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2017

Validation of the Spiritual Involvement and Beliefs Scale in a College Student Sample

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This is an accepted manuscript in the Journal of Spirituality in Mental Health, the version of record can be found at <https://doi.org/10.1080/19349637.2017.1360169>.



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Abstract

This study aimed to examine the psychometric properties of the Spiritual Involvement and Beliefs Scale among college students. Two hundred forty-three undergraduate and graduate students participated in this study from a southeastern public research one university in the U.S. The scale yields good psychometric results in terms of internal consistency, split-half reliability, convergent validity, and discriminant validity. We discussed the scale's potential role of serving as an initial assessment tool for spiritually related issues within the college student population.

Keywords: spirituality, religion, assessment, college students, psychometric property

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The years that a student studies at a college are considered to be among the most formative (Ma, 2003). At this stage of development, a young person begins to function apart from his/her parents and ventures into a multiculturally complex and globally complicated society. Such an event may trigger deep and existentially-charged questions related to safety, meaning and purpose (Astin, Astin & Lindholm, 2011; Brown & Parrish, 2011). For college students moving from adolescence into young adulthood, the question of how spirituality and religion serves as a developmental pathway deserves careful attention (Levenson, Aldwin, & D'Mello, 2005). Spirituality represents a salient feature within the experience of many college students (Bryant & Astin, 2008; Johnson & Hayes, 2003). As well, many college students report an increased interest in holistic development in the spiritual and religious arenas (Braskamp, 2007). Considerable evidence suggests that a growing number of college students today are engaged in diverse forms of spiritual practice to search for meaning and purpose (Dalton, Eberhardt, Bracken, & Echols, 2006).

Spirituality is a multi-faceted concept and no generally agreed upon definition for spirituality exists among theorists or practitioners. However, various definitions of spirituality have been proposed (Elkins, Hedstrom, Hughes, Leaf, & Saunders, 1988; Hill et al., 2000). According to Elkins et al., (1988. p.10), spirituality is defined as "... a way of being and experiencing that comes about through awareness of a transcendent dimension and that is characterized by certain identifiable values in regard to self, others, nature, life and whatever one considers to be the Ultimate." The functions of spirituality include meaning making, intimacy, personal growth, and anxiety reduction. Spirituality also represents the means by which

individuals search out and experience that which is at the core of spirituality, the sacred (Pargament, Ano, & Wachholtz, 2005).

Spirituality may serve as a source of meaning in the midst of pain or it may contribute to narrowness, rigidity, or feelings of alienation (Ellison, & Lee, 2010; Exline & Rose, 2005; Pargament, 2007). Integrated expressions of spiritual involvement and belief tend to be associated with a number of benefits relating to mental wellness and more adaptive behavioral patterns. Yonker, Schnelrauch, and DeHaan (2012) conducted a meta-analysis of spirituality studies implemented during the past 20 years, and found moderate positive relationships between spirituality and both self-esteem and general wellbeing among emerging adults and adolescents. Other research findings link spiritual involvement to fewer instances of misconduct that result in academic suspension or probation in college (Walker & Dixon, 2002). Conversely, maladaptive forms of spirituality can hinder flourishing. Some expressions of spirituality may give rise to compulsive ritualistic behavior, intensify guilt feelings, or magnify delusional ideation (Miller & Kelley, 2005). Pargament (2007) noted that common presenting problems such as depression, anxiety, and addiction can be induced by spiritual and religious struggles such as feelings of alienation from God and spiritual inflexibility (Pargament, 2007).

Integrating spirituality assessment within the counseling process at college campuses is pivotal from the standpoint of multicultural consideration (Cashwell and Watts, 2010). The Association for Spiritual, Ethical, and Religious Values in Counseling (ASERVIC) highlights the need for the inclusion of spiritual and religious assessment within intake interviews (ASERVIC, n.d.). Helping professionals should ascertain information about the extent to which a student's spirituality may serve as a healing resource or as a contributing factor to heightened psychological distress. The ASERVIC recommendations stress that a helping professional will

strive to understand a client's spiritual and/or religious perspectives for the purposes of case conceptualization, diagnosis, and treatment (ASERVIC, n.d.). The recommendations also underscore competencies for addressing spiritual and religious issues in counseling. Such competencies are characterized as serving to, "recognize diversity and embrace a cross-cultural approach in support of the worth, dignity, potential, and uniqueness of people within their social and cultural contexts" (ASERVIC, n.d.). Importantly, , the code of ethics of the American Counseling Association (ACA) emphasizes the ethical mandate to account for diversity issues in assessment (American Counseling Association, 2014).

