman (1998) found that IQ, a measure of cognitive intelligence abilities, only accounts for about 20 to 30 percent of professional success. Sternberg (1997b, 2001) argues that improved prediction of leadership performance requires broadening the concept of intelligence beyond IQ.

Sternberg (1997a) defines intelligence as the mental abilities necessary for adaptation to, as well as selection and shaping of, any environmental context. Sternberg (1997b) offers a triarchic model consisting of: (a) academic intelligence (as measured by classical IQ tests); (b) practical intelligence (which grows through the accumulation of tacit knowledge for solving practical everyday problems); and (c) creative intelligence, which involves synthetic abilities to see problems in new ways and to escape the bounds of conventional thinking, but has not been studied as rigorously.

A richer and broader model for multiple intelligences, which is adopted in this paper, is Gardner's (1983, 1999) model. Gardner defines intelligence as a set of abilities that are used to solve problems and create products that are valuable within a cultural setting or community. Gardner (1983) outlines seven types of intelligences including: linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, interpersonal, and intrapersonal intelligence. Whereas Sternberg emphasizes mental abilities, Gardner's model allows for a broader set of abilities, such

as musical or bodily-kinesthetic, that may have a corresponding biological basis for their functioning and are not typically thought of as mental abilities.

Gardner (2000) later added naturalistic intelligence, the ability to recognize patterns in the flora and fauna in the wild, and suggested the possibility of an existential intelligence, involving the capacity to address existential questions, pertaining to “the fact of our existence as individuals in the cosmos and our capacity to puzzle over that fact” (p. 29).

Building on Gardner’s model, Halama and Strizenec (2004) define existential intelligence as an ability to find and realize meaning in life. Furthermore, Halama and Strizenec suggest that the ability to find and realize meaning in life is also an important element of spiritual intelligence, and hence, they see existential and spiritual intelligences as non-identical but mutually related and overlapping constructs. Similarly, several authors have developed models of EI that have been found to be reliable and valid (e.g. Bar-On, 2000; Boyatzis, Goleman, & Rhee, 2000; Mayer, Salovey, & Caruso, 2004).

A Theoretical Framework for Spiritual Intelligence

Paralleling the development of the emotional intelligence construct, spiritual intelligence involves a set of abilities that draw on spiritual resources. SI combines the constructs of spirituality and intelligence into a new construct. Whereas spirituality refers to the search for, and the experience of elements of the sacred, meaning, higher-consciousness, and transcendence, spiritual intelligence entails the abilities that draw on such spiritual themes to predict functioning and adaptation and to produce valuable products or outcomes (Emmons, 1999).

Emmons (2000a, 2000b) draws on Gardner’s definition of intelligence and argues that spirituality can be viewed as a form of intelligence because it predicts functioning and adaptation and offers capabilities that enable people to solve problems and attain goals. In other words,

spirituality is based on abilities that produce valuable outcomes. Research suggests a relationship between spirituality, life purpose and satisfaction, health, and wellbeing (George, Larson, Koenig, & McCullough., 2000; Kass, Friedman, Leserman, Zuttermeister, & Benson., 1991; Veach & Chappel, 1992). Elmer, MacDonald, and Friedman (2003) reviewed research on the impact of spirituality on health and found that it contributes to lower disease rate and longer life. When facing an injury, spiritually oriented people seem to respond better to intervention, better handle trauma (Emmons, 2000), and have lower depression rates (MacDonald & Friedman, 2002). Trott's (1996) study of 184 workers in a Fortune 100 company indicated positive correlations between spiritual wellbeing and general self-efficacy.

In looking at spirituality through the lens of intelligence, Emmons (1999) writes, "spiritual intelligence is a framework for identifying and organizing skills and abilities needed for the adaptive use of spirituality" (p. 163). Emmons (2000a) proposes five components for SI: (a) ability to utilize spiritual resources to solve problems; (b) ability to enter heightened states of consciousness; (c) ability to invest everyday activities and relationships with a sense of the sacred; (d) capacity for transcendence of the physical and material; and (e) capacity to be virtuous. However, in responding to criticisms from Mayer (2000) who argues that virtuous behavior belongs more to ethics and personality rather than intelligence, Emmons (2000b) drops (e) the capacity to be virtuous from his revised definition of SI and retains the first four (a through d) components of his model.

A somewhat different framework is offered by Vaughan (2002) who defines SI as "a capacity for a deep understanding of existential questions and insight into multiple levels of consciousness...it implies awareness of our relationship to the transcendent, to each other, to the earth and all beings." (p. 19). Hence, Vaughan's (2002) model may be seen to imply three

components of SI: (a) the ability to create meaning based on deep understanding of existential questions; (b) an awareness of and the ability to use multiple levels of consciousness in problem solving; and (c) an awareness of the interconnection of all beings to each other and to the transcendent.

In focusing the definition of SI on issues of meaning, Zohar and Marshall (2000) define SI as “the intelligence with which we address and solve problems of meaning and value, the intelligence with which we can place our actions and our lives in a wider, richer, meaning-giving context, the intelligence with which we can assess that one course of action or one life-path is more meaningful than another.” (p. 3). Zohar and Marshall’s definition also highlights and hints at linking SI to a sense of connection to the wider and greater whole.

Overlapping somewhat with prior authors, Levin (2000) argues that SI is exhibited when we live in a way that integrates spirituality into our daily life. Levin suggests that the development of SI requires the recognition of our interconnection to all of life, and the capacity to utilize perceptual powers beyond the five senses including our intuition, which is seen as another level of consciousness and intelligence beyond analytical, linear, and rational thought.

Wolman (2001) defines spiritual intelligence as “the human capacity to ask ultimate questions about the meaning of life, and to simultaneously experience the seamless connection between each of us and the world in which we live” (p. 83). Although Wolman’s (2001) book is titled *Thinking with your soul: Spiritual intelligence and why it matters*, his Psycho-Matrix Spirituality Inventory (PSI) appears more a measure of spiritual orientation than spiritual intelligence. The PSI is an 80-item self-report measure on a 4-point Likert-type scale that has been administered to over 6,000 people and has a stable 7-factor structure. Yet, many items in the PSI lack face validity in relation to spiritual intelligence. For example, it contains factors

assessing childhood trauma (e.g., ‘I think about serious physical injury that has happened to me’ or ‘I have witnessed serious illness in people close to me’), and childhood spirituality (e.g., ‘I have said prayers at night as a child’) that Wolman believes are a stimulus to, or predictors of, spiritual awareness. However, these factors do not appear to tie into Wolman’s own, or other, definitions of spiritual intelligence. Furthermore, Wolman (2001) does not provide any predictive or discriminant validity in support of the PSI.

Nasel (2004) defines spiritual intelligence as the “ability to draw on one’s spiritual abilities and resources to better identify, find meaning in, and resolve existential, spiritual, and practical issues... Such resources and abilities, be it prayer, intuition, or transcendence, ought to be relevant to facilitating an individual’s capacity for finding meaning in experiences, for facilitating problem solving, and for enhancing an individual’s capacity for adaptive decision making” (p. 42, p. 305). Nasel (2004) developed the Spiritual Intelligence Scale (SIS) as part of a doctoral dissertation. The SIS is a 17-item self-report measure of spiritual intelligence rated on a 4 point Likert scale from 1 (never) to 4 (almost always). The questionnaire items are all positively worded and designed to assess behaviors (e.g., ‘even when a situation seems hopeless, I can find a deeper meaning in it’ or ‘I apply insights gained from self-reflection to problematic situations in my life’) and attitudes (e.g., ‘in day to day living, I try to place my daily affairs within a larger context’) rather than simple beliefs.

Despite the overall satisfactory reliability, construct validity, and some limited predictive validity, the SIS was designed to measure spiritual intelligence from a particular set of two perspectives—traditional Christianity and New Age/individualistic spirituality. Furthermore, with only 17 items, the model of spiritual intelligence used by the SIS excludes several potentially important elements of SI. For example, the SIS does not include any items that assess the ability

to use a variety of states of consciousness such as meditation, prayer, or intuition in problem solving, nor does it include a factor corresponding to the ability to see the world and solve problems more holistically.

Based on his study of some of the world's major spiritual traditions (Buddhism, Christianity, Confucianism, Islam, Judaism, Shamanism, and Taoism) Walsh (1999) identifies and discusses 7 common practices that are universal across these spiritual traditions. And this first author (Amram, in press) developed an ecumenical grounded theory of SI based on interviews with 71 people of different traditions designated as spiritually intelligent by their associates. A minimum of 4 interviews was conducted within each of the following spiritual traditions: Buddhism, Christianity, Earth-Based (Shamanic & Pagan), Hindu, Islam/Sufism, Jewish, Non-Dual, Taoism, and Yoga. In addition to the well defined traditions, the largest single group of participants (20) could be characterized as eclectic in their spiritual orientation, following their own unique personal integration of several traditions. Based on the 45 initial interviews with participants, 13 preliminary themes were identified. These initial themes were used by the authors of this paper to generate some of the items developed in this study. As interviews continued, Amram (in press) later refined, expanded and clustered the themes into 7 major themes which emerged as nearly universal across the spiritual traditions and participants. These themes are:

1. Consciousness: Development of refined awareness and self-knowledge, featuring intuitive trans-rational knowing, mindfulness, and spiritual practices.
2. Grace: Living in alignment with the sacred, manifesting trust in and love for life that is based on gratitude, beauty and joy.
3. Meaning: Experiencing significance in daily activities through a sense of purpose and a call for service, including in the face of pain and suffering.

