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Spirituality and Pedagogy: Faculty's Spirituality and Use of Student-Centered Approaches to Undergraduate Teaching

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Recent years have seen increasing interest in issues of meaning, purpose, authenticity, and spirituality in higher education. There are numerous definitions of spirituality, but the key terms and elements constructed by those who have written extensively about spirituality include such aspects as: seeking personal authenticity, genuineness, and wholeness; transcending one's locus of centrality; developing a greater sense of connectedness to self and others through relationships and community; deriving meaning, purpose, and direction in life; being open to exploring a relationship with a higher power that transcends human existence and human knowing; and valuing the sacred (Hill, Pargament, Hood, McCullough, Swyers, Larson, & Zinnbauer, 2000; Love & Talbot, 1999; Zinnbauer, Pargament, & Scott, 1999). While religious values may be connected to these key facets, spirituality may well exist apart from religion altogether in that religion is seen as "organized," "social," and "traditional," whereas spirituality is conceived as "personal," "transcendent," and characterized by qualities of "relatedness" (Zinnbauer, Pargament, & Scott, 1999, p. 901). As one examines these various

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definitions of spirituality, certain terms surface regularly: “transcendence,” “interconnectedness,” “authenticity,” “self-awareness,” and “wholeness.”

Irrespective of the presence or absence of clearly defined linkages between religion and spirituality, to ignore the role of spirituality in personal development and professional behavior is to overlook a potentially powerful avenue through which people construct meaning and knowledge (Tisdell, 2001). Indeed, it is the spiritual component of human beings that gives rise to questions about why we do what we do, pushes us to seek fundamentally better ways of doing it, and propels us to make a difference in the world (Zohar & Marshall, 2004). People’s abilities to access, nurture, and give expression to the spiritual dimension of their lives have also been found to impact how they engage with the world and to foster within them a heightened sense of connectedness that promotes empathy, ethical behavior, civic responsibility, passion, and action for social justice (see, e.g., Astin, Astin, Lindholm, & Bryant, 2005; DeSouza, 2003; Harris & Moran, 1998). Consequently, some conceive of spirituality as an essential aspect of lifelong learning and believe that it should play a significant role in the teaching/learning process (see e.g., Duff, 2003; Lee, 1999; Lewis, 2000; Tatarkowski, 1997). Thus, in designing this study, we expected to identify relationships between faculty’s spirituality and aspects of their teaching practice. If spirituality involves self-awareness and interconnectedness with others, we expect that such personal qualities will play an important role in how spiritual faculty will approach their teaching and their interactions with students.

In thinking about how our values, beliefs, and ways of conceptualizing our relationships with others and the world around us affect our behavior, we were very interested in examining whether faculty who self-report as being spiritual are also more likely to behave in ways that benefit their undergraduate students. For example, if faculty self-identify as spiritual, does it make a difference in how they teach? Are spiritual faculty more other-centered, more caring and, in general, more student-centered? Do their approaches to teaching and working with undergraduate students tend to differ notably from those of their less spiritual colleagues? Using data from a recent national study of college and university faculty, this article examines faculty members’ preferred teaching practices as one aspect of their professional behavior that may reflect the spiritual dimension of their own lives. Emphasis is placed on identifying the correlates of student-centered pedagogy, with a specific focus on the mediating role of self-reported spirituality. The information gleaned can be used both to enhance our understanding of pedagogical practice and to address more comprehensively personal and professional faculty development issues in undergraduate teaching and learning.

PEDAGOGICAL PRACTICE, SPIRITUALITY, AND THE PROFESSORIATE

So-called active learning encompasses a variety of pedagogical techniques and evaluative methods and refers to a wide range of teaching/learning processes that are geared toward placing students at the center of their learning experience (Warren, 1997). Faculty use of student-centered pedagogy—which is designed to promote students' active engagement in the learning process—has been associated with higher grade attainment, enhanced intellectual curiosity, and the development of superior creativity, drive, and leadership skills relative to those traits found in students whose instructors employ more traditional pedagogical methods, such as lecturing (Henson, 2003). The extent to which students engage in work that is personally meaningful and are encouraged to take ownership of their actions has been found to impact both depth of understanding and intrinsic motivation (Pederson & Williams, 2004). In an era characterized by increasing diversity among college students with respect to past educational experiences and learning styles, the merits of incorporating learner-centered approaches to teaching may be especially compelling. While data from recent national surveys of college and university faculty show an increase over time in the use of student-centered pedagogy within the overall faculty population (Lindholm, Szelényi, Hurtado, & Korn, 2005), much remains to be learned about the extent to which faculty employ such pedagogical techniques, which sub-populations within the professoriate are most inclined to use student-centered teaching methods, and why they elect to use such approaches.