In view of the multicultural and ethical considerations related to clients' spirituality per se, as well as the diversity of spiritual beliefs and practices reported in the college population (Smietana, 2013), assessing college students' spirituality in an adequate and efficient manner represents an important task for college-based helping professionals. Assessing the spirituality of college students who seek out counseling serves not only to shed light on clients' salient spiritual beliefs and practices, but to measure the impact of these variables on psychosocial development (Astin et al., 2011). A counseling professional may not be able to address a college student's needs holistically when benefits and struggles associated with spirituality are overlooked. Conversely, when these issues are identified they can be incorporated fruitfully into the counseling process.(Brown & Parrish, 2011).

The staff of university counseling centers play an important role in assisting students to explore spiritually-relevant questions when such questions impact psychological wellbeing (Brown & Parrish, 2011). While the counseling profession had responded in some degree to clients' spiritual needs (Cashwell & Young, 2004), research has indicated that counselors and trainees, though expressing high levels of interest in competency training, do not feel well

prepared to assist clients in identifying or addressing their spiritual needs (Chou & Bermender, 2011; Miller & Thoresen, 2003).

A number of barriers impede the assessment of spirituality in college settings. First, helping professionals may lack necessary skills and training in spirituality assessment (Vieten et al., 2013). Second, some measures of spirituality used to assess this construct equate spirituality with traditional religious practices and beliefs. Thus, instrument items often contain the assumption – either explicitly or implicitly – that respondents adhere to a monotheistic belief system (Hatch, Burg, Naberhaus, & Hellmich, 1998; Moberg, 2002). Furthermore, in most assessment tools, no distinction is made between an individual's spiritual beliefs and their spiritual engagement or behavior (Astin et al., 2011). Finally, some measures of spirituality, though comprehensive, may not be easily or time-efficiently administered during the assessment process.

To date, the College Students' Beliefs and Values scale (CSBV; Astin et al., 2011) is probably the most comprehensive spirituality measure for college students. This measure covers three primary factors (spirituality, religiousness, and spiritual-related qualities), and each primary factor consists of several sub-factors. For example, the domain of spirituality includes spiritual identification, spiritual quest, and equanimity. The religiousness domain includes content related to religious commitment, religious struggle, religious engagement, religious or social conservation, and religious skepticism. In total, the CSBV is made up of 175 survey items. Despite the comprehensiveness of the CSBV, the length of time required to complete it presents challenges within the counseling assessment process, especially during an intake session.

Validating a spirituality measure for college students that is comprehensive and concise is important considering the significance of integrating spirituality assessment and addressing

spiritual issues within the therapeutic setting (Saunders, Miller, & Bright, 2010). Although many instruments have been developed and validated to measure spirituality and religiousness (Gorsuch & Miller, 1999; Hill, 2005; Hill & Pargament, 2003), few measures efficiently capture such a richly textured picture of a client's spirituality as does the Spiritual Involvement and Beliefs Scale (SIBS; Hatch et al., 1998).

The SIBS is a 26-item scale aimed at measuring spiritual beliefs and engagement. According to Hatch and colleagues (1998), the purpose for creating the SIBS was to construct an instrument for assessing spirituality that was more comprehensive and widely applicable than other measures used in the field (Hatch et al., 1998). The SIBS includes four factors. Factor 1 (External/Ritual) is made up of items which address belief in a greater external spiritual power, as well as spiritual rituals and activities in a respondent's life. Factor 2 (Internal/Fluid) contains items that assess for internal spiritual beliefs as well as spiritual growth and progression. Factor 3 (Existential/Meditative) is composed of items relevant to existential issues and meditation practices. Finally, items within Factor 4 (Humility/Personal Application) pertain to humility and the extent to which spiritual values influence daily life choices. The SIBS was designed to be germane across a wide range of religious traditions, to assess spiritual actions as well as beliefs, to address key components of spirituality not assessed in other available brief measures, and to avoid cultural-religious bias in terminology (Hatch et al., 1998).