4. Transcendence: Going beyond the separate egoic self into an interconnected wholeness, including a holistic system's worldview and the nurturing of human relationships through empathy, compassion, loving-kindness and I-Thou orientation.

5. Truth: Living in open acceptance, forgiveness, curiosity and love for all that is (all creation), including respect for the wisdom of multiple spiritual traditions.

6. Peaceful Surrender: Peacefully surrendering to higher-self (God, Truth, Absolute, or true nature), including self-acceptance, inner-wholeness, equanimity, humility and egolessness.

7. Inner-Directedness: Inner-freedom aligned in responsible wise action, including discernment, integrity, and freedom from conditioning, attachments and fears.

Showing some overlap with other definitions and models of SI reviewed earlier above, many of these themes derived from qualitative interviews by Amram (in press) found further confirmation within the Integrated Spiritual Intelligence Scale developed and validated in this study.

The Biological Basis of Spiritual Intelligence

Gardner (1999) emphasizes the biological basis and biopsychological aspects of intelligence. Hence, Gardner adds several considerations to the list of criteria for intelligence. These include the potential for localization and isolation of certain abilities to specialized regions in the brain, and an evolutionary history and plausibility for their development.

Indeed, classical cognitive intelligence functions such as language, mathematical and deductive reasoning are associated with the left brain hemisphere, whereas the unification of parts into a greater holistic picture, and intuition (both of which may be deemed as components of spiritual intelligence) are associated with the right brain hemisphere (Deutsch & Springer, 1997; Herrmann, 1981; Power & Lundsten, 1997; Ornstein, 1998). In highlighting the biological basis

of the SI quality of mindfulness, Davidson and colleagues (2003) found that those who trained in mindfulness meditation exhibit significantly greater activity in the prefrontal cortex even while not in meditation. Lazar and colleagues (2005) found that a mindfulness meditation practice is associated with increased cortical brain thickness, showing brain regions of the right anterior insula, right middle and superior frontal sulci were thicker among the savvy meditators compared to matched controls. And Lutz, Greischar, Rawlings, Ricard and Davidson (2004) found that a long-term compassion and loving-kindness meditation practice is associated with altered resting electroencephalogram patterns, suggesting that the development of SI relatedness qualities such as compassion and loving-kindness involves temporal integrative mechanisms and may induce short- and long-term neural changes in the brain. Furthermore, Lutz et al. (2004) found particular brain area activation during loving-kindness and compassion meditation among such trained meditators.

Similarly, recent discoveries of the mirror neuron system in the brain have provided biological basis for the capacity for empathy, a component of SI (Gallese, 2003, 2005). Furthermore, meta analysis of 80 studies reporting neural correlates of empathy suggest that the medial prefrontal cortex mediates human empathy using 6 spatially distinct activation clusters in the medial part of the frontal lobe dorsal to the intercommissural plane (Seitz, Nickel, Azari, 2006).

Hamer (2004) has found a gene contributing to self-report value of self-transcendence from his study of same sex siblings. Furthermore, Kirk, Eaves, and Martin (1999) found genetic factors to be important in influencing self-transcendence, based on a study of Australian twins.

In summary, these findings suggest a link between spiritual intelligence abilities and qualities such as self-transcendence, holistic thinking, intuition, empathy, compassion, loving-kindness, and

mindfulness and their biological basis, including association with specialized processing subsystems in the brain and genetic evolutionary plausibility.

Method

Participants

The purpose of the study was to develop a measure of spiritual intelligence. To do so, we sought a standard to which the scores of our Integrated Spiritual Intelligence Scale (ISIS) might be compared. For our standard, we selected participants who were distinguished by the application, manifestation, and embodiment of spirituality in their daily lives in ways that enhanced their functioning and wellbeing, i.e. believed to be spiritually intelligent. To identify prospective participants with this rare sample characteristic, we used a snowball sampling method (Heckathorn, 1997). Specifically, referrals from initial participants were used to generate leads for additional participants. We thought this would identify participants with qualities, skills, and abilities related to spiritual intelligence with a method that was sufficiently distinct from our self-report instrument that there would be no concern that some methodological artifact could account for any association between the nominations and the scale scores that might result.

We needed to compare the ISIS scores of this group with the scores of a comparison group of participants not nominated for the successful application and embodiment of spirituality in daily life. To select this comparison group, we used simple convenience sampling, recruiting participants using a combination of invitations to associates, advertisements on community email lists, and word of mouth from the participants themselves. Therefore, our participants varied along a theoretical factor of “spiritual embodiment.” This factor had two levels: “nominated for embodiment of spirituality” and “not nominated for embodiment of spirituality.” (The comparison

group participants were not thought to have low embodiment of spirituality; we simply had no evidence about their embodiment of spirituality in daily life one way or the other.)

In previous research (Amram, in press), two distinct groups of participants who successfully applied spirituality were identified: spiritual teachers and business leaders who apply and embody spirituality in their work and daily life. Spiritual teachers are professors, religious leaders, spiritual guides, or coaches who based on nomination and self-report are working with teaching spiritual content in their professions and who integrate it into their daily life. Business leaders who embody spirituality are individuals with vocational success who are nominated by others for applying and embodying spirituality in their work and daily life and known by self-report to attribute their success to their spirituality. Even though participants in both groups were nominated for their successful embodiment of spirituality, they differed in their degree of business savvy, and we wondered whether they might differ along some of the elements of spiritual intelligence. Therefore, the group of participants nominated for the embodiment of spirituality was further characterized as being distinguished by high business savvy (i.e., the business leaders who embody spirituality) or not being distinguished by high business savvy, i.e., the spiritual teachers. (Again, the spiritual teachers were not thought to have low business savvy; we simply had no evidence about their business savvy one way or the other.)

To complete our full factorial design, we also sought a comparison group of participants who were expected to be high in their business savvy and who were not nominated for their embodiment of spirituality. To select these participants, we used judgment sampling (Kalton, 1983) to invite advanced MBA students in finance classes at a school rated as a “top business school” by *US News and World Report*. We selected this group because we believed that training

in a competitive MBA program would ensure high business savvy, and at the same time we saw no evidence about their embodiment of spirituality one way or another.

Thus, we sampled U.S. populations that varied across two independent variables: embodiment of spirituality and business savvy. For each factor, we conceptually distinguished two categorical levels, namely a population nominated to be high on the factor and another population not believed to be high on the factor. We operationally defined the embodiment of spirituality by peer nomination of individuals distinguished by their embodiment and application of spirituality into daily life. We operationally defined business savvy as either peer nomination of vocational success in the field of business or as advanced standing in a top-rated MBA program.

Additionally, to determine the temporal stability of the ISIS, a sub-sample of 26 participants, identified by convenience sampling, was invited to complete the ISIS again after a six-week interval.

Research participants were 263 adult volunteers. The modal age category across the four samples was 35 – 44, with 83 participants reporting this range; 1 participant reported an age of 17 or younger (and was excluded from our analyses); 35 reported 18 – 24; 44 reported 25 – 34; 33 reported 45 – 54; 31 reported 55 – 64; 6 reported 65 or older; and 30 participants choose not to report their age. The high spiritual intelligence and business acumen sample included 15 participants who completed the ISIS out of 18 who met the criteria and were invited. Of these 15 participants, 9 were men, 5 women, and 1 who did not report gender. The modal age ranges for this sample were 35 – 44 and 45 – 54, with 6 participants reporting their age in each of these ranges. The high spiritual intelligence and average business acumen teacher sample included 17 participants who completed the ISIS out of 27 who met the criteria and were invited to participate. Of these 17 participants, 5 were men, 7 women, and 5 did not report gender. The

modal age range for this sample was 45 – 54 with 7 participants reporting their age in this range. The MBA student sample included 21 participants who completed the ISIS out of approximately 65 MBA students in two finance classes who met the criteria and were invited to participate. Of these 21 participants, 15 were men, 5 women, and 1 did not report gender. The modal age range for this sample was 18 – 24 with 16 participants reporting their age in this range. The comparison sample included 210 participants, 59 men, 116 women, and 35 who did not report gender. The modal age range for this sample was 35 – 44 with 72 participants reporting their age in this range.

