

**Assessing Students' Spiritual and Religious Qualities**

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## ABSTRACT

This paper describes a comprehensive set of 12 new measures for studying undergraduate students' spiritual and religious development. The three measures of spirituality, four measures of "spiritually-related" qualities, and five measures of religiousness demonstrate satisfactory reliability, robustness, and both concurrent and predictive validity. It is hoped that these new measures can not only provide researchers with some new tools for tracking important aspects of student development that have so far received very little attention in the higher education literature, but also provide new insights for practitioners who are working to implement a more holistic approach to enhancing the undergraduate experience.

Research on college student development has periodically examined various aspects of students' religious development, but little systemic study has been carried out so far on the broader topic of spirituality. In this paper we describe a comprehensive set of new measures of spirituality and religiousness that have been developed in connection with a national longitudinal study of students' spiritual development in American higher education.<sup>1</sup> In presenting these measures we hope not only to provide student development researchers with some new tools, but also to stimulate greater interest among practitioners in this critical but often neglected area of student development.

### BACKGROUND OF THE STUDY

Even a cursory look at American higher education makes it clear that the relative amount of attention devoted to the exterior and interior aspects of our students' lives is out of balance. Thus, while colleges have increasingly come to emphasize "outer" aspects of the student's life such as courses taken, grades and honors earned, financial aid received, co-curricular involvement, and persistence toward a degree, they have increasingly come to neglect the student's "inner" development—the sphere of values and beliefs, emotional maturity, moral development, spirituality, and self-understanding.

What is most ironic about this imbalance is that while many of the great literary and philosophical traditions that constitute the core of a liberal education are grounded in the maxim, "know thyself," the development of self-awareness receives very little attention in our colleges and universities, and almost no attention in public discourse in general or in the media in particular. This problem of the inner versus the outer is further underscored by four decades of national trends in college students' life goals, which show that the value of "developing a meaningful philosophy of life" has declined sharply while the value of "being very well off financially" has been increasing dramatically (Astin et al, 2002).

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While a number of different higher education scholars and practitioners have recently been advocating that colleges and universities pay more attention to students' spiritual development (e.g., Chickering et al, 2005; Collins et al, 1987; Kazanjian & Laurence, 2000; Laurence, 1999; Palmer, 1998; Rendon, 2000; Tisdell, 2003, 2007), little research on spiritual development has appeared so far in the higher education literature. Thus, in two comprehensive reviews of the research literature, Pascarella and Terenzini's (1991, 2005) detailed indexes contain no listings for either "spirituality" or "spiritual development," and, in the more recent (2005) review, only a smattering of references to "religious attitudes/values" (three) and "religious identity development" (one). Despite this paucity of published research in the higher education literature, during recent years a number of investigators from other fields have devised measures of students' spiritual and religious qualities. We have relied heavily on this work in developing the measures described in this article (see the next section).

#### DEVELOPMENT OF THE COLLEGE STUDENTS' BELIEFS AND VALUES (CSBV) SURVEY

Although a number of researchers have attempted to distinguish between "spirituality" and "religiousness" (e.g., Strohl, 2001; Tanyi, 2002; Tersteman, 1997; Zinnbauer et al, 1997; Zinnbauer et al, 1999), there is no generally agreed-upon set of definitions for these two terms. For the purposes of this research project, students' "spiritual development" is defined in very broad terms: how students make meaning of their education and their lives, how they develop a sense of purpose, the value and belief dilemmas they experience, as well as the role of religion, the sacred, and the mystical in their lives. Spirituality also involves aspects of our students' experience that are not easy to define, such things as intuition, inspiration, creativity, and their sense of connectedness to others and to the world. Religiousness, on the other hand, is seen as involving adherence to set of faith-based beliefs (and related practices) concerning both the

origins of the world and the nature of the entity(ies) or being(s) that created and/or govern the world.

Each student, of course, will view his or her spirituality in a unique way. For many, traditional religious beliefs and practices may form the core of their spirituality; for others such beliefs and practices may play little or no part.

In approaching the task of developing scales to measure spirituality and religiousness, we were guided by two basic principles: (1) that spirituality is a multi-dimensional concept and that no single measure can adequately capture all that we mean when we use the term (Elkins et al, 1988; Hill et al, 2000; MacDonald, 2000); and (2) that while many students no doubt express their spirituality in terms of some form of organized religion, the fact that others do not requires that we view religiousness and spirituality as separate qualities and that we attempt to develop separate measures of each.

The initial research team for the project, which included the authors together with a postdoctoral student (Alyssa Bryant) and an advanced doctoral student (Kati Szelényi), worked closely with a Technical Advisory Panel (TAP)<sup>2</sup> to design the original CSBV survey. Our basic approach to this very complex assessment task might be characterized as one of “informed consensus.” That is, by informing ourselves about the considerable literature in this field, by consulting regularly with expert researchers in this field (our TAP), and by engaging in an ongoing dialogue to share what we were learning, we could best assure that we would be able to develop a meaningful and useful set of measures of students’ spiritual and religious qualities. Accordingly, in the year prior to the beginning of instrument development the research team read

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a good deal of relevant literature on spirituality, participated in a graduate seminar on spirituality in higher education, and took part in a number of brainstorming sessions concerning the meaning and assessment of spirituality.

The process of survey development began with an exploration of various definitions of “spirituality” proposed by scholars in business, education, health, psychology, sociology, and other fields (see, for example, Ashmos & Duchon, 2000; Baker, 2003; Burack, 1999; Cannister, 1998; Cook et al, 2000; Dehler & Welsh, 1997; Dyson et al. 1997; Gibbons, 2000; Hayes, 1984; Hill & Pargament, 1993; Hodge, 2001; Krahnke & Hoffman, 2002; Love & Talbot, 1999; Maher & Hunt, 1993; Pargament, 1999; and Rose, 2001). Because a number of psychologists and measurement specialists during the past decade have also attempted to develop measures of “spirituality” and “religiousness,” this critical body of work was reviewed as well. Although the research team’s evaluation of these measurement tools indicated that they contain a number of interesting and potentially useful items, no single instrument appeared to be well-suited to the purposes of this project. Among the limitations inherent in many of these instruments are the following:

- “Spirituality” is often equated with traditional religious practice and beliefs. Questions, for example, often assume (either explicitly or implicitly) that the respondent embraces a monotheistic/Judeo-Christian belief system (Moberg, 2002)
- No distinction is made between one’s “spirituality” and one’s theological perspective.
- No distinction is made between “inner” and “outer” manifestations of spirituality, that is, between spiritual attitudes/beliefs/perspectives and spiritual action or behavior.

In developing the new survey instrument the research team thus sought to design a set of questions that would satisfy the following requirements:

- No assumptions would be made about the student’s religious/spiritual perspective (or lack thereof). All students—regardless of their particular theological/metaphysical perspective or belief system—should be able to respond in a meaningful way.
- References to “God,” “Supreme Being,” or similar constructs would be held to a minimum, and respondents would be permitted to specify what such a concept means to them (including an option to reject the concept).
- Both spiritual beliefs/perspectives and spiritual practices/behaviors would be covered, although the use of specific denominational or sectarian terminology would be avoided (e.g., “sacred texts” would be used instead of “Bible” or “Koran.”)
- The instrument would accommodate those who define their spirituality primarily in terms of conventional religious beliefs and practices as well as those who define their spirituality in other ways.