Although prior research establishes acceptable psychometric properties for the SIBS, Hatch et al. (1998) emphasized that more testing would be needed to evaluate the utility of the instrument. Limitations of the original scale development study and subsequent studies warrant further validation. For example, the sample sizes of the original scale development study and a follow-up validation study (Mystakidou, Tsilka, Parpa, Smyrnioti, & Vlahos, 2007) were

relatively small with only 83 and 82 participants in each study. We believe a proper psychometric evaluation of the SIBS should be conducted using a larger sample size. According to Velicer and Fava (1998), including at least 10 subjects per scale item is a good standard to follow. Because the SIBS contains 26 items, the sample sizes in the above-mentioned studies were deemed to be low. Additionally, the subject populations utilized during the SIBS development study and subsequent studies have been recruited largely within medical settings. Such populations include women who presented with alcohol and drug addiction (Arevalo, Prado, & Amaro, 2008), individuals who are HIV positive (Litwinczuk & Groh, 2007), and advanced cancer patients (Mystakidou et al., 2007). To the best of our knowledge, this instrument has not been validated among college students, although it has been used with collegiate populations (e.g., Maltby & Day, 2001; Pashak & Laughter, 2012).

The present study aimed to investigate the psychometric properties of the SIBS using a relatively large and representative sample of college students. The research question guiding the current study is: What are the psychometric properties of the SIBS among college students in terms of the scale's reliability and validity?

Method

Participants

The participants were undergraduate and graduate students recruited from a southeastern public research one university in the U.S. The initial study sample consisted of 263 respondents. After removing unfinished surveys, 243 participants were ultimately retained (79% undergraduate students, 21% graduate students). Respondents indicated their ethnicity to be 70.8% Caucasian, 15.2% Hispanic, 8.2% African American, 4.5% Asian, 0.4% Native American, and 0.8% non-responding. Of the respondents, 56.4 % were female, 42% were male,

and 1.6% of participants did not report their gender. The mean age of respondents was 21.7 years (SD = 3.55).

The participants reported their confessional affiliations as follows: 35.8% Protestant, 35.8% Catholic, 6.6% Agnostic, 6.2% Atheist, 6.2% Jewish, 1.2% Eastern Orthodox, 0.8% Hindu, 0.4% Muslim, 0.4% Buddhist, 0.8% non-responding, and 5.8% Other. For confessional affiliation, “Other” includes those participants who simply selected “Other” (n = 11) or self-described as “Spiritual” (n = 3). “Protestant” includes those participants who simply selected “Protestant” (n = 46) or self-identified as “Christian” (n = 15), “Baptist” (n = 11), “Non-denominational Christian” (n = 6), “Methodist” (n = 2), “Presbyterian” (n = 2), “Anglican” (n = 2), “Lutheran” (n = 1), “Episcopalian” (n = 1), and “Reformed Protestant” (n = 1).

Respondents also answered survey items regarding the frequency of religious service attendance, prayer, and meditation. For religious service attendance, endorsement options included “more than once a week” (n = 13), “once a week” (n = 36), “a few times a month” (n = 33), “a few times a year” (n = 76), “once a year” (n = 38), and “not at all” (n = 44). Please see Table 4 for further details.

Procedure

The participants in this study included students from course sections in several departments of the university (e.g., Accounting, Educational Psychology and Learning Systems, Art Education, Religion, Biological Science, Civil and Environmental Engineering, and Hospitality). The second author contacted faculty members from these departments, and interested faculty members posted a survey link to their students’ Blackboard course sites. As a participation incentive, all respondents were entered into a raffle for two \$25 gift cards. Course

instructors in the Department of Accounting offered extra credit to students who opted to participate.

Students accessed the study link, were presented with information about the study, and gave their informed consent. Once subjects had agreed to participate in the study, they completed a survey containing four scales: the Attitudes to Disability Scale, ADS-D (G) (Power & Green, 2010), the Disability Social Relationship Scale, DRS (Grand, Bernier, & Strohmer, 1982), the Spiritual Involvement and Beliefs Scale, SIBS (Hatch et al., 1998), and the Intrinsic Spirituality Scale, ISS (Hodge, 2003). These scales were used as part of the second author's Master's thesis study protocol. For the purpose of this secondary data analysis, we relied on responses to only the SIBS and ISS. After completing these instruments, participants provided information respecting their age, gender, ethnicity, religious background, and frequency of religious service attendance. Of note,, three items embedded in the SIBS elicit information related to frequencies of prayer and meditation in the past week and number of spiritual activities in the past month.

The university's Human Subjects Committee approved all the research procedures of this study.