Instruments

All participants completed a battery of questionnaires, including the newly developed ISIS, the Satisfaction With Life Scale (SWLS, Pavot & Diener, 1993), the Index of Core Spiritual Experiences (INSPIRIT; Kass, Friedman, Leserman, Zuttermeister, and Benson, 1991), and a brief demographic questionnaire assessing age and gender. The battery was self-administered in hardcopy and online formats. All dependent variables were analyzed to determine whether any significant differences existed in responses to the two formats; no significant differences were found, and we excluded this factor from subsequent analyses. The complete text of the ISIS is provided in the Appendix.

To maintain confidentiality, privacy, and strict anonymity, no identifying information was collected. Participants followed a written procedure to generate a seven-character code that could be used to locate a personalized profile after the questionnaires had been scored. For the ISIS, participants were asked to indicate the frequency of behaviors over the past 6 to 12 months using a six-point Likert scale with the following labels: “rarely or almost never;” “very infrequently;” “somewhat infrequently;” “somewhat often;” “very frequently;” and “always or

almost always.” Participants were encouraged not to leave items blank and use their best “guess” if they were unsure about a particular item.

Procedure

We initially generated over 400 candidate items for the ISIS. The items represented behaviors judged to provide evidence of spiritual intelligence relating to 13 preliminary themes of spiritual intelligence identified by previous research (Amram, in press). These candidate items were then reviewed, revised, and culled. We intended to include multiple items to assess each theme, and we sought to balance items that would be reversed scored (i.e., behaviors that were evidence of a lack of spiritual intelligence) with positively-scored items. Using an iterative process, sets of items were administered to 12 volunteer participants in pilot tests of the questionnaire. Informed by these pilot tests, we selected 148 items for the preliminary version of the ISIS, plus one final item to assess validity “I have answered all the questions truthfully and to the best of my ability.” (One participant was excluded from further analyses because of a low response on this item.)

All data were analyzed using SPSS 11.0 statistical analysis software. Reverse scored items were recoded such that high scores on all items theoretically provided evidence for spiritual intelligence. Cases with missing data were excluded from analyses when the missing data were required and included in analyses when the data were not required. Univariate statistics (including mean and standard deviation), frequency histograms, and box plots were examined for all variables to explore potential problems, violations of assumptions, and differences among the samples.

Hypotheses. For our analyses, we identified the following hypotheses: (1) INSPIRIT and ISIS scores will be highly but not perfectly correlated; (2) the correlation coefficients between the

INSPIRIT scores and the various ISIS subscale scores will differ significantly; (3) INSPIRIT and SWLS scores will be moderately correlated; (4) the relationship between the ISIS and SWLS scores will be strong when controlling for the INSPIRIT scores, and the relationship between INSPIRIT and SWLS will not be strong when controlling for the ISIS scores; (5) the correlation coefficients between the SWLS scores and the various ISIS subscale scores will differ significantly; (6) the effects of age and gender on the overall ISIS scores and the ISIS subscale scores will be statistically significant; (7) the effects of the embodiment of spirituality factor on the overall ISIS scores will be statistically significant; and (8) the ISIS subscale scores will differ significantly in their ability to discriminate among the four groups of participants.

Results

Scale development. Data from the ISIS were explored to identify preliminary spiritual intelligence constructs. These explorations occurred in two stages. First, data at the item level were analyzed to find evidence for specific spiritual intelligence capabilities. Based on the resulting evidence, a number of capability subscales were developed. Second, data at the capability subscale level were analyzed to find evidence for broad spiritual intelligence domains.

All data were analyzed with a principle components analysis (PCA) and a hierarchical cluster analysis (HCA). To aid interpretation, the component solutions were rotated using a Varimax with a Kaiser Normalization method. Hierarchical cluster analyses using a variety of linkage methods and a squared Euclidian distance metric were performed. A Ward linkage method was found to be optimally interpretable.

The results of the PCA and HCA were examined to determine whether the results of the two analyses converged to identify any natural classes of items. Any groupings both within the

same cluster and with high loadings on the same component were taken as evidence of a natural class.

To better identify the spiritual intelligence capabilities, we calculated Pearson correlation coefficients to examine the interrelationships among the potentially related items. In addition to the strength of the interrelationships, we also considered participant feedback on the items, the frequency histograms and variance, the balance of reverse- and positively scored items, and the coherence of the set of items with theoretical constructs. We looked for items that had strong inter-item correlations, resulted in little or no negative feedback from participants, approximated normal distributions with wide variance, and aided to the theoretical interpretation of the classes. On these bases, we tentatively assigned the following labels to the 22 subscales: Beauty, Discernment, Egolessness, Equanimity, Freedom, Gratitude, Higher-self, Holism, Immanence, Inner-wholeness, Intuition, Joy, Mindfulness, Openness, Practice, Presence, Purpose, Relatedness, Sacredness, Service, Synthesis, and Trust. Subscale scores were calculated as the mean of the item scores in the subscale.

In addition to the specific spiritual intelligence capabilities, we theorized that the individual items and capabilities could be grouped in a manner that would reflect higher-order domains of spiritual intelligence. We considered previous theories and our theoretical framework together with the overlapping evidence from the two empirical methods to identify five super-ordinate natural classes: Consciousness, Grace, Meaning, Transcendence, and Truth.

Subscale scores for each capability were determined by calculating the mean of the scores of the items assessing that capability. Domain scale scores were determined by calculating the mean of the scores of the items included in the domain. An overall integrated spiritual intelligence score was determined by calculating the mean of all of the item scores. These scores were then

analyzed to determine the reliability of the scales and the subscales, evidence for convergent and discriminant validity, and evidence for differences among the scores of the four samples.

In order to construct a short form for the ISIS which can be administered in a shorter time, for each capability subscale we also selected 2 items that showed high correlation with the overall subscale score in order to formulate a short form for the subscale. Given the 22 subscales, the resulting short form consisted of 44-items for assessing the 22 capabilities, plus one validity item for a total 45-item short form. Based on a valid sample size of 240, this short form showed correlation of .99 with the overall long form ISIS score. Correlations of the short form with the long form ranged from 0.94 to 0.98 for each of the 5 domain scales and from 0.82 to 1.00 for each of the 22 capability subscales. (Correlation of 1.00 was for the Gratitude subscale which only contained 2 items in both the long and short forms).

Reliability. To assess the internal consistency of the scale and subscales, we calculated Cronbach's Alpha. The internal consistency of the Integrated Spiritual Intelligence Scale was high; Cronbach's Alpha = 0.97. The internal consistency of the domain scales also was high; Cronbach's Alpha ranged from 0.84 to 0.95, with a mean value of 0.89. The Cronbach alpha values for the domain scales were: Consciousness, 0.84; Grace, 0.91; Meaning, 0.86; Transcendence, 0.95; Truth, 0.90. The internal consistency of the capability subscales also was moderate to high; Cronbach's Alpha ranged from 0.62 to 0.88, with a mean value of 0.75. The Cronbach alpha values for the subscales were: Beauty, 0.79; Discernment, 0.75; Egolessness, 0.62; Equanimity, 0.74; Freedom, 0.77; Gratitude, 0.72; Higher-self, 0.87; Holism, 0.82; Immanence, 0.77; Inner-wholeness, 0.71; Intuition, 0.71; Joy, 0.74; Mindfulness, 0.71; Openness, 0.70; Practice, Presence, 0.73; 0.88; Purpose, 0.70; Relatedness, 0.68; Sacredness, 0.87; Service, 0.82; Synthesis, 0.70; and Trust, 0.77.

To determine temporal stability, we calculated the integrated spiritual intelligence scores for a sub-sample of 26 participants who completed the ISIS again after a six-week interval. These scores were compared with their scores on the first administration of the ISIS. The ISIS demonstrated acceptable test-retest reliability; Pearson $r = 0.77$, $p < 0.01$.

Convergent and discriminant validity. Our initial investigation into the validity of the ISIS involved an exploration of the interrelationships among spiritual intelligence and related constructs. Therefore, in addition to our assessment of spiritual intelligence, we also assessed spirituality using the Index of Core Spiritual Experiences and subjective wellbeing using the Satisfaction With Life Scale. We reasoned that an examination of the correlation coefficients between the scores of these measures might reveal patterns that would be consistent or inconsistent with our conceptual framework. Because the reliability of each measure limits how strongly the measure can be associated with any other measure, we also looked at the internal consistency of the comparison measures; for the SWLS, Cronbach's alpha is 0.87 (Pavot & Diener, 1993), and for the INSPIRIT, 0.90 (Kass, et al., 1991). We used these internal consistency measures to calculate correlation coefficients among the measures correcting for the attenuation. The Pearson correlation coefficients and the corrected correlation coefficients for the SI, domain subscale, and capability subscale scores with the INSPIRIT scores, and with the SWLS scores are shown in Table 1: Correlations Among Scale and Subscale Scores. Uncorrected correlation coefficients of 0.159 or higher were statistically significant at $p < 0.05$; correlation coefficients of 0.185 or higher were statistically significant at $p < 0.01$ (both two-tailed). The sample size was 233 for the correlations with the SWLS scores and 234 for the correlations with the INSPIRIT. Scores for the SWLS and the INSPIRIT were moderately related; Pearson $r = 0.295$, $p < 0.01$ (two-tailed) with $n = 233$.