One key resource that the research team relied heavily on in developing the CSBV was Hill and Hood’s (1999) comprehensive analysis of 125 different scales that had been developed in this area of research. The team examined every item in every scale and also attempted to identify any measurement problems associated with many of these instruments: ceiling effects, social desirability, response set, and lack of precision in defining the constructs that each scale purports to measure. This preliminary work resulted in the identification of twelve content areas or “domains” to be considered in designing items and scales to measure spirituality and religiousness:

- Spiritual/religious outlook/orientation/worldview
- Spiritual well-being
- Spiritual/religious behavior/practice

- Self-assessments (of religiousness, spirituality and related traits)
- Compassionate behavior
- Sense of connectedness to others and the world
- Spiritual quest
- Spiritual/mystical experiences
- Facilitators/inhibitors of spiritual development
- Theological/metaphysical beliefs
- Attitudes toward religion/spirituality
- Religious affiliation/identity

Using these domains as a framework, the team developed a large number of potential survey items. In addition to modifying many of the items developed by earlier investigators, the team also created a number of new items. Throughout this process, TAP members and the research team served as “judges” in finalizing the relevant domains and selecting the most appropriate items for each domain. Because most domains had more items than needed, decisions concerning which items to include were made primarily on the basis of inter-judge agreement. Finally, after incorporating detailed feedback from the TAP, the research team prepared a draft pilot survey instrument.

These items were initially combined into a questionnaire called the College Students’ Beliefs and Values (CSBV) Survey. This four-page questionnaire was administered to 3,700 college juniors attending a diverse sample of 46 baccalaureate colleges and universities in Spring 2003. The institutional sample was designed to insure diversity with respect to institutional type (colleges and universities), control (public, private-nonsectarian, Roman Catholic, Protestant, Evangelical) and selectivity level. For the purposes of creating a longitudinal sample, these



students were selected because they had already participated in the 2000 Cooperative Institutional Research Program (CIRP) annual Survey of Entering Freshmen three years earlier.

The final CSBV pilot survey included approximately 175 items having to do with spirituality and religion, 50-60 other items covering students' activities and achievements since entering college (e.g., participation in student organizations, college GPA), and posttests on selected items from the freshman questionnaire that these same 3,700 students had completed three years earlier in fall 2000 (e.g., importance of "helping others in difficulty"). The scales described in this paper were initially developed using this database, and then subsequently replicated in the two additional surveys described below.

In 2004 a sub-sample of 236 baccalaureate-granting institutions participating in UCLA's Annual Survey of Entering Freshmen was selected for the next administration of the CSBV. This revised CSBV Survey, which was a modified version of the 2003 pilot survey, was completed by 112,232 entering first-year students as a two-page addendum to the annual four-page CIRP Freshman Survey. The research team again partnered with the TAP to modify the original CSBV pilot questionnaire, primarily with respect to cutting the length from four pages to two pages and omitting or modifying items that were not appropriate for individuals who had not yet attended college (e.g., interactions with faculty, self-perceived changes in college, involvement in college activities and clubs). In total, the two-page CSBV addendum to the 2004 CIRP Freshman Survey included 129 items and the regular four-page CIRP incorporated approximately 30 additional items that dealt with aspects of spirituality and religion.

A CSBV "normative" sample was selected on the basis of response rates for each campus. To ensure representative survey responses by campus, most schools were included in the normative sample only if they had received completed surveys from at least 40 percent of

their first-time, full-time freshmen who entered college in fall 2004. After eliminating 27 institutions where the student participation rate was judged to be too low, a total of 98,593 students from 209 institutions were retained for inclusion in the normative CSBV sample.

Data from this normative sample were weighted to approximate the responses we would have expected had all first-time, full-time students attending baccalaureate colleges and universities across the country participated in the survey. The first step involved classifying the institutions across 13 different stratification “cells” representing various types of campuses in terms of control (public or private), level (college or university), religious affiliation (nonsectarian, Roman Catholic, Evangelical, or “Other” religious affiliation), and selectivity level (very high, high, medium, or low SAT or ACT composite score). Two weights were then applied. The “within-institution” weight brought the weighted sample size at any institution up to the total number of first-time, full-time male and female freshmen enrolling at that institution in fall 2004. The “between-institution” weight corrected for over- or under-sampling by institutional type, such that the weighted numbers of men and women in any of the thirteen stratification cells equaled the national population of first-time, full time men and women freshmen attending all baccalaureate institutions in that cell in fall 2004.

The third and final administration of the CSBV involved a longitudinal follow up of a sample of freshmen who had completed the expanded (CSBV) version of the 2004 CIRP Freshman Survey. These students were surveyed in the late Spring of 2007, at the end of their junior year. Samples of students who had completed the 2004 Freshman Survey were randomly selected from each institution for this longitudinal follow up. To conserve costs, a representative sub-sample of 150 institutions was invited to participate at no cost to them, while the remaining 57 institutions were invited to participate at cost. Approximately 300 currently enrolled students

(mostly 3<sup>rd</sup>-year students, i.e., juniors) were randomly selected from most institutions, although some institutions chose to survey larger numbers at their own expense. In order to participate, institutions were required to provide us with updated addresses and email addresses for participating students. A total of 148 institutions eventually participated, although 12 of these were eliminated from the normative computations because fewer than 30% of their surveyed students participated.

Completed surveys were thus available for a total of 14,527 students at 136 institutions, representing an overall 40 percent response rate at these institutions. To develop weights to adjust for response bias in the 2007 respondent sample, the research team employed the following procedures: Using the entire sample to whom 2007 follow up surveys were sent, multivariate analyses were conducted with response vs. non response as the dependent variable and student responses to the 2004 freshman survey items as independent variables. The reciprocal of formulae derived from these analyses were then applied to each 2007 respondent to adjust for any bias as detected from the 2004 data. Essentially this procedure provides the greatest weight to those 2007 respondents who most resemble non-respondents. These weights were further adjusted—as described above—for any sampling bias found within each of the 13 stratification cells. The final weights were thus designed to approximate the results that would have been obtained if all 2007 “juniors” (2004 entering freshmen who were still enrolled in 2007) at baccalaureate-granting institutions in the United States had responded to the follow-up. (For more details of the sampling, survey, and weighting procedures, see the project website: [www.spirituality.ucla.edu](http://www.spirituality.ucla.edu)). All findings reported below are based on weighted results.

## DEVELOPMENT OF SCALES

The process of constructing scales measuring various aspects of the students' religious and spiritual life and development was a complex combination of hypothesis-testing and empirical exploration where we sought to identify clusters of items that had consistent and coherent content and that simultaneously demonstrated a high degree of statistical internal consistency.