Instruments

The Spiritual Involvement and Beliefs Scale (SIBS; Hatch et al., 1998) is a 26-item scale employed to obtain ratings of spiritually salient activities and convictions. The SIBS can be utilized across diverse religious traditions, and among atheists and agnostics. Items are endorsed on a 5-point Likert scale ranging from “strongly agree”/“always” to “strongly disagree”/“never”. In the original research on the psychometric features of the SIBS, a clear four-factor structure existed. Identified factors of the SIBS included: (1) External/Ritual, (2)

Internal/Fluid, (3) Existential/Meditative, and (4) Humility/Personal Application. (Hatch et al., 1998). The coefficient alphas for each of these four factors were 0.98, 0.74, 0.70, and 0.51, respectively. The coefficient alphas reported by Hatch et al. (1998) represent the degree to which each factor captures a particular dimension of “spirituality” taken as a whole. Respectively, the test-retest reliability of each factor over seven to nine months was 0.91, 0.88, 0.88, and 0.64. In terms of convergent validity, the SIBS displayed a significant, positive correlation ($r = .80$) with the Spiritual Well-Being Scale (SWBS; Paloutzian & Ellison, 1982).

The Intrinsic Spirituality Scale (ISS; Hodge, 2003) is a 6-item instrument used to assess the degree to which spirituality acts as a “master motive” in the life of a person. In developing the ISS, Hodge (2003) relied on an older measure of intrinsic spirituality authored by Allport and Ross (1967). The ISS utilizes a phrase completion format to calculate intrinsically motivated spirituality both within and beyond traditional religious settings. The ISS is well-suited for both theistic and nontheistic respondents. Items are answered along an 11-point scale (e.g., “My spiritual beliefs affect: (0) no aspect of my life and (10) absolutely every aspect of my life”). Hodge (2003) reported evidence supporting both the validity and reliability for the ISS. For example, the mean validity coefficient among the six items of the ISS was 1.74 times greater than the measurement error, suggesting reasonable construct validity. Furthermore, the mean reliability coefficient was reported to be .80, indicating good reliability. Cronbach’s alpha measure yielded an ISS internal consistency coefficient of .96.

Analysis

To examine the psychometric properties of the SIBS in terms of reliability and validity among college students, a number of analysis strategies were employed. To examine the reliability of the SIBS, a factor analysis served to examine the Cronbach’s alpha levels of the

SIBS and its subscales. We examined the factor structures which emerged from the current study and compared them with those in the original scale development study. We also established the split-half reliability of the SIBS for sample respondents in the current study. To assess convergent validity, a Pearson correlation was conducted between the SIBS and the ISS as both scales serve to measure aspects of intrinsic spirituality. Finally, to test the instrument's discriminant validity, a series of ANOVA tests were used to compare the means of SIBS scores among participants who reported various frequencies of spiritual activities such as prayer, meditation, spiritual activity attendance, and religious service attendance.

Results

Reliability

Internal consistency (Alpha level). The Kaiser-Meyer-Olkin measure was calculated to be .909, and the Bartlett's test of sphericity was significant ($\chi^2 = 3231.148$, $p = .000$), demonstrating that the correlation matrix was not identical. These results indicate that the sample size was sufficient and factor analysis was appropriate (Pett, Lackey, & Sullivan, 2003).

A factor analysis served to explore the underlying constructs for SIBS items among a college student sample. We selected varimax rotation as our method of factor analysis considering the low correlations among latent factors, which ranged from .005 to .253 (Pett et al., 2003). We selected an orthogonal rotation procedure due to the fact that the solution for oblique rotation was similar to that of orthogonal rotation. Orthogonal rotation is preferable to oblique rotation when oblique rotation does not contribute information over and above orthogonal rotation techniques (Pett et al., 2003).

The orthogonal factor analysis produced a five-factor structure, representing similar but somewhat divergent results in comparison to the original SIBS development study. All five

factors had an eigenvalue of at least greater than one. The five factors accounted for approximately 60% of the total variance observed (see Table 1). Among participants, the mean SIBS score was 85.79, with a standard deviation of 15.26. The scale demonstrated good skewness and kurtosis: .079 and -.351, respectively. The five factors seem to capture unique dimensions of spirituality:

Factor 1 – Spiritual Relatedness and Satisfaction consisted of 12 items capturing overarching spiritual themes such as belief in/reliance on a greater power (1, 2, 3, 4, 7, 8, 9, 10), and spiritual fulfillment (5, 6, 11, 12). Item 12 (“Spiritual activities have not helped me become closer to other people”) loaded high both on factor 1 and factor 4. Thus, the item was included on both factors. Factor 1 accounted for 30.85% of the total variance explained in the sample.