Table 1: Correlations Among Scale and Subscale Scores

ISIS scale	Scale Alpha	Correlation with SWLS	Correlation with INSPIRIT	Corrected Correlation with SWLS	Corrected Correlation with INSPIRIT	Short Form Correlation with Full Subscale
BEAUTY	0.79	0.44	0.48	0.53	0.57	0.96
DISCERNMENT	0.75	0.44	0.42	0.54	0.51	0.89
EGOLESSNESS	0.62	0.11	0.20	0.15	0.27	0.93
EQUANIMITY	0.74	0.29	0.35	0.36	0.43	0.95
FREEDOM	0.77	0.23	0.34	0.28	0.41	0.95
GRATITUDE	0.72	0.54	0.48	0.68	0.60	1.00
HIGHER-SELF	0.87	0.33	0.86	0.38	0.97	0.92
HOLISM	0.82	0.29	0.65	0.34	0.76	0.90
IMMANENCE	0.77	0.27	0.38	0.33	0.46	0.91
INTUITION	0.71	0.22	0.43	0.28	0.54	0.87
INNER-WHOLENESS	0.71	0.52	0.21	0.66	0.26	0.91
JOY	0.74	0.53	0.46	0.66	0.56	0.92
MINDFULNESS	0.71	0.10	0.34	0.13	0.43	0.87
OPENNESS	0.70	0.32	0.28	0.41	0.35	0.88
PRACTICE	0.88	0.32	0.80	0.37	0.90	0.90
PRESENCE	0.73	0.41	0.30	0.51	0.37	0.92
PURPOSE	0.70	0.37	0.61	0.47	0.77	0.82
RELATEDNESS	0.68	0.16	0.49	0.21	0.63	0.92
SACREDNESS	0.87	0.35	0.75	0.40	0.85	0.95
SERVICE	0.82	0.43	0.63	0.51	0.73	0.94
SYNTHESIS	0.70	0.19	0.43	0.24	0.54	0.93
TRUST	0.77	0.57	0.32	0.70	0.38	0.91
CONSCIOUSNESS	0.84	0.20	0.47	0.23	0.54	0.94
GRACE	0.91	0.51	0.55	0.57	0.61	0.98
MEANING	0.86	0.41	0.65	0.47	0.74	0.94
TRANSCENDENCE	0.95	0.35	0.85	0.38	0.92	0.97
TRUTH	0.90	0.51	0.37	0.58	0.41	0.97
ISI	0.97	0.48	0.73	0.52	0.78	0.99

To assess convergent and discriminant validity, we looked at the pattern of interrelationships among the ISIS, the INSPIRIT, and the SWLS. The interrelationships suggested meaningful patterns among the constructs of spiritual intelligence, spirituality, and wellbeing, providing evidence for the validity of the ISIS. Because spiritual intelligence draws upon spiritual

experience and practice, we hypothesized that measures of spirituality and spiritual intelligence would be highly (but not perfectly) associated. The evidence supported this hypothesis. Scores on the INSPIRIT were highly correlated with the ISIS scores; Pearson $r = 0.73$, $p < 0.01$. We further hypothesized that some facets of spiritual intelligence would be more strongly associated with spirituality than others. Evidence also supported this hypothesis. Scores on the INSPIRIT were highly correlated with the ISIS Transcendence subscale ($r = 0.85$, $p < 0.01$) and only moderately correlated with the ISIS Truth subscale ($r = 0.37$, $p < 0.01$).

Because researchers have previously found evidence linking spirituality to wellbeing (as reviewed by Elmer, MacDonald, and Friedman, 2003), we hypothesized a moderate correlation between the INSPIRIT and SWLS scores. The evidence supported this hypothesis (Pearson $r = 0.30$, $p < 0.01$); participants who reported high levels of spirituality also tended to report high levels of life satisfaction, and participants who reported low levels of spirituality also tended to report low levels of life satisfaction. By definition, spiritual intelligence is the ability to leverage spirituality to enhance functioning. Therefore, we expected spiritual intelligence would predict wellbeing better than spirituality does. Accordingly, we hypothesized that the relationship between the ISIS and SWLS scores would be strong when controlling for the INSPIRIT scores, and the relationship between INSPIRIT and SWLS would not be strong when controlling for the ISIS scores. We examined the first order relationship first. ISIS and SWLS score were strongly correlated; Pearson $r = 0.73$, $p < 0.01$. We next calculated the partial correlation coefficient between the ISIS and SWLS scores, controlling for the effect of the INSPIRIT score. With a valid sample size of 230, the resulting partial correlation coefficient was strong and statistically significant, $r = 0.41$, $p < 0.001$. We also calculated the partial correlation coefficient between the SWLS and INSPIRIT scores, controlling for the effect of the ISIS score. With a valid sample

size of 230, the resulting partial correlation coefficient was not statistically significant, $r = -0.09$. These results suggest that the relationship between spirituality and wellbeing is spurious (that is, due to the relationship that each of these variables has with spiritual intelligence rather than an actual relationship between them). Perhaps spiritual intelligence and not spirituality itself predicts wellbeing.

We further hypothesized that not all of the ISIS subscale scores would be strongly positively correlated with wellbeing. Evidence also supported this hypothesis. Scores on the SWLS were highly correlated with the ISIS Grace (Pearson $r = 0.51$, $p < 0.01$) and Truth (Pearson $r = 0.51$, $p < 0.01$) subscales and only moderately correlated with the ISIS Consciousness (Pearson $r = 0.20$, $p < 0.01$), Meaning (Pearson $r=0.41$, $p<0.01$) and Transcendence (Pearson $r=0.35$, $p<0.01$) subscales.

Group differences. We were interested in whether the groups of participants included in this study would differ in terms of measures of their spiritual intelligence. We began with exploratory one-tailed t-tests (assuming unequal sample variance) examining if the scores on each of the individual ISIS items differed significantly among the different groups. To control for the overall error rate on the multiple tests, we applied the Bonferroni correction to the individual alpha levels (Abdi, 2007). The business leaders nominated for their embodiment of spirituality ($n=15$) scored higher than the MBA student group ($n=21$) on 55 of the 82 individual ISIS items (corrected $p < 0.10$), 19 of the 22 ISIS capability scales (corrected $p < 0.05$), and all 5 of the ISIS domain scales (corrected $p < 0.01$). These exploratory analyses indicated that meaningful group differences could be found even at the individual item level. For a more sophisticated analysis, we sought to determine whether group differences in ISIS scores for all participants would still be significant after controlling for potential confounds.

To explore these possible differences, we analyzed the integrated spiritual intelligence scores using an ANCOVA with gender as a two-level (male or female) fixed factor and age as a covariate. This analysis revealed statistically significant effects for the fixed factor and for the covariate; for gender, $F(1,218) = 9.15$, $p < 0.01$ and for age, $F(1,218) = 26.74$, $p < 0.01$. For the ANCOVA, $R\text{-squared} = 0.14$. Women tended to have higher integrated spiritual intelligence scores than men did; the mean and standard deviation was 4.43 and 0.61 for women and 4.16 and 0.66 for men. In addition, older participants tended to have higher integrated spiritual intelligence scores than younger participants did; the means and standard deviations are shown in Table 2: Age and Spiritual Intelligence. Means with different subscripts are significantly different at $p < 0.05$.

Table 2: Age and Spiritual Intelligence

Age group	N	Mean	Std Deviation
18 - 24	34	4.02a	0.60
25 - 34	44	4.16a,b	0.61
35 - 44	83	4.27b,c	0.65
45 - 54	33	4.79c	0.52
55 - 64	31	4.64c	0.58
65 or older	6	4.47c	0.30

A similar analysis was performed on the five domain scale scores using a MANOVA with gender as a two-level (male or female) fixed factor and age as a covariate. This multivariate analysis revealed statistically significant effects for the fixed factor and for the covariate; for gender, $F(5,214) = 5.21$, $p < 0.001$ and for age, $F(5,214) = 6.87$, $p < 0.001$. The gender effect was significant for Consciousness, $F(1,218) = 5.20$, $p < 0.05$; Grace, $F(1,218) = 9.16$, $p < 0.001$; Meaning, $F(1,218) = 17.10$, $p < 0.001$; and Transcendence, $F(1,218) = 8.83$, $p < 0.01$. The

gender effect was not significant for Truth. For the four statistically significant domains, women had higher mean scores than did men across the domain scales. The age effect was significant for all domain scales: Consciousness, $F(1,218) = 5.02$, $p < 0.05$; Grace, $F(1,218) = 31.53$, $p < 0.001$; Meaning, $F(1,218) = 14.53$, $p < 0.001$; Transcendence, $F(1,218) = 17.06$, $p < 0.001$; and Truth, $F(1,218) = 19.95$, $p < 0.001$. Older participants had higher mean scores across the domain scales than did younger participants. In some cases, the oldest participants reversed this trend. For Consciousness, Meaning, and Transcendence, participants aged 65 or older had significantly lower mean scores than did one or more categories of younger participants. It was not clear from the data if this is due to real decline in spiritual intelligence or in fact increased modesty and humility for people over the age of 65.