Our first task was to sort the 175 pilot survey items into broad categories. Initially we identified six a priori clusters of items that were hypothesized to represent the following constructs: conservative Christian, liberal Christian, "cultural creative" [following Ray and Anderson's (2000) research], well-being, religious skepticism, and self-perceived spiritual/religious change during college. The remaining large pool of items was separated into two large groups: items having to do with the "interior"—values, beliefs, and perceptions—and items having to do with the "exterior"—behaviors, experiences, and actions. Separate principal components factor analyses with Varimax rotation were performed on each of these eight groups of questionnaire items. Many factor analyses were repeated rotating different numbers of components or with modified item content with the aim of identifying the solution that demonstrated both the best simple structure and the most conceptual coherence. After each analysis the research team discussed the resulting solution at length, collectively deciding whether additional analyses were needed. Experimental analyses were sometimes conducted by combining items across the original a priori clusters. Periodically we also tried oblique rotational solutions. Throughout this factor analytic phase, we would construct trial scales. Once a promising potential scale was identified, a reliability analysis (Cronbach Alpha) was performed in order to eliminate items that were not contributing to scale reliability. The resulting scale was

then correlated with other items in the questionnaire in order to (a) identify other possible items that could be added to the scale and (b) explore the scale's construct validity (i.e., does it correlate in expected ways with other items and other scales?) An item that appeared to belong on more than one scale was either omitted or placed on the scale with which it had the highest correlation. Note that, in order to avoid any experimental dependence among the scales, *no item was used in more than one scale.*

Although 19 scales were initially developed, this report will focus on 12 that directly relate to spirituality (3 scales), religiousness (5 scales), and what we call “spiritually-related qualities” (4 scales). Four of these scales directly verified constructs that were initially hypothesized: Christian Conservatism (which we later renamed “Religious/Social Conservatism”), Religious Skepticism, and Well-Being (which actually turned into four scales, two of which we discuss here: Equanimity and Religious Struggle). (Despite several attempts, the constructs “cultural creative” and “liberal Christian” could not be confirmed by either factor analyses or item analyses.) The seven other scales appear to replicate several of the “domains” that formed part of the framework that we originally developed to select CSBV items: Spiritual Quest (“Spiritual quest”), Religious Commitment and Spiritual Identification (“Spiritual/religious outlook/orientation/worldview”), Religious Engagement (“Spiritual/religious behavior/practice”), and three scales that reflect the student’s “Sense of connectedness to others and the world”: Ethic of Caring, Ecumenical Worldview, and Charitable Involvement. The final scale—Compassionate Self-Concept—appears to combine elements of two domains (“Compassionate behavior” and “Self-assessments”).

Since all of these 12 scales were replicated both in the large-scale survey of 112,232 entering freshmen at 236 institutions conducted in Fall 2004 and the longitudinal follow-up

conducted at 136 institutions in Spring 2007, the findings reported here will be based on these two larger and more recent surveys. (We considered that a pilot scale had been “replicated” if, in an independent sample, it yielded an Alpha coefficient and corrected item-scale correlations that were comparable to those obtained in the original pilot sample.) Although this report focuses primarily on scale construction, item content, and reliability analyses, in describing each scale we shall also report some preliminary concurrent and predictive validity data: how different religious groups score on each measure as of 2007, and how the 2004 freshman scale predicts students’ responses to selected items from the 2007 follow-up questionnaire. (More thoroughgoing evidence concerning the predictive and construct validity of each scale will be provided in forthcoming reports.)

Table 1  
*Items Defining 3 Measures of Spirituality*

	Score Ranges		2004		2007	
	Low	High	Mean	SD	Mean	SD
<b><i>Spiritual Identification (Alphas in 2004 &amp; 2007: .88 and .89)</i></b>	<b>13-22</b>	<b>33-43</b>	<b>25.6</b>	<b>6.5</b>	<b>26.3</b>	<b>6.6</b>
Personal goal <sup>a</sup> : Integrating spirituality into my life			2.3	1.1	2.6	1.1
Personal goal <sup>a</sup> : Seeking out opportunities to help me grow spiritually			2.4	1.0	2.6	1.0
Self-description <sup>c</sup> : Having an interest in spirituality			2.1	0.7	2.2	0.7
Self-description <sup>c</sup> : Believing in the sacredness of life			2.2	0.7	2.3	0.7
Self-rating <sup>f</sup> : Spirituality			3.2	1.1	3.1	1.1
On a spiritual quest <sup>e</sup>			1.8	0.4	1.5	0.5
Belief <sup>b</sup> : People can reach a higher spiritual plane of consciousness through meditation or prayer			2.8	0.9	2.9	0.8
Spiritual experience while <sup>d</sup> : Listening to beautiful music			1.6	0.7	1.8	0.7
Spiritual experience while <sup>d</sup> : Viewing a great work of art			1.3	0.6	1.4	0.6
Spiritual experience while <sup>d</sup> : Participating in a musical or artistic performance			1.4	0.6	1.4	0.6
Spiritual experience while <sup>d</sup> : Engaging in athletics			1.3	0.6	1.3	0.6
Spiritual experience while <sup>d</sup> : Witnessing the beauty and harmony of nature			1.7	0.8	1.9	0.8
Spiritual experience while <sup>d</sup> : Meditating			1.3	0.8	1.4	0.6
<b><i>Spiritual Quest (Alphas in 2004 &amp; 2007: .83 and .82)</i></b>	<b>9-19</b>	<b>26-34</b>	<b>21.9</b>	<b>5.0</b>	<b>23.4</b>	<b>4.6</b>
Engaged in <sup>i</sup> : Searching for meaning/purpose in life			2.0	0.7	2.0	0.7
Engaged in <sup>i</sup> : Having discussions about the meaning of life with my friends			1.9	0.7	1.9	0.7
Close friends <sup>h</sup> : Are searching for meaning/purpose in life			2.3	0.8	2.3	0.8
Personal goal <sup>a</sup> : Finding answers to the mysteries of life			2.4	0.9	2.4	0.9
Personal goal <sup>a</sup> : Attaining inner harmony			2.5	0.9	2.8	0.9
Personal goal <sup>a</sup> : Attaining wisdom			3.0	0.8	3.2	0.7
Personal goal <sup>a</sup> : Seeking beauty in my life			2.6	0.9	2.9	0.9
Personal goal <sup>a</sup> : Developing a meaningful philosophy of life			2.3	1.0	2.7	1.0
Personal goal <sup>a</sup> : Becoming a more loving person			2.9	0.9	3.2	0.8
<b><i>Equanimity (Alphas in 2004 &amp; 2007: .76 and .72)</i></b>	<b>5-9</b>	<b>14-15</b>	<b>11.4</b>	<b>2.3</b>	<b>11.8</b>	<b>2.1</b>
Experience <sup>g</sup> : Been able to find meaning in times of hardship			2.1	0.6	2.2	0.6
Experience <sup>g</sup> : Felt at peace/centered			2.2	0.6	2.2	0.6
Self-description <sup>c</sup> : Feeling good about the direction in which my life is headed			2.4	0.6	2.5	0.6
Self-description <sup>c</sup> : Being thankful for all that has happened to me			2.4	0.6	2.6	0.6
Self-description <sup>c</sup> : Seeing each day, good or bad, as a gift			2.2	0.7	2.3	0.7

<sup>a</sup>Personal goal measured on a 4-point scale, (1) "Not important" to (4) "Essential"

<sup>b</sup>Belief measured on a 4-point scale, (1) "Disagree strongly" to (4) "Agree strongly"

<sup>c</sup>Self-description measured on a 3-point scale, (1) "Not at all" to (3) "To a great extent"

<sup>d</sup>Spiritual experience measured on a 3-point scale, (1) "Not at all" to (3) "Frequently" ("Not applicable" recoded as "Not at all")

<sup>e</sup>Being on a spiritual quest measured on a 2-point scale, (1) "No" or (2) "Yes"

<sup>f</sup>Self-rating measured on a 5-point scale, (1) "Lowest 10%" to (5) "Highest 10%"

<sup>g</sup>Experience measured on a 3-point scale, (1) "Not at all" to (3) "Frequently"

<sup>h</sup>Close friends measured on a 4-point scale, (1) "None" to (4) "All"

<sup>i</sup>Engagement measured on a 3-point scale, (1) "Not at all" to (3) "To a great extent"

## SPIRITUALITY

Items defining each of the three measures of spirituality are shown in Table 1. We have labeled the first measure *Spiritual Identification* in part because it reflects one's propensity to see oneself and others in "spiritual" terms (note that 12 of the 13 items include the word "spiritual" or "spirituality"). The scale thus reflects the degree to which the student believes in the sacredness of life, seeks out opportunities to grow spiritually, believes that we are all spiritual beings, and reports having had "spiritual" experiences. The four highest-scoring groups on Spiritual Identification (all with more than 45% obtaining "high" scores) are Mormons, Baptists, "Other Christians" (mainly "nondenominational"), and Quakers. (Procedures for defining "high" and "low" scores are described below.) Groups with the fewest high scorers include Jewish students (11%) and students who pick "none" as their religious affiliation (7%). Freshman Spiritual Identification predicts how frequently students will report, three years after entering college, that they engaged in "other readings on religion/spirituality" ( $r = .42$ ) and that their professors encouraged "personal expressions of spirituality" ( $r = .28$ ).