Factor 2 – Sense of Meaning and Purpose/Practice of Humility included six items relating to existential themes such as meaning, purpose, and gratitude (16, 17, 18), and the consistency with which humility is practiced by means of confessing wrongdoing and seeking forgiveness (13, 14, 15). Factor 2 accounted for 7.92% of the total variance explained in the sample.

Factor 3 – Spiritual Practice and Quest included five items (19, 20, 21, 22, 23) dealing with meditation and examining the extent to which spiritual activities assist the respondent in growing closer to inner self and identity. The item (23) “During the last week, I prayed... (0-10 or more times)” loaded high both on the first and the third factors. However, it made more sense to place this item in the third factor. Factor 3 accounted for 7.66% of the total variance explained in the sample.

Factor 4 – Spiritually-grounded Solidarity consisted of two items (12, 24) assessing the degree to which the respondent feels mutually united to others based on his/her spiritual beliefs

and practices. The items are negatively worded so that disagreement with items indicates a high level of spirituality. Factor 4 accounted for 6.70% of the total variance explained in the sample.

Factor 5 – Openness to New Insight consisted of two items (25, 26) that measure the respondent's receptivity to new points of view about reality and his/her spiritual beliefs. The items are negatively worded so that disagreement with items indicates a high level of spirituality. Factor 5 accounted for 6.61% of the total variance explained in the sample. See Table 1 for details.

<Insert Table 1 about here>

Factor correlations and descriptive statistics for the five factors were also calculated. See Table 2 for details. The Cronbach's alpha level of the SIBS in the present study was .91.

<Insert Table 2 about here>

Split half reliability. Subsequent to calculating internal consistency (.91), the split-half reliability of SIBS was measured through the Spearman Brown Coefficient. The test yielded a value of .90, indicating a high level of reliability.

Validity

Convergent validity. To test for convergent validity, we assessed the relationship between SIBS and ISS scores by means of a Pearson product-moment correlation analysis. A high positive correlation was observed between the two sets of scores, $r = .886$, $p \leq .001$. In addition, strong correlations appeared between scores for individual SIBS items and the total scores for the SIBS and the ISS, though a few correlations were low (e.g., item-total correlations for SIBS items 13, 14, and 25). See Table 3 for details.

<Insert Table 3 about here>

Discriminant validity. To examine the discriminant validity of the SIBS, we conducted ANOVA tests to examine distinctions between participants' total SIBS scores based on frequency of engagement in various spiritual activities. The assumptions of ANOVA tests (i.e. homogeneity of variance, normality, and independence of cases) were tested and met. For example, the Levene tests of homogeneity of variance for the ANOVA tests were non-significant, indicating a homogeneity of variance. A series of ANOVA analyses were significant among individuals who endorsed distinctive frequencies of participation in spiritual activities (i.e. number of times an individual prayed and meditated in the past week, number of spiritual activities attended in the past month, and frequency of religious service attendance). Participants who reported praying and meditating 10 times or more in the past week had the highest SIBS mean scores ($M = 109.00$ and $M = 112.50$, respectively), while individuals who reported no practice of prayer or meditation during the past week had the lowest SIBS mean scores ($M = 74.10$ and $M = 82.69$, respectively). Furthermore, individuals who reported attending more than 11-15 spiritual events in the past month had the highest SIBS mean score ($M = 111.25$), while individuals who reported attending no spiritual events during the past month obtained the lowest mean score ($M = 77.88$). Additionally, an ANOVA analysis was significant among individuals with different patterns of religious service attendance, $F(5, 234) = 49.49$, $p \leq .001$. Participants who reported attending services “more than once a week” had the highest SIBS mean score ($M = 107.92$) while participants who reported that they did not attend religious services at all had the lowest SIBS mean score ($M = 70.50$). Based on these findings, the SIBS measure demonstrates high discriminant ability among individuals who reported different frequencies of participation in spiritual activities. See Table 4 for details.