Recent work that examined disciplinary differences in normative approaches to teaching and learning showed that women, faculty of color, and younger faculty are more inclined overall than men, White/Caucasian, and older faculty to employ student-centered approaches to teaching (Lindholm & Szelényi, 2006). Findings from that study also showed that faculty in engineering, the physical sciences, and math/statistics are generally less inclined than their counterparts in “softer” disciplines such as education, the arts, and business to adopt student-centered pedagogical practices. Just 10% or less of faculty in the former three fields registered as “high” scorers on Student Centered Pedagogy; in the latter three fields, this figure was 25% or more. Moreover, Lindholm and Szelényi (2006) found that the type of employing institution, in and of itself, has a minimal effect on the use of student-centered teaching methods, although faculty at liberal arts colleges are generally more inclined than their colleagues at comprehensive colleges and universities to adopt teaching and evaluative strategies designed to promote active learning. Not unexpectedly, the study also revealed that faculty who are civic minded and who place high value on students' personal development are more inclined toward student-centered pedagogy.

Proponents of constructivism, a learner-centered educational theory, contend that, “to learn anything, each [student] must construct his or

her own understanding by tying new information to prior experiences” (Henson, 2003, p. 13). A dual focus on both the individual learner and social interaction figures prominently in this approach. Combs (1962) and others, including Kelly (1955) and Ausubel (1968), have argued that student-centered education is essential for healthy development because this approach is most conducive to self-efficacy and positive self-concept. Based on his review of the extant literature on learner-centered education, Henson identified the following “dispositions” as centrally important: (a) education should be experience-based; (b) each individual learner’s unique qualities and dispositions should be considered when planning a curriculum; (c) the learner’s perceptions should shape the curriculum; (d) the learner’s curiosity should be fed and nurtured; (e) learning is best when it involves emotions; and (f) the learning environment should be free of fear.

Implementing student-centered pedagogies means more, however, than simply introducing new teaching methods that portray an increased emphasis on students’ interests, backgrounds, and learning styles. Such pedagogical methods also imply a fundamental shift in the role of teachers, whereby they no longer see themselves solely—or even primarily—as “disseminators of knowledge,” but rather “construe themselves to be facilitators of student learning” (Robertson, 2005, p. 181). The term student- or learner-centeredness, however, appears to suggest that such pedagogies simply transfer the focus from teacher to learner, without acknowledging the continuing active role of teachers in the learning process. To account for the important roles played by both learner and teacher, the methods that are widely accepted in the literature as “student-centered pedagogies” are sometimes referred to “teacher/learner centeredness,” or “systemocentrism,” a theoretical conception highlighted by Robertson (1999). Importantly,

systemocentrism treats both the teacher and the learners as unique persons, not roles, and puts them in interaction. . . . The professors-as-teachers in this perspective attend to these systems and the human experience at their core—that is, they attend to their own experience, to students’ experience, and to the interaction of the two—along with, of course, their fundamental content mastery. (Robertson, 1999, pp. 283–284)

Our main hypothesis in this study is that faculty’s spirituality will play a key role in the way they approach their teaching. This expectation is based primarily on findings from earlier research (Lindholm, Astin, & Astin, 2005) which showed that faculty who self-identify as spiritual are more likely to endorse as “important” several goals for undergraduate education that can be considered to reflect a predisposition for engaging in student-centered approaches to teaching, such as enhancing students’ self-understanding, developing students’ moral character, and helping students develop personal

values. Based on the extant literature, we also hypothesize that, in addition to their values and beliefs (including spirituality), the faculty member's gender, race, and disciplinary affiliation, along with characteristics of the institutions in which he or she works, will differentiate his or her use of student-centered pedagogical approaches.

This study is specifically designed to address the following questions: (a) What are the personal, professional, and organizational correlates of student-centered pedagogy among college and university faculty? (b) To what extent does the self-reported level of spirituality mediate faculty members' use of student-centered pedagogy in undergraduate courses?