*Spiritual Quest* assesses the student's interest in searching for meaning/purpose in life, finding answers to the mysteries of life, and developing a meaningful philosophy of life. The notion of a spiritual "quest" is clearly reflected in the prevalence of words such as "finding," "attaining," "seeking," "developing," "searching," and "becoming." Although 37% of all juniors obtain high scores on this scale, the lowest score for any religious group (Jews) is still 28%, and only two groups—Buddhists and Mormons—have at least 50% high scorers. Freshman scores on this measure predict the likelihood that students will take a religious studies course in college ( $r = .20$ ) and engage in reflective writing/journaling during college ( $r = .12$ ).



*Equanimity* indicates the extent to which the student feels at peace/centered, is able to find meaning in times of hardship, and feels good about the direction of her/his life. Elsewhere (Astin & Keen, 2006) we have argued that equanimity may well be the prototypic defining quality of a spiritual person. Nearly one-fourth (23%) of the students earn high scores on Equanimity. The three religious groups with the largest proportions of high scorers are Mormons (46%), Baptists (35%), and members of the Church of Christ (37%). The two lowest-scoring groups turn out to be members of the Eastern Orthodox Church (16%) and students whose religious preference is “none” (13%). Equanimity as measured at the time of entry to college predicts the likelihood that students will engage in meditation ( $r = .22$ ) and self-reflection ( $r = .15$ ) during college.

Table 2  
*Items Defining 5 Measures of Religiousness*

	Score Ranges		2004		2007	
	Low	High	Mean	SD	Mean	SD
<b><i>Religious Commitment (Alphas in 2004 &amp; 2007: .96 and .97)</i></b>	<b>12-20</b>	<b>41-47</b>	<b>31.4</b>	<b>10.3</b>	<b>31.2</b>	<b>10.2</b>
Personal Goal <sup>a</sup> : Seeking to follow religious teachings in my everyday life			2.3	1.1	2.3	1.1
Self-rating <sup>d</sup> : Religiousness			2.9	1.2	2.8	1.2
Belief <sup>b</sup> : I find religion to be personally helpful			2.9	1.0	2.8	1.0
Belief <sup>b</sup> : I gain spiritual strength by trusting in a Higher Power			2.8	1.0	2.8	1.1
Self-description <sup>c</sup> : Feeling a sense of connection with God/Higher Power that transcends my personal self			2.0	0.8	2.0	0.8
Experience <sup>f</sup> : Felt loved by God			2.2	0.8	2.2	0.8
My spiritual/religious beliefs <sup>e</sup> : Are one of the most important things in my life			2.7	1.1	2.6	1.1
My spiritual/religious beliefs <sup>e</sup> : Provide me with strength, support, and guidance			2.9	1.0	2.8	1.0
My spiritual/religious beliefs <sup>e</sup> : Give meaning/purpose to my life			2.7	1.0	2.7	1.0
My spiritual/religious beliefs <sup>e</sup> : Lie behind my whole approach to life			2.6	1.0	2.6	1.0
My spiritual/religious beliefs <sup>e</sup> : Have helped me develop my identity			2.9	1.0	2.8	1.0
My spiritual/religious beliefs <sup>e</sup> : Help define the goals I set for myself			2.7	1.0	2.7	1.0
<b><i>Religious Struggle (Alphas in 2004 &amp; 2007: .75 and .77)</i></b>	<b>7-10</b>	<b>16-21</b>	<b>11.6</b>	<b>2.9</b>	<b>11.7</b>	<b>3.0</b>
Self-description <sup>c</sup> : Feeling unsettled about spiritual and religious matters			1.8	0.7	1.8	0.7
Self-description <sup>c</sup> : Feeling disillusioned with my religious upbringing			1.5	0.6	1.5	0.7
Experience <sup>f</sup> : Struggled to understand evil, suffering, and death			1.8	0.7	1.8	0.7
Experience <sup>f</sup> : Felt angry with God			1.5	0.6	1.5	0.6
Experience <sup>f</sup> : Questioned [my] religious/spiritual beliefs			1.7	0.7	1.8	0.7
Experience <sup>f</sup> : Felt distant from God			1.8	0.7	1.8	0.7
Experience <sup>f</sup> : Disagreed with [my] family about religious matters			1.6	0.7	1.6	0.7
<b><i>Religious Engagement (Alphas in 2004 &amp; 2007: .87 and .88)</i></b>	<b>9-13</b>	<b>29-44</b>	<b>20.7</b>	<b>8.0</b>	<b>19.6</b>	<b>7.9</b>
Experience <sup>f</sup> : Attended a religious service			2.2	0.8	1.9	0.8
Experience <sup>f</sup> : Attended a class, workshop, or retreat on matters related to religion/spirituality			1.6	0.7	1.5	0.7
Activity <sup>h</sup> : Reading sacred texts			2.3	1.6	2.3	1.6
Activity <sup>h</sup> : Religious singing/chanting			2.3	1.6	2.2	1.6
Activity <sup>h</sup> : Other reading on religion/spirituality			2.2	1.5	2.1	1.4
Activity <sup>h</sup> : Prayer			3.8	2.0	3.7	1.9
Do you pray? <sup>k</sup>			1.7	0.5	1.7	0.5
Hours per week <sup>l</sup> : Prayer/meditation			2.1	1.1	2.1	1.1
Close friends <sup>i</sup> : Go to church/temple/other house of worship			2.4	0.7	2.2	0.6
<b><i>Religious/Social Conservatism (Alphas in 2004 &amp; 2007: .77 and .81)</i></b>	<b>7-10</b>	<b>20-24</b>	<b>14.9</b>	<b>4.1</b>	<b>14.2</b>	<b>4.2</b>
Belief <sup>b</sup> : People who don't believe in God will be punished			2.1	1.1	2.0	1.1
Belief <sup>b</sup> : If two people really like each other, it's all right for them to have sex even if they've known each other for only a very short			2.7	1.0	2.5	1.0