<Insert Table 4 about here>

Discussion

The current study aimed to evaluate the reliability and validity of the SIBS among a college student sample. The SIBS scale demonstrated good and acceptable reliability in relation to its alpha levels for the entire scale and its subscales. Furthermore, the scale revealed good split-half reliability. In terms of its validity, the SIBS showed strong convergent validity in its high correlation with the ISS. The scale also demonstrated good discriminant validity in distinguishing various groups of participants who reported distinctive patterns of engagement in spiritual activities.

In the original SIBS validation study, Hatch et al. (1998) described a four-factor structure that captured a kind of spirituality typology: (1) External/Ritual, (2) Internal/Fluid, (3) Existential/Meditative, and (4) Humility/Personal Application. In the current factor analysis, we discovered a five-factor pattern of responses among college students: (1) Spiritual Relatedness and Satisfaction, (2) Sense of Meaning and Purpose and Practice of Humility, (3) Spiritual Practice and Quest, (4) Spiritually-grounded Solidarity, (5) Openness to New Insight. Results of the current study echo findings in the original SIBS development study and CSBV development research (Astin et al., 2011). For example, items dealing with meditative practices all loaded onto a single factor in both the original SIBS development study and the current study (i.e., Existential/Meditative, Spiritual Practice and Quest). In terms of CSBV content, Factor 2 in the current study (Sense of Meaning and Purpose/Practice of Humility) seems to align with the Equanimity subscale in the CSBV. Both sets of items assess for whether an individual is able to identify meaning in times of difficulty and find direction in his/her life (Astin et al., 2011). Interestingly, Factor 5 in the current study (Openness to New Insight) seems to be related inversely to the Religious Skepticism subscale of the CSBV in some respects. For example, both

the SIBS' Openness to New Insight factor and the Religious Skepticism subscale elicit responses regarding participants' attitudes concerning the capabilities of science. In the present study, high spirituality on Factor 5 (items are reverse coded) denotes a certain openness to mystery about the nature of reality.

The difference in factor structure between the initial study (Hatch et al., 1998) and the current validation study may be attributable to several factors such as different sample characteristics and sample size. The initial development study relied on data collected from medical patients/medical professionals, while the current study examined data collected from college students. The sample size in the current study was much larger and perhaps more adequate based upon the number of items contained in the SIBS (Velicer & Fava, 1998).

In general, high scores on SIBS factors (i.e., reflecting secure relatedness to a greater spiritual power and others, meaning and purpose in life) may indicate spiritual wellbeing, while low scores may indicate the absence of interest in spiritual matters and/or the presence of spiritual/religious concerns. Bryant & Astin (2008) found the occurrence of spiritual struggle to be common among university students. Spiritual struggles have been linked to higher levels of depression and thoughts of self-harm (Bjorck & Thurman, 2007; Edmondson, Park, Chaudoir, & Wortmann, 2008), lower self-esteem, heightened psychological distress, diminished physical health, and more frequent negative affect states (Wortmann, Park, & Edmondson, 2012). However, spiritual struggle can also align itself with a number of positive outcomes such as greater tolerance for other belief systems and higher resiliency (Wortmann et al., 2012).

Thus, a helping professional who works with a college student may employ SIBS assessment information to (1) ascertain how central a role a client's spiritual beliefs/involvement (or absence of spiritual beliefs/involvement) plays in relation to the client's worldview and (2)

evaluate whether a student's spirituality serves as an orienting and healing resource or as a contributing factor to psychological distress. If used appropriately, the SIBS can aid helping professionals in intake and follow-up assessments in spiritual issues.

One particularly interesting finding of the current study relates to the discriminant validity results discussed above. We found that spiritual beliefs were associated with the frequency of respondents' engagement in various spiritual activities (i.e., prayer, meditation, attendance of spiritual events, and attendance of religious services). As Beckwith and Morrow (2005) point out, spirituality can be incarnated within a wide variety of practices and/or situations without being confined to a single institution or belief system. Spiritual activities alluded to in the SIBS include both private spiritual practices (i.e., prayer, meditation) and institutional/communal spiritual practices (i.e., attendance of spiritual events, attendance of religious services). Although spirituality and religion have been defined distinctly (Pargament & Mahoney, 2002), the two constructs are nonetheless closely related. Pargament (1999) suggested that, "Virtually every major religious institution is quite concerned with spiritual matters" and that "every form of religious or spiritual expression occurs in a social context" (p. 9). Our finding that attendance of religious services correlates significantly with participants' overall spirituality makes sense in light of Hill and Pargament's (2003) characterization of "spirituality" and "religiosity" as related conceptual categories, and Pargament's assertion that spirituality represents the core function of religiousness (Zinnbauer & Pargament, 2005, p. 37). While Zinnbauer observed that spirituality can be lived outside of the context of a religious community, spirituality can also be developed and strengthened with religious rituals and practices (Zinnbauer & Pargament, 2005).