METHODOLOGY

The data for this study are drawn from the 2004–2005 triennial national Faculty Survey conducted by UCLA's Higher Education Research Institute (HERI) (Lindholm, Szelényi, Hurtado, & Korn, 2005). Survey items encompass five broad categories of faculty information: demographics, values, work-related activities, institutional perceptions, and affective measures.

In fall 2004, a four-page survey questionnaire was distributed to 172,051 faculty at 511 two- and four-year colleges and universities. After a second-wave follow-up to nonrespondents, 65,124 completed questionnaires were received, constituting a 38% overall response rate. The analyses presented here are based on the replies of 40,670 full-time undergraduate teaching faculty from the 414 colleges and universities that were included in HERI's nationally representative sample of institutions for the 2004–2005 survey administration.¹ The normative population includes 61% men and 31% women. The ethnic/racial distribution is: 89% White/Caucasian; 5% Asian American/Asian; 3% African American/Black; 2% Mexican American/Chicano/a; 2% American Indian/Alaska Native; 2% other Latino/a; 1% Puerto Rican; 1% Native Hawaiian/Pacific Islander; and 3% "other." Faculty respondents were employed at public colleges (28%), nonsectarian colleges (16%), public universities (15%), private universities (15%), and two-year colleges (7%). An additional 8% were employed at Roman Catholic colleges and 13% at "other" religious colleges (primarily mainline Protestant-affiliated, Baptist, or Evangelical).²

¹The normative sample includes institutions that surveyed at least 35% of their full-time faculty in the case of two- and four-year colleges and 25% in the case of universities. This sample of 40,670 full-time faculty is representative of both institutions and faculty at those institutions.

²Percentages of racial/ethnic identity add to more than 100 because survey respondents were permitted to mark more than one racial/ethnic category, as applicable. Percentages for institutional types also sum to more than 100 due to rounding.

We have undertaken two types of analyses: (a) cross-tabulations that provide a descriptive profile of faculty with respect to their teaching approaches and underlying values and (b) stepwise hierarchical regression analyses that enable us to explore how faculty members' individual characteristics, including spirituality, and their institutional contexts relate to their use of student-centered pedagogy. In all analyses, we used weights to correct for nonresponse bias based on gender, rank, and institutional type, thus approximating as closely as possible the results that would have been obtained if all full-time undergraduate teaching faculty within the United States had responded. To keep the degrees of freedom at an appropriate level for purposes of statistical inference, we normalized weights to yield the original sample sizes.

The dependent variable, Student-Centered Pedagogy is a composite measure of eight items included on the 2004–2005 HERI Faculty Survey that asked respondents to indicate on a four-point Likert scale (“all” to “none”) the extent to which they employ selected instructional strategies and evaluation methods in their undergraduate courses. Derived through a rotated varimax factor analytic approach, the scale is specifically comprised of items that query eight instructional and evaluation strategies (cooperative learning, group projects, reflective writing/journaling, student-selected course topics, class discussions, student presentations, student self-evaluations, and student evaluations of each other's work). Cronbach's alpha reliability for the Student-Centered Pedagogy measure is .81. With respect to the scale's construct validity, we find that Student-Centered Pedagogy correlates significantly with faculty's placing high value on student development ($r = .29$) and being employed at a student-centered institution ($r = .09$). On the other hand, we find a significant negative correlation between faculty's use of student-centered pedagogy and their research orientation ($r = -.08$). While contemplation and meditation have been found to affect learning (see, e.g., Hall, 1999; Robinson, 2004) and it would have been interesting to include them in the teaching practices that comprised this scale, the use of secondary analysis of existing data prevented us from doing so.

The key independent variable, Spirituality, was also constructed using rotated varimax factor analysis. It is comprised of three survey items: self-identification as a spiritual person, personal priority placed on seeking opportunities to grow spiritually, and personal value attributed to integrating spirituality into one's life. The Cronbach alpha for this measure is .88. Among the remaining independent variables are demographic characteristics, academic discipline/field, teaching experiences, institutional characteristics, and personal values. A complete list of the variables that were included in the analysis and their coding is provided in the appendix.