time (reverse coded)						
Belief <sup>b</sup> : Abortion should be legal (reverse coded)			2.5	1.2	2.3	1.1
Self-description <sup>c</sup> : Being committed to introducing people to my faith			1.7	0.7	1.5	0.7
Close friends <sup>i</sup> : Share [my] religious/spiritual views			2.4	0.8	2.4	0.7
Conception of God <sup>l</sup> : Father-figure			1.4	0.5	1.4	0.5
Reason for prayer <sup>g</sup> : Forgiveness			2.0	0.9	2.0	0.9
<b>Religious Skepticism (Alphas in 2004 &amp; 2007: .83 and .86)</b>	<b>9-13</b>	<b>23-33</b>	<b>17.8</b>	<b>5.3</b>	<b>17.8</b>	<b>5.5</b>
Self-description <sup>c</sup> : Believing in life after death (reverse coded)			1.6	0.7	1.6	0.7
Relationship between science and religion <sup>m</sup> : Conflict; I consider myself to be on the side of science			1.1	0.3	1.1	0.3
Belief <sup>b</sup> : The universe arose by chance			1.9	0.9	1.8	0.9
Belief <sup>b</sup> : In the future, science will be able to explain everything			2.0	0.9	1.9	0.9
Belief <sup>b</sup> : I have never felt a sense of sacredness			2.1	0.9	2.0	0.9
Belief <sup>b</sup> : Whether or not there is a Supreme Being doesn't matter to me			1.9	1.0	1.9	1.0
Belief <sup>b</sup> : What happens in my life is determined by forces larger than myself (reverse coded)			2.3	1.0	2.3	0.9
Belief <sup>b</sup> : It doesn't matter what I believe as long as I lead a moral life			2.5	1.1	2.6	1.1
Belief <sup>b</sup> : While science can provide important information about the physical world, only religion can truly explain existence (reverse coded)			2.0	0.9	2.5	1.1

<sup>a</sup>Personal goal measured on a 4-point scale, (1) "Not important" to (4) "Essential"

<sup>b</sup>Belief measured on a 4-point scale, (1) "Disagree strongly" to (4) "Agree strongly"

<sup>c</sup>Self-description measured on a 3-point scale, (1) "Not at all" to (3) "To a great extent"

<sup>d</sup>Self-rating measured on a 5-point scale, (1) "Lowest 10%" to (5) "Highest 10%"

<sup>e</sup>My spiritual/religious beliefs measured on a 4-point scale, (1) "Disagree strongly" to (4) "Agree strongly"

<sup>f</sup>Experience measured on a 3-point scale, (1) "Not at all" to (3) "Frequently"

<sup>g</sup>Reason for prayer measured on a 3-point scale, (1) "Not at all" to (3) "Frequently"

<sup>h</sup>Activity measured on a 6-point scale, (1) "Not at all" to (6) "Daily"

<sup>i</sup>Close friends measured on a 4-point scale, (1) "None" to (4) "All"

<sup>j</sup>Hours per week measured on an 8-point scale, (1) "None" to (8) "Over 20"

<sup>k</sup>"Do you pray?" measured on a 2-point scale, (1) "No" or (2) "Yes"

<sup>l</sup>Conception of God measured on a 2-point scale, (1) "No" or (2) "Yes"

<sup>m</sup>Relationship between science and religion measured on a 2-point scale, (1) "No" or (2) "Yes"

## RELIGIOUSNESS

Items defining the five measures of religiousness are shown in Table 2. *Religious Commitment* is an “internal” quality reflecting the degree to which the student seeks to follow religious teachings in everyday life, finds religion to be personally helpful, and gains personal strength by trusting in a higher power. In particular, it measures the extent to which “my spiritual/religious beliefs” play a central role in the student’s life. Note that this particular quality can be measured with an extraordinarily high degree

of precision (Alpha = .96 and .97, respectively, for 2004 and 2007 data). Among college juniors, Religious Commitment relates to the students' religious preferences in expected ways: more than 60% of Baptists, Mormons, and "Other Christians" obtain high scores; the lowest percentages of high scorers are found among Unitarian/Universalists (6%), Jews (5%), Buddhists (3%), and students who choose "none" as their religious preference (less than 1%); while Roman Catholics and those who affiliate with mainstream Protestant denominations fall in between (from 24% to 37%). Religious Commitment as measured at the time of initial college entry in 2004 predicts the likelihood that students will engage in prayer ( $r = .67$ ) and discuss religion with students and faculty ( $r = .40$ ) during college.

*Religious Engagement*, an "external" measure which represents the behavioral counterpart to Religious Commitment, includes behaviors such as attending religious services, praying, and reading sacred texts. Again, Baptists, Mormons, and Other Christians have the most high-scoring students (all over 60%), while five different groups have fewer than 10% high scorers: Unitarian/Universalists, Buddhists, Hindus, Jews, and students who chose "none." Religious Engagement as measured at the time of entry to college predicts subsequent college behaviors such as joining a campus religious organization ( $r = .41$ ), taking a religious studies course ( $r = .31$ ), and going on a religious mission trip ( $r = .31$ )

*Religious/Social Conservatism* reflects the student's degree of opposition to such things as casual sex and abortion, praying to receive forgiveness, and the belief that people who don't believe in God will be punished. It also involves a commitment to proselytize and an inclination to see God as a father-figure. (One might also label this factor as "fundamentalism.") Once again, the highest proportions of high scorers are found among Baptists (57%), Other Christians (51%), and Mormons (48%), while three groups—Buddhists, Hindus, Jews—have *no* high

scorers. Freshman scores on Religious/Social Conservatism predict the likelihood that students will read “sacred texts” ( $r = .55$ ) and *not* consume alcohol ( $r = -.22$ ) during college.

*Religious Skepticism* reflects beliefs such as “the universe arose by chance” and “in the future, science will be able to explain everything” and disbelief in the notion of life after death. Fewer than one student in six (16%) obtains a high score on Religious Skepticism. By far the largest proportion of high scorers (66%) occurs among students with no religious preference, followed by Jews (39%), Unitarians/Universalists (37%), and Buddhists (35%). At the other extreme, ten different denominations have fewer than 8% high scorers: Roman Catholics (7%), Methodists (6%), Lutherans (5%), Muslims (5%), Presbyterians (4%), members of the Church of Christ (3%), Mormons (2%), “Other” Christians (2%), Baptists (1%), and 7<sup>th</sup> Day Adventists (0%). Entering freshman scores on Religious Skepticism predict the likelihood that students will choose “none” as their religious preference three years after entering college ( $r = .40$ ) and *not* engage in “religious singing/chanting” during college ( $r = -.50$ ).

*Religious Struggle* reflects the extent to which the student feels unsettled about religious matters, feels distant from God, or has questioned her/his religious beliefs. Only 14% of the juniors obtain high scores on Religious Struggle, and there are only minor differences among the various denominations, with the scores ranging only from 6% (Hindus) to 18% (“none”). Freshman Religious Struggle scores are negatively related to the student’s level of Psychological Well-being as a freshman ( $r = -.27$ ) and positively related to the likelihood that the student will engage in self-reflection ( $r = .13$ ) during college.