Limitations

A number of limitations to the study should be noted. First, although the present study investigated certain psychometric properties of the SIBS using a relatively large and representative college sample (US Census Bureau, 2011), there was little diversity in the religious composition of our sample. Approximately 73% of the sample self-identified as Christian, while minority religious groups comprised only about 7.4% of our sample (i.e., 6.2% Jewish, 0.8% Hindu, 0.4% Muslim, and 0.4% Buddhist). In addition, all the participants were from one university in the southeast of the U.S., where the spiritual/religious climate might be different from other geographical locations. Second, while split-half reliability was measured with the Spearman Brown coefficient, no test-retest reliability data were gathered, leaving one method of psychometric evaluation unaccomplished. Third, males were somewhat underrepresented (42% male, 56% female, 2% non-reporting). Finally, the SIBS is a self-report measure which leaves open the possibility that participants might provide answers in a socially favorable manner. Thus, the accuracy of the results presented above depended upon the objectiveness of the participants' responses.

Implications

The results of this study have implications both with regard to future research and in relation to observations about the clinical utility of the SIBS. While our findings support the SIBS as a psychometrically sound instrument for the assessment of spirituality, future research should be conducted to further examine the SIBS' psychometric properties in relation to more religiously diverse college samples. Future research may wish to validate the SIBS with samples of persons identifying as Muslim or Buddhist, for example. Another implication of our findings relates to specific SIBS items and subscales. A few scale items such as 13, 14, and 25 seemed to display low item-total correlations and low correlations with the ISS. Additionally, the last two

factors seemed to demonstrate relatively low alpha levels. Researchers may choose to examine the importance of these items and constructs in future studies. If the items and/or factors prove less crucial while the whole scale remains psychometrically sound, the SIBS scale may be improved by reducing its length.

Based on our results, practitioners may utilize the SIBS to gather information on clients' spiritual involvement and concerns in the context of college counseling centers. The SIBS can serve as a brief instrument for gathering spiritual information about a client during the intake session. Helping professionals can acquire data on the importance a client places on spiritual beliefs and practices, as well as whether spirituality represents a resource and/or source of distress for the client. If the client presents with spiritual/religious concerns, then he/she may be directed to complete a more comprehensive assessment measure such as the CSBV or an instrument specifically devised to assess spiritual and religious struggle (Exline, Pargament, Grubbs, & Yali, 2014). The SIBS can also be used as an indicator of the perception a client has of his/her spiritual resources, and thus provide information from which the therapist can devise strength-based interventions.

In conclusion, findings supporting the reliability and validity of the SIBS have been reproduced in a college population. The SIBS seems to be a promising measure for evaluating the spiritual beliefs and involvement of college students during an intake session and throughout the counseling process. It meets the requirements both of relative thoroughness and concision.

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Table 1

Factor Analysis

Factors and constituent items	Factor Loadings	Eigenvalue/ % variance	Alpha
Factor 1: Spiritual Relatedness and Satisfaction			
1 A spiritual force influences the events in my life	.89	8.02/30.85	.95
2 I have a personal relationship with a power greater than myself	.89		
3 Spiritual activities help me draw closer to a power greater than myself	.87		
4 I believe there is a power greater than myself	.82		
5 Participating in spiritual activities helps me forgive other people	.80		
6 My spiritual life fulfills me in ways that material possessions do not	.76		
7 Some experiences can be understood only through one's spiritual beliefs	.75		
8 Prayers do not really change what happens*	.71		
9 My spiritual beliefs continue to evolve	.69		
10 I solve my problems without using spiritual resources*	.69		
11 A person can be fulfilled without pursuing an active spiritual life*	.60		
12 Spiritual activities have not helped me become closer to other people*	.39		
Factor 2: Sense of Meaning and Purpose/Practice of Humility			
13 When I wrong someone, I make an effort to apologize.	.63	2.06/7.92	.60
14 When I am ashamed of something I have done, I tell someone.	.63		
15 I examine my actions to see if they reflect my values.	.58		
16 I am thankful for all that has happened to me.	.56		
17 I can find meaning in times of hardship.	.49		
18 My life has a purpose.	.48		
Factor 3: Spiritual Practice and Quest			
19 During the last week, I meditated... (0-10 or more times)	.73	1.99/7.66	.71
20 Meditation does not help me feel more in touch with my inner spirit*	.57		
21 Last month, I participated in spiritual activities with at least one other person... (0-15 or more times)	.50		
22 Spiritual activities have not helped me develop my identity*	.42		
23 During the last week, I prayed... (0-10 or more times)	.34		
Factor 4: Spiritually-Grounded Solidarity			
24 I have felt pressured to accept spiritual beliefs that I do not agree with.*	.73	1.74/6.70	.50
12 Spiritual activities have not helped me become closer to other people*	.50		
Factor 5: Openness to New Insights			
25 I probably will not reexamine my spiritual beliefs*	.82	1.72/6.61	.49
26 In the future, science will be able to explain everything*	.59		