To further explore the connections between faculty spirituality and teaching behaviors as reflected on the Student-Centered Pedagogy scale, we

categorized faculty as having scored “high” or “low” on each of these two measures. On the Spirituality measure, a faculty member’s score reflects the degree to which he or she self-identifies as possessing the quality, state, or circumstance being assessed. On the Student-Centered Pedagogy measure, a faculty member’s score reflects the degree to which he or she self-reports as engaging in the particular teaching practice being queried. We developed “high” and “low” scores on both measures based on faculty members’ patterned responses to the items that comprise each scale.

DESCRIPTIVE FINDINGS

Overall, 22% of faculty register as “high” scorers on the Student-Centered Pedagogy measure and 21% are “low” scorers. Not surprisingly, as shown in Table 1, class discussions are the most prevalently used “student-centered” teaching method; eight in 10 faculty report that they engage students in class discussion in “most” or “all” of the courses they teach. For many faculty, cooperative learning, student presentations, and group projects are also practical teaching techniques. Less widely used “student-centered” teaching methods include student evaluations of their own work, reflective writing/journaling, student evaluations of each other’s work, and student-selected course topics.

Table 2 displays the proportions of faculty who score “high” and “low” on Student-Centered Pedagogy and the differential use they make of each of the teaching approaches included in the composite measure. Here, we find dramatic differences in the percentages of “high” and “low” scorers on Student-Centered Pedagogy who employ each of the teaching methods included in the composite measure in “most” or “all” of their courses. For example, nearly all “high” scorers (99%) use discussion in “most” or “all” of their courses, while less than one-third (31%) of “low” scorers report the same. In addition, half or more of those who score “high” on Student-Centered Pedagogy employ all but one of the teaching methods included in the composite measure—student-selected course topics—in “most” or “all” of their courses. In contrast, with the exception of class discussions, fewer than 10% of “low” scorers use any of the pedagogical practices included in the measure in “most” or “all” of their courses.

Turning to the Spirituality measure, we found that over three-quarters (81%) of faculty consider themselves to be a spiritual person; more than two-thirds (69%) say that they seek opportunities to grow spiritually; and just under half (47%) consider it “essential” or “very important” to integrate spirituality into their lives. Based on their responses to the three items, we categorized 43% of faculty as “high” scorers on spirituality and 15% as “low” scorers. While at first glance such a finding appears to be surprising,

TABLE 1
STUDENT-CENTERED PEDAGOGY: FACULTY USE OF VARIOUS METHODS IN “MOST” OR “ALL” COURSES

<i>Student-Centered Indicator</i>	<i>Percent</i>
Class discussions	81.7
Cooperative learning (small groups)	47.8
Student presentations	44.7
Group projects	33.3
Student evaluations of their own work	19.4
Reflective writing/journaling	18.0
Student evaluations of each other's work	16.0
Student-selected course topics	15.0

TABLE 2
USE OF VARIOUS TEACHING METHODS AMONG “HIGH” AND “LOW” SCORERS ON STUDENT-CENTERED PEDAGOGY
(in percentages)¹

<i>Student-Centered Indicator</i>	<i>Student-Centered Pedagogy</i>		<i>Difference</i>
	<i>High Scorers</i>	<i>Low Scorers</i>	
Class discussions	99.0	31.2	+67.8
Cooperative learning	91.3	4.2	+87.1
Student presentations	90.1	8.3	+81.8
Group projects	74.3	2.0	+72.3
Student self evaluation	62.4	0.7	+61.7
Student evaluation of each other's work	55.0	0.2	+54.8
Reflective writing/journaling	53.6	1.1	+52.5
Student-selected course topics	44.6	0.8	+43.8

¹Percent who use selected method in “all” or “most” of their courses.

given faculty's strong stance on empirical evidence and observation, the fact remains that the sample of faculty responding to the survey is a non-biased representation of teaching faculty at U.S. colleges and universities.

Looking specifically at the pedagogical practices of “high” and “low” scorers on Spirituality, we find that just over one-quarter (28%) of those who score “high” on Spirituality are also “high” scorers on Student-Centered

Pedagogy. In contrast, just 12% of “low” Spirituality scorers are “high” scorers on Student-Centered Pedagogy. Those who score “high” on the Spirituality measure also tend to use *all* types of student-centered approaches more frequently than their “low” scoring colleagues. The greatest pedagogical variance between “high” and “low” Spirituality scorers is evident in the percentages who use cooperative learning in “most” or “all” of their courses (54% of “high” Spirituality scorers versus 35% of “low” scorers) (Table 3).