Table 3  
*Items Defining 4 Measures of Spiritually-Related Qualities*

	Score Ranges		2004		2007	
	Low	High	Mean	SD	Mean	SD
<b><i>Charitable Involvement (Alphas in 2004 &amp; 2007: .67 and .71)</i></b>	<b>7-10</b>	<b>19-27</b>	<b>14.3</b>	<b>3.4</b>	<b>13.7</b>	<b>3.4</b>
Hours per week <sup>f</sup> : Volunteer work			2.6	1.4	2.3	1.4
Experience <sup>e</sup> : Participated in community food or clothing drives			1.7	0.6	1.6	0.6
Experience <sup>e</sup> : Performed volunteer work			2.1	0.7	1.9	0.7
Experience <sup>e</sup> : Donated money to charity			1.8	0.6	1.9	0.6
Experience <sup>e</sup> : Performed community service as part of a class			1.6	0.7	1.4	0.6
Experience <sup>e</sup> : Helped friends with personal problems			2.5	0.6	2.6	0.5
Personal goal <sup>a</sup> : Participating in a community action program			1.9	0.8	2.1	0.9
<b><i>Ethic Of Caring (Alphas in 2004 &amp; 2007: .79 and .82)</i></b>	<b>8-14</b>	<b>22-31</b>	<b>17.1</b>	<b>4.2</b>	<b>18.6</b>	<b>4.5</b>
Engaged in <sup>g</sup> : Trying to change things that are unfair in the world			1.8	0.6	1.8	0.6
Personal goal <sup>a</sup> : Helping others who are in difficulty			2.8	0.8	3.0	0.8
Personal goal <sup>a</sup> : Reducing pain and suffering in the world			2.6	0.8	2.9	0.8
Personal goal <sup>a</sup> : Helping to promote racial understanding			2.0	0.9	2.3	1.0
Personal goal <sup>a</sup> : Becoming involved in programs to clean up the environment			1.8	0.8	2.2	0.8
Personal goal <sup>a</sup> : Becoming a community leader			2.0	0.9	2.1	0.9
Personal goal <sup>a</sup> : Influencing social values			2.2	0.9	2.5	0.9
Personal goal <sup>a</sup> : Influencing the political structure			1.7	0.8	1.8	0.8
<b><i>Ecumenical Worldview (Alphas in 2004 &amp; 2007: .72 and .70)</i></b>	<b>12-29</b>	<b>38-45</b>	<b>31.9</b>	<b>4.8</b>	<b>33.2</b>	<b>4.5</b>
Self-description <sup>c</sup> : Having an interest in different religious traditions			1.7	0.7	1.8	0.7
Self-description <sup>c</sup> : Believing in the goodness of all people			2.1	0.7	2.2	0.6
Self-description <sup>c</sup> : Feeling a strong connection to all humanity			1.9	0.6	2.0	0.6
Self-rating <sup>d</sup> : Understanding of others			3.8	0.8	3.8	0.8
Engaged in <sup>g</sup> : Accepting others as they are			2.5	0.6	2.6	0.5
Personal goal <sup>a</sup> : Improving my understanding of other countries and cultures			2.3	0.9	2.7	0.9
Personal goal <sup>a</sup> : Improving the human condition			2.6	0.9	2.8	0.9
Belief <sup>b</sup> : All life is interconnected			3.1	0.8	3.2	0.7
Belief <sup>b</sup> : Love is at the root of all the great religions			2.9	1.0	2.9	1.0
Belief <sup>b</sup> : Non-religious people can lead lives that are just as moral as those of religious believers			3.3	0.8	3.5	0.8
Belief <sup>b</sup> : We are all spiritual beings			2.9	0.9	2.9	0.9
Belief <sup>b</sup> : Most people can grow spiritually without being religious			2.7	0.9	3.0	0.9
<b><i>Compassionate Self-Concept (Alphas in 2004 &amp; 2007: .78 and .78)</i></b>	<b>4-13</b>	<b>17-20</b>	<b>15.3</b>	<b>2.5</b>	<b>15.0</b>	<b>2.5</b>
Self-rating <sup>d</sup> : Kindness			4.0	0.7	3.9	0.7
Self-rating <sup>d</sup> : Compassion			3.8	0.8	3.9	0.8
Self-rating <sup>d</sup> : Forgiveness			3.6	0.9	3.6	0.9
Self-rating <sup>d</sup> : Generosity			3.8	0.8	3.7	0.8

<sup>a</sup>Personal goal measured on a 4-point scale, (1) "Not important" to (4) "Essential"

<sup>b</sup>Belief measured on a 4-point scale, (1) "Disagree strongly" to (4) "Agree strongly"

<sup>c</sup>Self-description measured on a 3-point scale, (1) "Not at all" to (3) "To a great extent"

<sup>d</sup>Self-rating measured on a 5-point scale, (1) "Lowest 10%" to (5) "Highest 10%"

<sup>e</sup>Experience measured on a 3-point scale, (1) "Not at all" to (3) "Frequently"

<sup>f</sup>Hours per week measured on an 8-point scale, (1) "None" to (8) "Over 20"

<sup>g</sup>Engagement measured on a 3-point scale, (1) "Not at all" to (3) "To a great extent"

## SPIRITUALLY-RELATED QUALITIES

By “spiritually-related” we mean qualities that highly spiritual persons would be expected to exemplify [Equanimity (above) could also be listed here]. We were able to identify four such qualities, which are shown in Table 3.

*Charitable Involvement* is a behavioral measure that includes activities such as participating in community service, donating money to charity, and helping friends with personal problems. It has only modest reliability (Alpha = .67 and .71 in 2004 and 2007, respectively). Only 12 percent of the students obtain high scores on Charitable Involvement in 2007, and there is only minimal variation by religious preference. The highest scores (20-22% high scorers) are obtained by Hindus, Quakers, and Mormons, while the lowest scores (9-10% high scorers) are obtained by members of the Eastern Orthodox Church and students who choose “none” as their religious preference. This factor predicts whether the student will take a service-learning course ( $r = .22$ ) or participate in leadership training ( $r = .20$ ) during college. It also has the strongest (negative) correlation of all 12 factors ( $r = .20$ ) with the hours per week that the student spends playing computer/video games during college.

*Compassionate Self-Concept* reflects the student’s self-ratings on four qualities: compassion, kindness, generosity, and forgiveness. About one-fourth (23%) of the students obtained high scores in 2007, and the largest concentrations of high scorers are found among 7<sup>th</sup> Day Adventists (40%) and Muslims (36%), the lowest among Unitarian/Universalists (16%) and students with no religious preference (18%). Freshman scores on this measure are positively associated with the likelihood that the student will “help friends with personal problems” ( $r = .14$ ) or participate in volunteer work ( $r = .12$ ) during college.

*Ethic of Caring*, another “internal” measure, assesses the student’s degree of commitment to values such as helping others in difficulty, reducing pain and suffering in the world, and making the world a better place. Thirty-one percent of the students were classified as high scorers in 2007, with the highest-scoring group being Unitarian/Universalists (50%), followed by Buddhists, Mormons, and Muslims (all 43%). The lowest-scoring groups are Lutherans (26%), Methodists (27%), and members of the Eastern Orthodox church (24%). *Ethic of Caring* as measured at the time of college entry predicts college behaviors such as hours per week spent in volunteer work ( $r = .21$ ), charitable giving ( $r = .18$ ), and taking a service learning course ( $r = .15$ ).

*Ecumenical Worldview* indicates the extent to which the student is interested in different religious traditions, seeks to understand other countries and cultures, feels a strong connection to all humanity, and believes that love is at the root of all the great religions. Twenty-two percent of the students in 2007 were classified as high scorers. Religious groups with the largest proportions of high scorers include Unitarian/Universalists (53%), Quakers (50%), and Buddhists (43%); groups with the fewest high scorers include Baptists (13%) and members of the Church of Christ and the Eastern Orthodox church (both 17%). Freshman scores on *Ecumenical Worldview* predict college activities such as socializing with students of different races/ethnicities ( $r = .13$ ), participating in study abroad ( $r = .11$ ), and discussing religion with other students and faculty ( $r = .20$ ).