We were especially interested in the possibility of differences in scores of spiritual intelligence that could be predicted by business savvy or by embodiment of spirituality. Through previous analyses, we also had identified a few potentially confounding variables: age, gender, subjective wellbeing, and spirituality. Therefore, to examine the relationships between the independent variables (business savvy and embodiment of spirituality), we performed a two factor (business savvy and embodiment of spirituality) ANCOVA with two levels of each fixed factor and age, gender, subjective wellbeing, and spirituality as covariates.

As expected, the covariates accounted for significant portions of the variance in integrated spiritual intelligence scores: for Age, $F(1,211) = 13.19$, $p < 0.01$; for Gender, $F(1,211) = 4.15$, $p < 0.05$; for spirituality, $F(1,211) = 138.74$, $p < 0.01$; and for subjective wellbeing, $F(1,211) = 45.21$, $p < 0.01$. The effect of the embodiment of spirituality independent variable was also significant, $F(1,211) = 12.25$, $p < 0.01$. The mean and standard deviation of the scores was 4.95 and 0.40 for the participants nominated for the embodiment of spirituality and 4.24 and 0.62 for

the participants not so nominated. The effect of business savvy was not statistically significant. However, the interaction between business acumen and embodiment of spirituality was significant, $F(1,211) = 4.06, p < 0.05$. The mean scores for the four groups are shown in Table 3: Spiritual Intelligence Scores by Group; groups with different subscripts differ significantly, $p < 0.05$. Unexpectedly, the evidence indicates that the MBA students had significantly lower integrated spiritual intelligence scores than did the other participants. Overall, this ANCOVA accounted for the majority of the variance in integrated spiritual intelligence scores; $R\text{-squared} = 0.66$.

Table 3: Mean Spiritual Intelligence by Group

	Embodiment of Spirituality		Total
	Not nominated	Nominated	
Business savvy			
Not nominated	4.31b (N=210)	4.85c (N=17)	4.35 (N=227)
Nominated	3.64a (N= 21)	5.04c (N=15)	4.23 (N= 36)
Total	4.24 (N=231)	4.95 (N=32)	4.33 (N=263)

To further explore the differences among these four groups, we used a discriminant function analysis (DFA) to determine which combination of the five spiritual intelligence domain scale scores best distinguish the groups. For this DFA, the domain variables were entered stepwise using the Wilks' lambda method. The first variable entered was the scale score for the Meaning domain; $F(3,250) = 26.63, p < 0.001$. The second variable entered was the scale score for the Truth domain; $F(6, 498) = 16.80, p < 0.001$. After the second variable, no further variables met the inclusion criteria. The final solution consisted of two canonical discriminant functions. For the first function, the coefficients were 0.82 for Meaning and 0.34 for Truth. For the second function, the coefficients were -0.71 for Meaning and 1.03 for Truth. Along these functions, the comparison group values were near the middle of both functions ($-0.03, -0.09$). The MBA group values were low on the first function and high on the second ($-1.43, 0.45$). The spiritual teacher

group values were high on the first function and near the middle of the second function (1.11, 0.03). The business leaders' group values were high on both functions (1.23, 0.66). In other words, the first function (high Meaning) may relate to the nomination of embodiment of spirituality; the second function (high Truth) may relate to the degree of business savvy.

Discussion

To address the limitations of previous measures of spiritual intelligence, we have developed the Integrated Spiritual Intelligence Scale (ISIS). This 83-item self-report instrument provides a single, overall measure of spiritual intelligence (SI), as well as scores for 5 broad domains and 22 specific capabilities.

In our tests of the ISIS, we found evidence for its reliability, internal consistency, and temporal stability. We also found evidence for the convergent validity of the ISIS. In our theoretical framework, spiritual intelligence draws on spirituality, and spiritual intelligence predicts wellbeing. Therefore, we predicted positive correlations between the ISIS scores and the INSPIRIT scores, and between the ISIS scores and the SWLS scores. The evidence supported these predicted relationships. Moreover, consistent with our theoretical framework and despite other research to the contrary, our results suggest no direct relationship between spirituality and wellbeing when controlling for spiritual intelligence. The scores between the ISIS and the SWLS were positively correlated when controlling for the INSPIRIT scores. When controlling for the ISIS scores, however, we found no evidence for a correlation between the INSPIRIT and SWLS scores. These results indicated that spiritual intelligence, and not spirituality, is a predictor of wellbeing. Altogether, the results supported the convergent validity of the ISIS.

We also found evidence for the discriminant validity of the ISIS. Because of the multifaceted nature of spiritual intelligence, we expected that some facets might not be as strongly

associated with spirituality, wellbeing, or both. We hypothesized that some subscale scores would be less strongly correlated with the INSPIRIT scores. The results indicated that the ISIS Truth subscale scores were less strongly correlated with the INSPIRIT scores than were the ISIS Transcendence subscale scores. The ISIS Transcendence subscale appears to measure the ability to transcend the self and connect with something larger, bringing the sacred into everyday experience. This seems closely related to the heavily theistic spirituality that is assessed by the INSPIRIT. In contrast, the ISIS Truth subscale appears to measure a surrender to truth that enhances emotional stability, which seems much less related to the notion of spirituality assessed by the INSPIRIT.

We further expected that some facets of spiritual intelligence would be more strongly associated with wellbeing than others. Of the ISIS subscales, the Grace and Truth seem most closely associated with the ability to leverage spirituality to enhance affect and wellbeing; Grace seems related to inspiring positive affect (e.g., joy and gratitude), whereas Truth seems related to avoiding negative affect (e.g., equanimity and trust). Strong associations between these facets of spiritual intelligence and satisfaction with life appear consistent with theories of subjective well being; Diener (1984) argued that life satisfaction is closely interrelated with the presence of positive emotions and the absence of negative emotions, and that jointly these cognitive and affective factors comprise subjective well being. In contrast, the ISIS Consciousness subscale appears to assess the ability to shift consciousness to enhance functioning. Although shifting consciousness may be essential for certain insights and understandings, this construct understandably seems relatively less important to life satisfaction. In all, the results provided evidence for the discriminant validity of the ISIS.

The examination of group differences provided further evidence for the validity of the ISIS. To provide a standard to which the ISIS score could be compared, we recruited participants who, according to the nominations of their peers, embodied and applied spirituality in their lives in ways that enhanced their functioning and wellbeing to a noteworthy extent. As predicted, we found evidence that participants nominated for the embodiment of spirituality in their daily lives had significantly higher ISIS scores than did participants not so nominated. We also found evidence that a number of other variables also were associated with spiritual intelligence scores, including age, gender, wellbeing, and spirituality. Importantly, the relationship between peer nominations for the embodiment of spiritual and the spiritual intelligence score was statistically significant ($p < 0.01$), even after we had accounted for the effect of these other potentially confounding variables. The business leaders and spiritual teachers who had been nominated for the study because of their noteworthy embodiment of spirituality did not score highly on the ISIS merely because they tended to be older, more satisfied with life, more spiritual, and more likely to be female, relative to the other participants. We believe the group nominated for their embodiment of spirituality scored higher than the other participants because the ISIS assessed their spiritual intelligence, and that their spiritual intelligence was noteworthy enough to have been noticed by their peers.

An Updated Theoretical Framework of SI

The results of this study, together with previous research, suggest a theoretical model of spiritual intelligence. We expect this model to change as future research informs our understanding of spiritual intelligence.

Spiritual intelligence is a set of abilities people use to apply, manifest, and embody spiritual resources, values, and qualities in ways that enhance daily functioning and wellbeing (Amram, in press). People have these abilities to a greater or lesser degree, and practice or training might help people to develop some or all of these abilities. We group these abilities into five broad domains of spiritual intelligence: Consciousness, Grace, Meaning, Transcendence, and Truth.

Consciousness. This domain reflects the ability to raise or shift consciousness, to tap intuition, and to synthesize multiple points of view in ways that enhance daily functioning and wellbeing. We break consciousness into three capabilities: Intuition, Mindfulness, and Synthesis.

Intuition was assessed with the following four items: “I pay attention to my dreams to gain insight to my life;” “I listen deeply to both what is being said and what is not being said;” “I listen to my gut feeling or intuition in making important choices;” and “I remember to consider what is unspoken, underground or hidden.”