Irrespective of their Spirituality score, women are more likely than men to score “high” on Student-Centered Pedagogy. Not unexpectedly, however, both women and men who are “high” scorers on Spirituality are notably more inclined than their “low”-scoring, same-sex colleagues to score “high” on Student-Centered Pedagogy. For example, 36% of women and 20% of men who score “high” on Spirituality also score “high” on Student-Centered Pedagogy. By comparison, just 19% of women and 10% of men who score “low” on Spirituality score “high” on Student-Centered Pedagogy.

We also compared the use of Student-Centered Pedagogy for those scoring “high” and “low” on Spirituality in each of 14 disciplinary affiliations and in eight types of colleges and universities. Disciplinary differences in faculty members’ use of Student-Centered Pedagogy based on their spiritual self-identification are shown in Table 4. Variations in the percentages of “high” scorers on Student-Centered Pedagogy based on their Spirituality score are most pronounced in English (46% of “high” scorers on Spirituality versus 27% of “low” scorers scored “high” on Student-Centered Pedagogy) and health science (29% of “high” scorers versus 9% of “low” scorers on Spirituality scored “high” on Student-Centered Pedagogy). In contrast, there was a difference of only five percentage points or less in the proportions of “high” and “low” scorers on Spirituality who scored “high” on Student-Centered Pedagogy in the biological sciences, the physical sciences, business, and math/statistics. Only in engineering did more “low” than “high” scoring faculty on Spirituality score “high” on Student-Centered Pedagogy (12% versus 11%).

Looking at type of employing institution (Table 5), we find that the greatest difference in “high” use of Student-Centered Pedagogy based on “high” or “low” Spirituality score status is evident among faculty at private two-year colleges, private universities, Catholic colleges, and public four-year colleges (17–19 percentage point differences for each). Markedly smaller differences (5–6 percentage points) were apparent among faculty at public universities and public two-year colleges.

REGRESSION ANALYSIS

To explore the role of faculty’s spirituality in their teaching in greater depth, we undertook a stepwise multiple regression analysis employing Stu-

TABLE 3
USE OF VARIOUS STUDENT-CENTERED TEACHING METHODS
AMONG “HIGH” AND “LOW” SCORERS ON SPIRITUALITY
(in percentages)¹

<i>Student-Centered Indicator</i>	<i>Spirituality</i>		<i>Difference</i>
	<i>High Scorers</i>	<i>Low Scorers</i>	
Class discussions	84.5	76.3	+8.2
Cooperative learning	53.6	35.4	+18.2
Student presentations	48.6	36.5	+12.2
Group projects	37.0	24.3	+12.7
Student evaluation of each other's work	24.8	10.8	+14.8
Student self-evaluation	24.8	10.8	+14.0
Reflective writing/journaling	23.9	10.0	+13.9
Student-selected course topics	17.8	10.2	+7.6

¹ Percent who use selected method in “all” or “most” of their courses.

TABLE 4
PERCENTAGES OF “HIGH” AND “LOW” SCORERS ON SPIRITUALITY
WHO SCORE “HIGH” ON STUDENT-CENTERED PEDAGOGY, BY
DISCIPLINE
(in percentages)

<i>Discipline</i>	<i>Spirituality</i>		<i>Difference</i>
	<i>High Scorers</i>	<i>Low Scorers</i>	
English	46.1	27.3	+18.8
Education	42.9	34.5	+8.4
Fine arts	36.7	26.7	+10.0
Other (unspecified) major	33.2	15.6	+17.6
Health science	29.1	8.7	+20.4
Business	23.9	20.1	+3.8
Humanities	21.8	11.7	+10.1
Social science	19.3	6.0	+13.3
Agriculture/forestry	18.4	5.3	+13.1
Biological science	12.9	7.6	+5.3
Other (unspecified) technical field	12.4	4.2	+8.2
Engineering	10.8	12.3	-1.5
Physical science	8.1	3.5	+4.6
Math/statistics	5.1	2.0	+3.1

TABLE 5
PERCENTAGES OF “HIGH” AND “LOW” SCORERS ON SPIRITUALITY
WHO SCORE “HIGH” ON STUDENT-CENTERED PEDAGOGY, BY
TYPE OF EMPLOYING INSTITUTION
(in percentages)