Table 4

*Intercorrelations Among the 12 Spiritual/Religious Scales*

		2007											
		Spirituality			Religiousness					Related Qualities			
2004		SI	SQ	EQ	RC	RS	RE	R/SC	RSK	CI	EC	EW	CS
2004	Spiritual Identification	(.68)	.55	.48	.78	.25	.72	.61	-.65	.34	.39	.48	.26
	Spiritual Quest	.57	(.52)	.38	.34	.36	.29	.18	-.19	.32	.54	.57	.24
	Equanimity	.55	.43	(.43)	.46	-.02	.41	.34	-.32	.33	.31	.40	.31
	Religious Commitment	.79	.38	.56	(.77)	.08	.81	.80	-.84	.25	.23	.26	.24
	Religious Struggle	.20	.34	.08	.06	(.42)	.11	.03	-.06	.15	.20	.26	-.06
	Religious Engagement	.75	.31	.48	.83	.07	(.73)	.80	-.72	.32	.23	.21	.17
	Religious/Social Conservatism	.63	.20	.43	.80	.04	.80	(.76)	-.79	.19	.12	.04	.14
	Religious Skepticism	-.65	-.20	-.41	-.80	.05	-.72	-.75	(.71)	-.18	-.09	-.14	-.17
	Charitable Involvement	.33	.29	.32	.27	.15	.32	.21	-.17	(.47)	.51	.39	.20
	Ethic of Caring	.42	.60	.32	.28	.24	.22	.17	-.14	.47	(.53)	.61	.28
	Ecumenical Worldview	.48	.63	.49	.32	.24	.22	.12	-.16	.34	.56	(.53)	.33
	Compassionate Self-Concept	.29	.26	.31	.25	-.03	.22	.20	-.19	.24	.30	.36	(.46)

*Note.* Intercorrelations above the diagonal line are based on 2007 data; those below the diagonal line are from 2004 (freshman) data. Diagonal values show 2004-2008 (pre-post) correlations.

Table 4 shows the intercorrelations among the 12 measures separately for 2004 and 2007, as well as the 12 pretest-posttest (2004-2007) correlations as the diagonal value. The patterns of intercorrelations reveal clear-cut clusters suggesting the presence of at least two “second order” factors. The first of these, which might be called “Religiousness,” is a bipolar factor involving

four measures: Religious Commitment, Religious Engagement, and Religious/Social Conservatism define the positive pole, and the negative pole is defined by Religious Skepticism. Given that the median intercorrelation of these four scales is .80, one might question the need for four factors. We believe that the item content of each of these measures is sufficiently different to warrant their use as separate dependent measures, although to avoid excessive multicollinearity we would obviously not recommend that they be used simultaneously in the same multivariate analysis as independent variables. For those investigators who wish to employ a single “Religiousness” measure to represent the cluster, we would recommend Religious Commitment, not only because it has the largest correlations with the other measures, but also because it has the highest reliability.

The second cluster involves three measures: Spiritual Quest, Ethic of Caring, and Ecumenical Worldview. The correlations among these three measures range from .54 to .63, with a median intercorrelation of .60 (2004) and .57 (2007). While we do not believe that any one of these can adequately represent the cluster, additional exploratory item analyses suggest that six items<sup>3</sup> from two of the factors—Ethic of Caring and Ecumenical Worldview—can be combined to create a meaningful measure that we have tentatively labeled as “Global Citizenship” (Alpha = .80 and .76, respectively, in 2004 and 2007). Note that since Global Citizenship includes items that are also included in Ethic of Caring and Ecumenical Worldview, neither of these latter two scales should be used in the same analysis with Global Citizenship.

Two other measures, Spiritual Identification and Equanimity, appear to embrace elements of both clusters. Equanimity has mean correlations with the first (religiousness) cluster of .47 (2004) and .38 (2007), and mean correlations of .40 (2004) and .38 (2007) with the second

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<sup>3</sup> “Trying to change things that are unfair in the world,” “Reducing pain and suffering in the world,” “Feeling a strong connection to all of humanity,” “Improving my understanding of other countries and cultures,” “Improving the human condition,” and “Helping others who are in difficulty.”

cluster. Spiritual Identification has mean correlations of .49 (2004) and .47 (2007) with the second cluster, and mean correlations of .71 (2004) and .69 (2007) with the first (“Religiousness”) cluster. These last two mean correlations, which support the notion that many people tend to equate the term “spiritual” with “religious” (Hodge, 2003), also suggest that Spiritual Identification might be considered as part of the first cluster.

The final two measures, Religious Struggle and Compassionate Self-Concept, which have no correlations larger than  $|.36|$  with the other measures, do not appear to be part of either cluster.

### DEFINING “HIGH” AND “LOW” SCORES

Given that raw scores on scales such as these have no absolute meaning, how does one compare group differences in, say, mean scores? How does one interpret *changes* in scores? A potentially useful way to contend with such interpretive challenges is to define “high” or “low” scores. In this way, it becomes possible to compare groups by determining what proportions of each group obtain high (or low) scores (“How do men and women compare in the proportion who score high on Equanimity?”) Similarly, we can more easily make meaning out of changes in scores over time by observing increases or decreases in the proportion of students who earn high (or low) scores (“How many of our current seniors score high on Spiritual Quest compared to when they were freshmen?”)

Since a student’s score on one of our measures of spirituality, religiousness, and related qualities reflects the *degree* to which the student possesses the quality being measured, defining “high” or “low” scores is, to a certain extent, an arbitrary decision. Nevertheless, an effort has been made to introduce a certain amount of rationality into such definitions by posing the following question: In order to defend the proposition that someone possesses a “high” (or “low”) degree of the particular trait in question, what *pattern* of responses to the entire set of

questions would that person have to show? Let's use the quality of Equanimity to illustrate the procedure that was followed in answering such a question for each measure.

Equanimity is defined by five items, all of which happen to have three possible responses (scored 1, 2, and 3, respectively). The highest possible score (the highest "degree" of Equanimity) is thus  $5 \times 3$  or 15, while the lowest possible score is  $5 \times 1$  or 5. For three of the items, students were asked, "Please indicate the extent to which each of the following describes you," with the following response options: "to a great extent" (score 3), "to some extent" (score 2), and "not at all" (score 1):

*Seeing each day, good or bad, as a gift*

*Being thankful for all that has happened to me*

*Feeling good about the direction in which my life is headed*

To be classified as being "high" in Equanimity, we decided that the student should respond "to a great extent" to at least two of these items, and at least "to some extent" to the other one. This would generate 8 points on the Equanimity scale ( $3+3+2$ ).

The other two items comprising the Equanimity scale were preceded by the following instructions: "During the last year, how often have you...", with the following response options: "frequently (score 3), "occasionally" (score 2), and "not at all" (score 1):

*Been able to find meaning in times of hardship*

*Felt at peace/centered*

A person possessing a high degree of Equanimity, we felt, would not respond "occasionally" to either of these items. Consequently, we decided that, in order to be classified as "high" on Equanimity, the student should answer "frequently" to both items, which would generate 6 points on the Equanimity scale. Thus, the minimum score required to be classified as a "high"

scorer on Equanimity would be  $8 + 6$  or 14. (Note that if a student happened to respond “occasionally” to either of the last two items, then that student would have to respond “to a great extent” on *all three* of the first three items in order to be classified as a “high” scorer.) In other words, to be classified as “high” on Equanimity, a student must score either 15 or 16.

At the other extreme, we decided that a student with a “low” degree of equanimity should answer “not at all” to at least one of the first three items, and no more than “to some extent” on the other two, yielding a maximum of 5 points ( $1+2+2$ ). If a student happened to respond “to a great extent” on any of these three items, then that student would have to answer “not at all” to *both* of the other two in order not to exceed 5 points. On the final two items, we decided that a student with a low degree of equanimity should answer no higher than “occasionally” on both, generating 4 additional points ( $2+2$ ). Answering “frequently” to one of these last two items would require a “not at all” response to the other in order not to exceed the total of 4 points. (A similar “tradeoff” in student responses would be possible, of course, between the first three and the last two items.) Thus, the maximum score to qualify as “low” on equanimity is  $5 + 4$  or 9 points.