Mindfulness was assessed with the following five items: “I look for and try to discover my blind spots;” “In arguing or negotiating, I am able to see things from the other person's perspective, even when I disagree;” “I live and act with awareness of my mortality;” “In meetings or conversations, I pause several times to step back, observe, and re-assess the situation;” and “During an activity or conversation, I monitor and notice my thoughts and emotions.”

Synthesis was assessed with the following three items: “Even in the midst of conflict, I look for and find connection and common ground;” “To solve problems, I draw on my ability to hold,

accept and go beyond paradoxes;” and “I can hold as true and integrate seemingly conflicting or contradictory points of view.”

Grace. This domain reflects inner-directedness (combining discernment and freedom) and love for life, drawing on the inspiration, beauty and joy inherent in each present moment to enhance functioning and wellbeing. We break grace into five capabilities: Beauty, Discernment, Freedom, Gratitude, Immanence, and Joy.

Beauty was assessed with the following three items: “I notice and appreciate the beauty that is uncovered in my work;” “I appreciate the sensuality and beauty of my daily life;” and “I find ways to express my true self creatively.”

Discernment was assessed with the following four items: “My actions are aligned with my soul—my essential true nature;” “I am aware of my inner truth—what I know inside to be true;” “My actions are aligned with my values;” and “I have a hard time standing firm in my inner truth—what I know inside to be true” (reverse scored).

Freedom was assessed with the following three items: “Because I follow convention, I am not as successful as I could be” (reverse scored); “I have a good sense for when my purpose requires nonconformity, out-of-the-box thinking, or taking an unpopular stand” and “I have a hard time going against conventions, expectations, or rules” (reverse scored).

Gratitude was assessed with the following two items: “My life is a gift, and I try to make the most of each moment;” and “I remember to feel grateful for the abundance of positive things in my life.”

Immanence was assessed with the following four items: “I am mindful of my body's five senses during my daily tasks;” “In my daily life, I am disconnected from nature” (reverse scored);

“I spend time in nature to remind myself of the bigger picture;” and “I enjoy the small things in life-such as taking a shower, brushing my teeth, or eating.”

Joy was assessed with the following three items: “I bring a feeling of joy to my activities;” “Even when I seem to have very few choices, I feel free;” and “I am frustrated by my inability to find meaning in my daily life” (reverse scored).”

Meaning. This domain reflects the ability to experience meaning, link activities and experiences to values, and construct interpretations in ways that enhance functioning and wellbeing even in the face of pain and suffering. We break Meaning into two capabilities: Purpose and Service.

Purpose was assessed with the following five items: “I hold my work as sacred;” “In my day-to-day activities, I align my purpose with what wants to and needs to happen in the world;” “I see financial rewards as being the primary goal of my work” (reverse scored); “I see advancing my career as the main reason to do a good job” (reverse scored); and “I derive meaning from the pain and suffering in my life.”

Service was assessed with the following three items: “I feel that my work is an expression of love;” “My work is in alignment with my greater purpose;” and “In my daily life, I feel my work is in service to the larger whole.”

Transcendence. This domain reflects the ability to align with the sacred and transcend the egoic self with a sense of relatedness and holism in ways that enhance functioning and wellbeing. We break Transcendence into five capabilities: Higher-self, Holism, Practice, Relatedness, and Sacredness.

Higher-self was assessed with the following five items: “A higher consciousness reveals my true path to me;” “I draw on deep trust or faith when facing day-to-day challenges;” “I am aware

of a wise- or higher-self in me that I listen to for guidance;” “I seek to know only what is provable and avoid the mysterious” (reverse scored); and “My goals and purpose extend beyond the material world.”

Holism was assessed with the following four items: “To gain insights in daily problems, I take a wide view or holistic perspective;” “I strive for the integration or wholeness of all things;” “I feel like part of a larger cosmic organism or greater whole;” and “Seeing life's processes as cyclical rather than linear gives me useful insights to daily challenges.”

Practice was assessed with the following six items: “I have a daily spiritual practice—such as meditation or prayer—that I draw on to address life challenges;” “In difficult moments, I tap into and draw on a storehouse of stories, quotes, teachings, or other forms of time-proven wisdom;” “I practice inner and outer quiet as a way of opening myself to receive creative insights;” “I have daily and weekly times set aside for self-reflection and rejuvenation;” “I use rituals, rites, or ceremonies during times of transition;” and “I use objects or places as reminders to align myself with what is sacred.”

Relatedness was assessed with the following three items: “I work toward expanding other peoples' awareness and perspectives;” “I draw on my compassion in my encounters with others;” and “I enhance my effectiveness through my connections and receptivity to others.”

Sacredness was assessed with the following four items: “Experiences of ecstasy, grace, or awe give me insights or direction in dealing with daily problems;” “In my daily life, I feel the source of life immanent and present within the physical world;” “I live in harmony with a force greater than myself—a universal life force, the divine, or nature—to act spontaneously and effortlessly;” and “In my day-to-day tasks, I pay attention to that which cannot be put into words, such as indescribable sensual or spiritual experiences.”

Truth. This domain reflects the ability to be present to, love, and peacefully surrender to truth, manifesting open receptivity, presence, humility, and trust in ways that enhance daily functioning and wellbeing. We break Truth into six capabilities: Egolessness, Equanimity, Inner-wholeness, Openness, Presence, and Trust.

Egolessness was assessed with the following three items: “Being right is important to me” (reverse scored); “When looking at others, I tend to focus on what they need to do to improve” (reverse scored); and “I want to be treated as special” (reverse scored).

Equanimity was assessed with the following three items: “When things are chaotic, I remain aware of what is happening without getting lost in my experience;” “I get upset when things don't go the way I want them to go” (reverse scored); and “Even when things are upsetting and chaotic around me, I remain centered and peaceful inside.”

Inner-wholeness was assessed with the following four items: “I am my own worst enemy” (reverse scored); “I have a hard time integrating various parts of my life” (reverse scored); “I accept myself as I am with all my problems and limitations;” and “I don't know how to just be myself in interactions with others” (reverse scored).

Openness was assessed with the following four items: “I resist events that I don't like, even when they need to occur” (reverse scored); “I hold resentment towards those who have wronged me” (reverse scored); “I find it frustrating when I don't know what the truth is” (reverse scored); and “I strongly resist experiences that I find unpleasant” (reverse scored).

Presence was assessed with the following three items: “My mind wanders away from what I am doing” (reverse scored); “I find it upsetting to imagine that I will not achieve my desired outcomes” (reverse scored); and “I tend to think about the future or the past without attending to the present moment” (reverse scored).

Trust was assessed with the following four items: “I am driven and ruled by fears” (reverse scored); “I am limited in my life by the feeling that I have very few options available to me” (reverse scored); “I expect the worst in life, and that's what I usually get” (reverse scored); and “I have faith and confidence that things will work out for the best.”

Limitations

Despite the strong psychometric properties reported for the ISIS above, the present study suffers from several limitations. First, the study was the first of its kind and no replication studies demonstrating generalizability with different populations have been done to confirm the reported results. In particular, the factor structure and various psychometric properties may only be considered preliminary.

Furthermore, future studies are required to further demonstrate the predictive validity of the ISIS beyond subjective wellbeing, as well as show discriminant validity relative to other established constructs such as emotional intelligence and personality.

In addition, spiritual intelligence is a complex and multi-faceted construct that includes multiple dimensions, themes and sub-themes (Amram, in press). Hence, it is not clear if the current 5 ISIS domain scales and 22 capability subscales reflect all aspects of spiritual intelligence. For example, qualities such as compassion and empathy may represent their own capabilities and deserve their own subscale instead of being assessed as part of Relatedness as in the current version of the ISIS. Moreover, 2 of the current ISIS subscales (Relatedness and Egolessness) may be considered preliminary and experimental as they have not shown the same level of internal consistency and other psychometric properties as the other subscales. Additionally, the ecumenical nature of spiritual intelligence needs further empirical demonstration using different

populations that draw on different spiritual traditions to enhance functioning and wellbeing in order demonstrate the universal applicability of ISIS.

Lastly, the current version of the ISIS is a purely self-report measure of SI and hence suffers from the same limitations of other self-report instruments that are susceptible to social desirability bias. In summary, future studies are be required to further to develop, refine and validate future versions of the ISIS.

Conclusion

In contrast to the perennial philosophy (Huxely, 1945; Smith, 1987, 1992; Wilber, 1975, 2000), which presupposes a unifying cosmology across spiritual traditions, an integrated theory and ecumenical measurement instrument of SI does not necessitate such unified cosmology. However, it does suggest that most spiritual and wisdom traditions cultivate a universal set of qualities that are adaptive, i.e., increase functioning and wellbeing. For example, a Christian may align with the sacred through Jesus, while a Jew may do so through the scrolls of the Torah, and the Shaman by sitting under a tree. Nonetheless, the capacity to align with the sacred may be universally adaptive (spiritually intelligent) and indeed can be assessed with the ISIS.