<i>Institutional Type</i>	<i>Spirituality</i>		<i>Difference</i>
	<i>High Scorers</i>	<i>Low Scorers</i>	
Catholic four-year college	32.3	14.6	+17.7
Nonsectarian four-year college	29.7	15.4	+14.3
Public four-year college	29.2	12.1	+17.1
Other religious four-year college	28.0	14.0	+14.0
Private two-year college	27.2	8.2	+19.0
Private university	26.8	8.9	+17.9
Public university	25.0	9.4	+5.6
Public two-year college	22.4	17.4	+5.0

dent-Centered Pedagogy as the dependent variable. We identified 41 variables as critical correlates of student-centered pedagogy. The selection of these variables was based on our hypotheses that certain demographic characteristics, educational experiences and practices, and types of institutions where faculty are employed will play a role in the choices they make with respect to using certain teaching and evaluation strategies. After we controlled for these variables, we entered faculty's score on the Spirituality measure to assess whether self-reported spirituality differentiated faculty with respect to their pedagogy independent of their personal and professional characteristics and the characteristics of their employing institutions.

After accounting for the effects of background characteristics, work variables, institutional characteristics, and the spirituality variable, we entered an additional 15 variables that represent personal views and behaviors along with faculty's personal goals and work experiences, including stress and satisfaction levels. We entered these variables at later steps for the sole purpose of gaining a better understanding of the characteristics, values, and behaviors that are associated with the use of student-centered pedagogy. In total, 31 variables entered the regression equation with significant weights (Table 6). After we controlled for these variables, the faculty's spirituality score entered the equation with a highly significant weight ($\beta = .12$), indicating that faculty who self-report as being spiritual are much more likely to use a student-centered pedagogy in “most” or “all” of their courses—a choice that occurs independent of their personal characteristics, their fields, or their institutional affiliations.

TABLE 6
CORRELATES OF STUDENT-CENTERED PEDAGOGY

<i>Variables</i>	<i>R</i>	<i>Beta in</i>	<i>Final Beta</i> ^{1,2}
Sex: Female	.24	.24	.13
Political orientation	.06	.04	.10
Race: Asian American	-.04	-.03	-.04
White	-.01	-.05	-.03
Age	-.07	-.04	-.06
Race: Latino	.01	-.03	-.02
Single	.03	-.02	-.03
Field: Education	.22	.20	.12
Multi-disciplinary work	.16	.17	.12
Field: Fine arts	.11	.14	.05
English	.13	.14	.06
Math/statistics	-.18	-.11	-.16
Physical science	-.16	-.10	-.14
Social science	-.12	-.11	-.16
Biological science	-.10	-.10	-.10
Taught interdisciplinary course	.12	.08	.07
Research orientation	-.11	-.08	.00
Received award for outstanding teaching	.06	.06	.05
Field: Business	.03	.05	.02
Academic rank	-.14	-.06	-.05
Held academic administrative post	.04	.05	.05
Hours per week spent preparing for teaching	.06	.04	.04
Field: Humanities	.00	-.05	-.07
Taught ethnic studies course	.10	.04	.03
Highest degree held	-.12	-.04	-.03
Field: Other technical	-.04	-.03	-.04
Engineering	-.04	-.04	-.03
Health science	.02	-.02	-.03
Forestry/agriculture	-.02	-.03	-.02
Institutional citizenship climate	.20	.13	.12
Institutional type: University	-.11	-.06	-.06
Positive collegial environment	.02	-.03	-.03
Spirituality	.21	.12	.12

¹Bolded coefficients are significant ($p < .01$).

²“Final” step reflects beta at step when Spirituality entered the regression equation.

Note: $R^2 = .27$

As we hypothesized, women are much more likely to employ a student-centered pedagogy independent of their disciplinary affiliation or type of employing institution. Likewise, the faculty member's field of study appears to play a significant role. Irrespective of their individual characteristics and institutional circumstances, faculty in education, fine arts, English, and business are much more likely to use student-centered teaching and evaluation approaches. In contrast, faculty in math/statistics, the social sciences, biological sciences, physical sciences, and engineering are the least likely to employ a student-centered pedagogy.