A similar reasoning process was followed in choosing “high” and “low” cutting points on each of the eleven other measures.

## DISCUSSION

The scales described in this article would appear to constitute a reasonably comprehensive set of measures for assessing students’ spiritual and religious qualities. We have attempted to make the scales applicable to a wide variety of potential religious and non-religious respondents by minimizing the use of terms such as “faith,” “worship,” and “God” and by avoiding the use of terminology that refers to particular religious belief systems (e.g., “Jesus,”

“Buddha,” “Koran”). Despite these constraints, our measure of Religious Commitment appears to differentiate among various denominations in expected ways.

Beyond such differences in item content and wording, the methods used to develop this battery of measures are unique in several other respects. For example, rather than having all the items that define a particular construct arranged in a single list, the various forms of the CSBV (readers who would like to obtain copies of any of the survey instruments are invited to contact the authors) have employed several short lists of items, with each list comprising a set of relatively heterogeneous items. While the response mode (e.g., “frequently...not at all,” “agree strongly...disagree strongly”) is the same for all items in any given list, it is systematically varied from list to list. As a result, all of our scales, with the single exception of Compassionate Self-concept, are composed of items from two or more of these lists (and even the items in Compassionate Self-concept are not consecutive). By contrast, earlier researchers have typically set out to measure a single construct by developing one list containing a relatively homogeneous set of items and asking subjects to respond to each item using a single response mode. We believe that such an approach tends to yield spuriously high reliabilities, especially when the subjects (1) think they have been able to “figure out” what the construct is, and/or (2) strive to give consistent responses from item to item.

It should also be pointed out that these 12 scales, which were initially developed from the 2003 pilot survey data, were subsequently replicated in two independent surveys conducted in 2004 and 2007. While these three surveys used a similar format—a series of short lists of relatively heterogeneous items—they varied considerably in item content and in the order in which the lists were presented. Moreover, the method of administration also varied: the 2003 pilot survey of college juniors was conducted exclusively by mail (both outgoing and return), the

2004 freshman survey was conducted at most campuses in small summer-fall orientation groups, while the outgoing survey for the spring 2007 follow up was conducted by mail, with students given the option of either completing the hard copy of the survey and returning it by mail (55% chose this option) or filling it out via the web (45% chose this option).

That these scales display a high degree of robustness is suggested by the fact that, despite variations in sampling, survey content, and method of administration, the measures demonstrate remarkably similar reliabilities and intercorrelations across the different surveys. Accordingly, if investigators choose to use most or the entire set of scales in their own research<sup>4</sup>, they can expect similar reliabilities if they employ short lists of items with varying response formats from list to list. On the other hand, if they choose instead to use a more limited number of scales or to include items from a given scale in a single list, they can probably expect higher reliabilities.

While it is difficult to make direct comparisons between our 12 scales and most of the scales developed by earlier investigators because of the substantial differences in survey design just discussed, some of our scales do share enough item content with these earlier efforts to warrant brief mention here. In particular, our Religious Commitment scale appears to have share a good deal of content with Allport & Ross's (1967) Intrinsic Religious Orientation scale, which has been identified as perhaps the most widely-used measure of religiousness in social science research (Burriss, 1999). Religious Commitment also appears to share common elements with several other measures: Williams's (1999) Commitment scale, Seidlitz et al's (2002) Spiritual Transcendence Index, Hall & Edward's (2002) Awareness scale, MacDonald's (2000) Religiousness factor, and Underwood & Terisi's (2002) Daily Spiritual Experience scale.

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<sup>4</sup> We encourage other researchers to use these scales in their own research. We request only that they cite the source of the scales in any documents that are produced.

Our Religious Engagement scale shares some item content with Levin's (1999) Private Religious Practices scale, MacDonald's (2000) "Religiousness" factor, and especially with Idler's (1999) Organizational Religiousness scale. Our Spiritual Identification scale has certain similarities to two other factors identified by MacDonald (2000): "Cognitive Orientation Toward Spirituality" and "Experiential/Phenomenological Dimension of Spirituality." Finally, the negative pole of Genia's (1991) "Spiritual Experience Index" contains items that are similar to some of those in our Religious/Social Conservatism scale, while the positive pole in some respects resembles our Ecumenical Worldview scale.

At least two earlier measures appear to contain elements of our Equanimity scale: Underwood & Terisi's (2002) Daily Spiritual Experience scale and MacDonald's (2000) Existential Well-being scale. This latter scale, incidentally, has a substantial negative correlation ( $r = -.66$ ) with the Neuroticism factor from the NEO-PI-R (Costa & McCrae, 1992).

While measures such as Compassionate Self-concept, Ethic of Caring, and Charitable Involvement do not appear to relate directly to measures of spirituality developed by earlier researchers, they do appear to tap spiritual qualities that may be relevant to the goals of education. Beck (1986), for example, in arguing that spiritual development "should be a focus in the schools" (p. 148), includes "love" and a "caring approach to other people" (p. 153) as essential qualities of a spiritual person. Noddings (1984) similarly argues that the cultivation of caring ought to be a basic goal of education. She also points out (Noddings, 1989) that there are two forms of caring: "Caring-about," which resembles our Ethic of Caring and Compassionate Self-concept scales, and "Caring-for," which resembles our Charitable Involvement scale.

Finally, we would like to point out that our measures of spirituality and "related" measures appear to reflect well the three dimensions of spirituality proposed by Elkins et al



(1988): *Mission in Life* (Spiritual Quest), *Sacredness of Life* (Spiritual Identification), and *Altruism* (Compassionate Self-Concept, Charitable Involvement, Ethic of Caring). Further, in discussing altruism, Elkins et al mention “a sense of...being part of a common humanity,” which appears to relate directly to Ecumenical Worldview.

### SUMMARY

In this paper we have described the development of a comprehensive battery of measures for assessing students’ religious and spiritual qualities. Three national databases, varying in size from 3,700 to 112,232 undergraduates and involving from 46 to 236 higher education institutions, were used in developing and replicating the 12 measures, which include five measures of religiousness (Religious Commitment, Religious Engagement, Religious/Social Conservatism, Religious Skepticism, and Religious Struggle), three measures of spirituality (Spiritual Identification, Spiritual Quest, and Equanimity), and four measures of spiritually-related qualities (Ethic of Caring, Compassionate Self-concept, Charitable Involvement, and Ecumenical Worldview). An additional scale, Global Citizenship, was also developed using selected items from the Ethic of Caring and Ecumenical Worldview scales. The scales were shown to have adequate reliability, and preliminary validity data were promising. All of the religious measures except Religious Struggle were found to have high correlations with each other and with Spiritual Identification; intercorrelations among the other measures ranged from low to moderate.

Evidence of concurrent validity is provided by cross-sectional analyses showing that the 12 scales differentiate in meaningful ways among students with different religious affiliations. Evidence of predictive validity is provided by preliminary longitudinal analyses showing that

scale scores obtained when students first entered college as freshmen correlate significantly with selected college outcomes as assessed at the end of the junior year.

In short, we believe that these 12 measures can provide student development researchers with some new tools for tracking important aspects of student development that have so far received very little attention in the higher education literature. Ultimately, the use of some of these measures in college impact studies should provide important new insights for practitioners who are working to implement a more holistic approach to enhancing the undergraduate experience.

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