Spiritual intelligence can be applied to solve specific problems by taping specific abilities such as using intuition, transcending rationality through synthesis of paradoxes, or in taking a holistic systems perspective to solve problems more globally. In addition to helping solve specific problems, spiritual intelligence can be applied in every moment of daily life to experience greater meaning, and wellbeing by exercising SI abilities such as mindfulness, presence, and equanimity, even in the face of pain and suffering. Hence, a reliable and valid ecumenical measurement instrument of spiritual intelligence supports an expanded view of human potential. In this view, people are capable of: experiencing existential meaning; developing refined consciousness;

transcending small egoic self to live in interconnected wholeness and alignment with the sacred; living in grace to experience freedom, joy, beauty, and gratitude; and being curious and open to truth, attaining equanimity and inner-wholeness.

The development and preliminary validation of the Integrated Spiritual Intelligence Scale (ISIS) suggests that SI contributes to wellbeing and can be differentiated from spirituality and/or spiritual experience, belief or orientation. Further studies are required to inquire into its predictive power and to more fully refine and validate the ISIS with regards to related constructs such as emotional intelligence and determine its relationship to other established constructs such as personality.

References

- Abdi, H (2007). "Bonferroni and Sidak corrections for multiple comparisons", in N.J. Salkind (ed.): *Encyclopedia of Measurement and Statistics*. Thousand Oaks, CA: Sage.
- Amram, Yosi (2007). The Seven Dimensions of Spiritual Intelligence: An Ecumenical Grounded Theory. Paper Presented at the 115th Annual (August 2007) Conference of the American Psychological Association, San Francisco, CA. Summary available on <http://www.yosiamram.net/papers/>.
- Bar-On, Reuven. (2000). Emotional and social intelligence: Insights from the Emotional Quotient Inventory. In Reuven Bar-On & James Parker (Eds.), *The handbook of emotional intelligence: Theory, development, assessment and applications at home, school, and in the workplace* (pp. 363-388). San Francisco, CA: Jossey-Bass.
- Boyatzis, Richard, Goleman, Daniel, & Rhee, Kenneth. (2000). Clustering competence in emotional intelligence: Insights from the emotional competence inventory. In Reuven Bar-On & James Parker (Eds.), *The handbook of emotional intelligence: Theory, development, assessment and applications at home, school, and in the workplace* (pp. 343-362). San Francisco, CA: Jossey-Bass.
- Cloninger, Robert, Svrakic, Dragan, & Przybeck, Thomas. (1993). A psychobiological model of temperament and character. *Archives of General Psychiatry*, 50, 975-990.
- Davidson, R., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S., Urbanowski, F., Harrington, A., Bonus, K., & Sheridan, J. (2003). Alterations in brain and

immune function produced by mindfulness meditation. *Psychosomatic Medicine*, 65(4), 564-570.

Deutsch, G., Springer, S. (1997). *Left Brain, Right Brain: Perspectives from Cognitive Neuroscience*. New York: Worth.

Diener, Ed. (1984). Subjective well-being. *Psychological Bulletin*, 95, 542-575

Elmer, Lori, MacDonald, Douglas, & Friedman, Harris. (2003). Transpersonal psychology, physical health, and mental health: Theory, research and practice. *Humanistic Psychologist*, 31, 159-181.

Emmons, Robert. (1999). *The psychology of ultimate concerns: Motivation and spirituality in personality*. New York: Guilford.

Emmons, Robert. (2000a). Is spirituality an intelligence? Motivation, cognition and the psychology of the ultimate concern. *International Journal for the Psychology of Religion*, 10(1), 3-26.

Emmons, Robert. (2000b). Spirituality and intelligence: Problems and prospects. *International Journal for the Psychology of Religion*, 10(1), 57-64.

Gallese Vittorio. (2003). The roots of empathy: The shared manifold hypothesis and the neural basis of intersubjectivity. *Psychopathology*, 36, 171-180.

Gallese Vittorio. (2005). Being Like Me: Self-Other Identity, Mirror Neurons, and Empathy. In Susan Hurley & Nick Chater (Eds.), *Perspectives on Imitations: From Neuroscience to Social Science: Vol. 1: Mechanisms of imitation and limitation in animals*. (pp. 101-118). Cambridge, MA: MIT Press.

Gardner, Howard. (1983). *Frames of mind: The theory of multiple intelligences*. New York: HarperCollins.

Gardner, Howard. (1999). *Intelligence Reframed*. New York: Basic Books.

Gardner, Howard. (2000). A case against spiritual intelligence. *International Journal for the Psychology of Religion*, 10(1), 27-34.

George, L., Larson, D., Koenig, H. & McCullough, M. (2000). Spirituality and health: What we know, what we need to know. *Journal of Social & Clinical Psychology*, 19(1), 102-116.

Goleman, Daniel. (1998). *Working with emotional intelligence*. New York: Bantam.

Goleman, Daniel. (2001). An EI-Based Theory of Performance. In C. Cherniss & D. Goleman (Eds.), *The emotionally intelligent workplace: how to select for, measure, and improve emotional intelligence in individuals, groups, and organizations* (pp. 27-44). San Francisco, CA: Jossey-Bass.

- Halama, Peter, & Strizenec, Michal. (2004). Spiritual, existential or both? Theoretical considerations on the nature of "higher intelligences". *Studia Psychologica*, 46(3), 239-253.
- Hamer, Dean. (2004). *The God Gene*. New York: Anchor Books.
- Heckathorn, D.D. (1997). Respondent-Driven Sampling: A New Approach to the Study of Hidden Populations. *Social Problems*, 44, 174-199.
- Hedlund, Jennifer, & Sternberg, Robert. (2000). Too many intelligences? Integrating social, emotional, and practical intelligence. In Reuven Bar-On & James Parker (Eds.), *The handbook of emotional intelligence: Theory, development, assessment and applications at home, school, and in the workplace* (pp. 136-167). San Francisco, CA: Jossey-Bass.
- Herrmann, Ned. (1981). The creative brain. *Training and Development Journal*, 35(10), 10-16.
- Huxely, Aldus. (1945). *The Perennial Philosophy*. New York: Harper & Row.
- Jung, C.G (1875/1961). *Man and His Symbols*. New York: Doubleday.
- Kalton, G. (1983). *Introduction to survey sampling*. Newbury Park, CA: Sage.
- Kass, J., Friedman, R., Leserman, J., Zuttermeister, P., & Benson, H. (1991). Health outcomes and new index of spiritual experience. *Journal for the Scientific Study of Religion*, 30(2), 203-211.
- Kirk, K., Eaves, L., & Martin, N. (1999). Self-transcendence as a measure of spirituality in a sample of older Australian twins. *Twin Research*, 2, 81-87.
- Levin, Michal. (2000). *Spiritual intelligence: Awakening the power of your spirituality and intuition*. London: Hodder & Stoughton.
- Lazar, S., Kerr, C., Wasserman, R., Gary, J., Greve, D., Treadway, M., McGarvey, M., Quinn, B., Dusek, J., Benson, H. Rauch, S., Moore, C., Fischl, B. (2005). Meditation experience is associated with increased cortical thickness. *Neuroreport*, 16(17), 1893-1897.
- Lutz, A., Greischar, L., Rawlings, N., Ricard, M., & Davidson, R. (2004). Long-term meditators self-induce high-amplitude gamma synchrony during mental practice. *Proceedings of the National Academy of Sciences of the United States of America*, 101, 16369-16373.
- MacDonald, Douglas & Friedman, Harris. (2002). Assessment of Humanistic, Transpersonal and spiritual constructs: State of the science. *Journal of Humanistic Psychology*, 42(4), 102-125.
- Marietta, D. E. (1995). *People and the planet: Holism and humanism in environmental ethics*. Philadelphia: Temple University Press.
- Mayer, John (2000). Spiritual intelligence or spiritual consciousness. *International Journal for the Psychology of Religion*, 10(1), 47-56