Interestingly enough, faculty who are older, those whose academic rank is more senior (e.g., full professor versus associate/assistant professor), and faculty who list their political affiliation as "conservative" are much less likely to use a student-centered pedagogy compared to their colleagues who are more junior with respect to age and career status and to those who self-identify as more politically "liberal." Moreover, faculty who engage in interdisciplinary teaching and whose academic work spans a variety of disciplines are much more likely to use a student-centered pedagogy. Also, not surprisingly, faculty who spend more hours preparing for teaching and who have been recognized with an award for outstanding teaching are much more likely to employ a student-centered pedagogy than their less teaching-oriented colleagues. In addition, faculty who indicate a strong research orientation—if they are employed at a university—are also less likely to use a student-centered pedagogy. Also noteworthy is that faculty who are employed at an institution they describe as valuing good citizenship (as reflected by such indicators as the institutional priority placed on developing community among faculty and students, teaching students how to change society, and creating and sustaining partnerships with their local communities) are much more likely to use student-centered teaching and learning strategies. Experiencing a positive collegial environment, which has a positive simple correlation with student-centered pedagogy, changed signs when citizenship climate entered the equation, suggesting a suppressor effect based on the high correlation between these two variables.

After we controlled for Spirituality, we entered 12 additional variables that represent faculty's values and personal goals, as well as their affective states. Table 7 shows those variables and their final betas in the equation. These findings were not surprising. One definitely gets a clear impression that faculty who employ a student-centered approach in their teaching are civic minded both in the values they hold and in their actual practice. They want to be good teachers and serve as role models to their students. They also place great value on students' personal development. While they feel satisfied overall with their jobs, they are also more likely to indicate that they experience stress resulting both from their jobs and from aspects of their

TABLE 7
FACULTY VALUES AND GOALS AS THEY RELATE TO STUDENT-CENTERED PEDAGOGY

<i>Variables</i>	<i>r</i>	<i>Beta in</i>	<i>Final Beta^{1,2}</i>
Civic-minded practice	.36	.26	.21
Diversity advocate	.34	.16	.11
Experiencing work stress	.18	.07	.06
Personal goal:			
Serve as a role model for students	.23	.06	.03
Holding civic-minded values	.36	.07	.04
Be a good teacher	.18	.05	.04
Focus on students' personal development	.30	.05	.05
Belief: Individual can do little to change society	-.19	-.03	-.03
Experiencing personal stress	.16	.03	.03
Overall job satisfaction	.02	.03	.03
Personal goal: Have congruence between personal and institutional values	.21	.02	.02
Belief: College increases earning power	-.05	-.02	-.02

¹Bolded coefficients are significant ($p < .01$).

²“Final” step reflects beta at last step of the regression equation.

Note: $R^2 = .3$

personal lives. Finally, those who are oriented toward using student-centered pedagogy also tend to consider achieving congruence between their personal values and those of their employing institution as very important.

DISCUSSION AND CONCLUSION

Findings from the present study reinforce the notion that the teaching methods faculty elect to use reflect who they are and what they believe. In particular, those who are more spiritual—based on their own self-identification, the personal priority they place on seeking opportunities to grow spiritually, and the personal value they attribute to integrating spirituality into their lives—are much more likely to use “student-centered” pedagogical methods when teaching undergraduate students. Most importantly, this

spirituality effect is largely independent of the faculty member's personal characteristics, field of study, or institutional affiliation. That said, the findings also suggest a number of potentially subtle, but important, interrelationships among faculty members' personal and professional characteristics, their spirituality, and their approaches to undergraduate teaching and learning that warrant future study. Here, we focus on the overarching importance of understanding how faculty members' spiritual inclinations may impact their teaching methods and suggest additional work aimed at advancing empirically based knowledge in this area.

Why should we be concerned with the spiritual dimension of college and university faculty members' lives and its implications for professional practice? One reason is that faculty attitudes and behaviors are known to have important consequences for student development. The actions of faculty both in and outside the classroom impact the learning and development of future teachers, lawyers, physicians, and policymakers, not to mention their very own academic successors and the thousands of others whose work affects our daily lives. Interpersonal interaction with faculty enhances a wide variety of student outcomes and, as Terenzini, Pascarella, and Blimling (1996) have shown, is one of the most influential sources of undergraduate student learning.