**For items that are negatively worded, disagreement would indicate high spiritual involvement/beliefs.

Table 2

Factor Correlation Matrix and Descriptive Statistics

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1	1.00	.16	.18	.25	.22
Factor 2	--	1.00	.09	.02	.01
Factor 3	--	--	1.00	.03	.02
Factor 4	--	--	--	1.00	.07
Factor 5	--	--	--	--	1.00
Range	48	18	23	8	8
Mean	39.72	24.76	13.85	6.59	6.23
SD	10.67	2.63	4.58	1.94	1.94
Skewness	-.23	-.93	1.03	-.36	-.20
Kurtosis	-.49	2.11	.97	-.33	.66

Table 3

Correlations between SIBS Items, SIBS Total Score, SIBS Item Total Correlation, and ISS Total Score

Item number	SIBS Correlations	SIBS Item Total Correlations†	SIBS Alphas if Item Deleted	ISS Correlations
1	.84**	.81**	.90	.81**
2	.84**	.81**	.90	.84**
3	.83**	.81**	.90	.83**
4	.72**	.69**	.91	.69**
5	.79**	.76**	.90	.73**
6	.81**	.79**	.90	.79**
7	.66**	.62**	.91	.64**
8	.78**	.75**	.90	.72**
9	.68**	.64**	.91	.59**
10	.71**	.67**	.91	.69**
11	.72**	.68**	.90	.72**
12	.66**	.61**	.91	.64**
13	.09	.06	.91	.00
14	.15*	.10	.91	.07
15	.24**	.19**	.91	.12
16	.38**	.33**	.91	.24**
17	.18**	.13*	.91	.11
18	.43**	.39**	.91	.35**
19	.36**	.31**	.91	.33**
20	.40**	.34**	.91	.26**
21	.55**	.50**	.91	.54**
22	.61**	.56**	.91	.49**
23	.36**	.29**	.91	.29**
24	.62**	.57**	.91	.50**
25	.16*	.09	.92	.02
26	.38**	.31**	.91	.26**

** Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

Coefficient Alpha = .911

†Item Total Correlation is between the individual item and the total score from all items on the scale except the item that is being correlated.

Table 4

SIBS Mean Scores among Participants with Differing Levels of Spiritual Activity

Spiritual/Religious Activity	N	Mean	SD	ANOVA Significance p-value
Number of religious gatherings attended				
More than once a week	13	107.92	13.18	F(5, 234) = 49.49, p = ≤ .001.
Once a week	36	99.89	10.69	
A few times a month	33	93.70	11.35	
A few times a year	76	85.15	10.70	
Once a year or less	38	76.95	10.65	
Not at all	44	70.50	10.03	
Number of times prayed last week				
≥ 10	20	109.00	8.79	F(4, 237) = 69.14, p = ≤ .001
9-7	14	100.57	11.39	
4-6	38	93.97	10.44	
1-3	70	88.61	9.71	
0	101	74.10	10.91	
Number of times meditated last week				
≥ 10	2	112.50	7.78	F(4, 238) = 9.42, p = ≤ .001.
9-7	8	98.63	17.73	
4-6	15	100.00	13.44	
1-3	54	88.35	16.50	
0	164	82.69	13.44	
Number of spiritual activities with at least one other person last month				
>15	10	104.50	15.79	F(4, 234) = 30.03, p = ≤ .001.
11-15	4	111.25	5.00	
6-10	20	98.75	13.98	
1-5	88	90.42	11.39	
0	121	77.88	12.95	