- Mayer, John, & Salovey, Peter. (1993). The intelligence of emotional intelligence. *Intelligence*, 17(4), 433-442.
- Mayer, John, & Salovey, Peter & Caruso, David & Sitarenios, Gill. (2003). Measuring emotional intelligence with MSCEIT V2.0. *Emotion*, 3(1), 97-105.
- Mayer, John, Salovey, Peter, & Caruso, David. (2004). Emotional intelligence: Theory, findings, and implications. *Psychological Inquiry*, 15(3), 197-215.
- Nasel, Dagmar Dasha. (2004). Spiritual orientation in relation to spiritual intelligence: A new consideration of traditional Christianity and New Age/individualistic spirituality. *Doctoral Dissertation*, University of South Australia: Australia.
- Ornstein, Robert. (2004). *The Right Mind: Making Sense of the Hemispheres*. Orlando, FL: Harvest Books.
- Pavot, W., & Diener, E. (1993). Review of the Satisfaction With Life Scale. *Psychological Assessment*, 5(2), 164-172
- Power, S., & Lundsten, L.. (1997). Studies that compare type theory and left-brain/right-brain theory. *Journal of Psychological Type*, 43, 22-28.
- Seitz, R., Nickel, J., & Azari, N. (2006). Functional Modularity of Medial Prefrontal Cortex: Involvement in Human Empathy. *Neuropsychology*, 20(6), 743-751.
- Smith, Huston. (1987). Is there a perennial philosophy? *Journal of the American Academy of Religion*, 55, 553-556.
- Smith, Huston. (1992). *Forgotten Truth: The Common Vision of the World's Religions*. San Francisco, CA: Harper.
- Sternberg, Robert. (1997a). The concept of intelligence and its role in lifelong learning and success. *American Psychologist*, 52(10), 1030-1037.
- Sternberg, Robert. (1997b). Managerial Intelligence: Why IQ isn't enough. *American Journal of Management*, 23(3), 475-493.
- Sternberg, Robert. (2001). Successful intelligence: A new approach to leadership. In R. Riggio, S. Murphy, & F. Pirozzolo (Eds.) *Multiple intelligences and leadership* (pp. 3-12). Mahwah, NJ: Lawrence Erlbaum.
- Strauss, A., Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Newbury Park, CA: Sage.
- Vaughan, Frances. (2002). What is spiritual intelligence? *Journal of Humanistic Psychology*, 42(2), 16-33.

- Trott, David. (1996). Spiritual well-being of workers: An exploratory study of spirituality in the workplace. *Dissertation Abstracts International*, University of Texas: Austin, TX.
- Walsh, Roger. (1999). *Essential Spirituality: The 7 Central Practices to Awaken heart and mind*. New York: John Wiley & Sons.
- Wilber, Ken. (1975). Psychologia perennis: The spectrum of consciousness. *The Journal of Transpersonal Psychology*, 7(2), 105-132.
- Wilber, Ken. (2000). *Integral Psychology: Consciousness, Spirit, Psychology, Therapy*. Boston, MA: Shambhala.
- Wolman, Richard. (2001). *Thinking with your soul: Spiritual intelligence and why it matters*. New York: Harmony.
- Zohar, Danah, & Marshall, Ian. (2000). *SQ: Connecting with our spiritual intelligence*. New York: Bloomsbury.

Appendix 1: The Integrated Spiritual Intelligence Scale (ISIS)

On the next few pages, please score all the items on a scale from 1 to 6 based on the general frequency of your behavior over the past 6 to 12 months:

- 1 – Never or almost never
- 2 – Very infrequently
- 3 – Somewhat infrequently
- 4 – Somewhat frequently
- 5 – Very frequently
- 6 – Always or almost always

- ___ 1. I notice and appreciate the beauty that is uncovered in my work.
- ___ 2. I expect the worst in life, and that's what I usually get.
- ___ 3. When things are chaotic, I remain aware of what is happening without getting lost in my experience.
- ___ 4. During an activity or conversation, I monitor and notice my thoughts and emotions.
- ___ 5. I practice inner and outer quiet as a way of opening myself to receive creative insights.
- ___ 6. I have a good sense for when my purpose requires nonconformity, out-of-the-box thinking, or taking an unpopular stand.
- ___ 7. I resist events that I don't like, even when they need to occur.
- ___ 8. In my daily life, I feel the source of life immanent and present within the physical world.
- _*_ 9. I get upset when things don't go the way I want them to go.
- ___ 10. In my day-to-day activities, I align my purpose with what wants to and needs to happen in the world.
- ___ 11. I find it frustrating when I don't know what the truth is.
- ___ 12. I pay attention to my dreams to gain insight to my life.
- _*_ 13. In my daily life, I am disconnected from nature.

- ___ 14. Seeing life's processes as cyclical rather than linear gives me useful insights to daily challenges.
- ___ 15. A higher consciousness reveals my true path to me.
- ___ 16. I live and act with awareness of my mortality.
- _*_ 17. In difficult moments, I tap into and draw on a storehouse of stories, quotes, teachings, or other forms of time-proven wisdom.
- _*_ 18. I don't know how to just be myself in interactions with others.
- ___ 19. I hold my work as sacred.
- _*_ 20. I have a daily spiritual practice—such as meditation or prayer—that I draw on to address life challenges.
- ___ 21. I enjoy the small things in life—such as taking a shower, brushing my teeth, or eating.
- _*_ 22. I am driven and ruled by fears.
- _*_ 23. I tend to think about the future or the past without attending to the present moment.
- _*_ 24. My life is a gift, and I try to make the most of each moment.
- _*_ 25. I draw on my compassion in my encounters with others.
- ___ 26. I am limited in my life by the feeling that I have very few options available to me.
- ___ 27. I spend time in nature to remind myself of the bigger picture.
- _*_ 28. My actions are aligned with my values.
- _*_ 29. In meetings or conversations, I pause several times to step back, observe, and re-assess the situation.
- ___ 30. I use objects or places as reminders to align myself with what is sacred.
- _*_ 31. I have a hard time going against conventions, expectations, or rules.
- _*_ 32. Even when things are upsetting and chaotic around me, I remain centered and peaceful inside.

- ___ 33. I find it upsetting to imagine that I will not achieve my desired outcomes.
- _*_ 34. In my day-to-day tasks, I pay attention to that which cannot be put into words, such as indescribable sensual or spiritual experiences.
- _*_ 35. I am aware of a wise- or higher-self in me that I listen to for guidance.
- _*_ 36. I can hold as true and integrate seemingly conflicting or contradictory points of view.
- _*_ 37. I strive for the integration or wholeness of all things
- _*_ 38. My work is in alignment with my greater purpose.
- _*_ 39. I derive meaning from the pain and suffering in my life.
- ___ 40. I feel that my work is an expression of love.
- ___ 41. I use rituals, rites, or ceremonies during times of transition.
- ___ 42. My actions are aligned with my soul—my essential, true nature.
- ___ 43. I remember to consider what is unspoken, underground or hidden.
- _*_ 44. Because I follow convention, I am not as successful as I could be.
- ___ 45. I am aware of my inner truth—what I know inside to be true.
- _*_ 46. Being right is important to me.
- _*_ 47. I notice and appreciate the sensuality and beauty of my daily life.
- _*_ 48. I enhance my effectiveness through my connections and receptivity to others.
- _*_ 49. Even in the midst of conflict, I look for and find connection and common ground.
- _*_ 50. I listen to my gut feeling or intuition in making important choices.
- _*_ 51. I listen deeply to both what is being said and what is not being said.

- * 52. I am mindful of my body's five senses during my daily tasks.
53. I seek to know what is logically provable and ignore the mysterious.
- * 54. I look for and try to discover my blind spots.
55. I have a hard time integrating various parts of my life.
56. I work toward expanding other peoples' awareness and perspectives.
- * 57. I live in harmony with a force greater than myself—a universal life force, the divine, or nature—to act spontaneously and effortlessly.
- * 58. My goals and purpose extend beyond the material world.
59. I draw on deep trust or faith when facing day-to-day challenges.
- * 60. I hold resentment towards those who have wronged me.
61. I feel like part of a larger cosmic organism or greater whole.
- * 62. I find ways to express my true self creatively.
63. When looking at others, I tend to focus on what they need to do to improve.
64. Experiences of ecstasy, grace, or awe give me insights or direction in dealing with daily problems.
- * 65. To gain insights in daily problems, I take a wide view or holistic perspective.
- * 66. I have daily and weekly times set aside for self-reflection and rejuvenation.
- * 67. I remember to feel grateful for the abundance of positive things in my life.
- * 68. I have faith and confidence that things will work out for the best.
69. I accept myself as I am with all my problems and limitations.
70. To solve problems, I draw on my ability to hold, accept and go beyond paradoxes.

- * 71. In my daily life, I feel my work is in service to the larger whole.
72. In arguing or negotiating, I am able to see things from the other person's perspective, even when I disagree.
- * 73. I see advancing my career as the main reason to do a good job.
74. I see financial rewards as being the primary goal of my work.
- * 75. My mind wanders away from what I am doing.
76. I am frustrated by my inability to find meaning in my daily life.
- * 77. Even when I seem to have very few choices, I feel free.
- * 78. I want to be treated as special.
- * 79. I have a hard time standing firm in my inner truth—what I know inside to be true.
- * 80. I bring a feeling of joy to my activities.
- * 81. I strongly resist experiences that I find unpleasant.
- * 82. I am my own worst enemy.
83. I have answered all the questions truthfully and to the best of my ability

* Items marked with * indicate items included in the short-form version of the ISIS