As the primary adult agents of socialization in the college environment, faculty have the ability to impact student experiences and outcomes both positively and negatively. Beyond influencing students' intellectual and career development, interacting with faculty has been shown to enhance students' personal identity awareness and moral development (see, e.g., Bowen, 1977). In addition, student outcomes research shows that informal (out-of-class) interaction between students and faculty increases faculty influence on undergraduate students' values, beliefs, and behaviors (see, e.g., Pascarella & Terenzini, 2005) and positively affects students' intellectual curiosity, interpersonal skills, and maturational development (see, e.g., Astin, 1993; Terenzini & Pascarella, 1994). Faculty mentoring has also been positively associated with student inclinations toward humanitarian behavior (Kuh, 1995).

The second reason that faculty members' spirituality is a salient factor in the academy is that the values and beliefs of college and university faculty represent the fundamental standards by which institutional decisions are made and priorities are set. Consequently, faculty play a central role in shaping both the culture and the climate of their institutions. By extension, their values lie at the heart of higher education's capacity to change. As suggested by the results of this study, faculty who work in environments where they perceive an interest in community development among faculty and students and where they perceive a positive institutional citizenship

climate are more likely to embrace a student-centered pedagogy. Equally noteworthy is the fact that those in the professoriate who are most inclined to use a student-centered approach to teaching are also likely to place a high value on achieving congruence between their own values and those of their employing institution. On the one hand, this finding can be interpreted as a penchant for activism; these faculty may feel passionate about their preferred approach to teaching and expend effort to persuade others in their institutional environments to share their views. An alternative interpretation is that those who employ a heavily student-centered approach to their undergraduate teaching and who also state the importance of achieving congruence between their own values and those of the institution may simply be reflecting their desire to express themselves authentically and, in doing so, to be accepted and embraced by those with whom they work. Most likely, these points of view are not diametrically opposed. Both perspectives, however, represent potentially powerful forces for change in the academy. The fact that younger faculty are more likely than their older colleagues to employ student-centered approaches to undergraduate teaching foreshadows a potentially substantial change in coming years with respect to the normative perspectives and practices that characterize undergraduate teaching and learning.

In light of current accountability demands for learning outcomes, what significance can we attribute to faculty's adoption of student-centered pedagogical practices? Certainly, the positive student development outcomes typically associated with exposure to student-centered pedagogical practice are meaningful in and of themselves (see, e.g., Henson, 2003; Pederson & Williams, 2004). However, especially in light of the myriad and complex challenges facing higher education and the larger society today, it is also important to reflect on how the apparent connections between faculty members' spiritual self-conceptions and their professional practice may impact undergraduate education both directly and indirectly.

While many of the core literary and philosophical traditions that comprise the liberal education curriculum are grounded in the maxim, "Know thyself," there is generally little attention paid in today's secular colleges and universities to facilitating student development in the inner realm of self-understanding (Astin, 2004). Spiritual aspects of student development were cornerstones of early American college curricula. However, the Enlightenment ideals, positivistic modes of thinking, and scientific worldviews that began to exert a powerful influence on American thought in the late nineteenth century continue today to dominate societal values and individual goal orientations (see, e.g., Marsden, 1994; Cohen, 1998). Rather than providing a developmental context characterized by self-reflection, open dialogue, and thoughtful analysis of alternative perspectives, many of today's college and

university environments mirror the strong societal emphasis on individual achievement, competitiveness, materialism, and objective knowing. The ways in which our society and our higher education institutions are evolving necessitates that we reconsider long-standing expectations and deeply held assumptions about many aspects of our work as academics and their associated effects both within and beyond the academy.

Certainly, given the broad formative roles that colleges and universities play in our society, higher education represents a critical focal point for responding to the question of how we can balance the “exterior” and “interior” aspects of our lives more effectively. And, given the fundamental tenets of student- or learner-centered pedagogy, it intuitively makes sense that spiritually inclined faculty would be more likely to employ teaching practices that invite students to engage actively in an academic community and help them develop their capacity for connectedness, responsiveness, and accountability. Bennett (2003), for example, writes about those in the academy whom he characterizes as having “relational spiritualities,” defining these individuals as being “no less committed to the enlargement and extension of learning, but [emphasizing] openness and community rather than exclusion and separatism” (p. 11). Unafraid of change and transformation, these faculty—whom Bennett defines as “educators” as opposed to “instructors”—view students as “potential colleagues in the quest for learning” and “value the invitation to grow that attending to and caring for others involves” (p. 12).³ In light of the current challenges we face both in the academy and beyond, such an orientation on the part of faculty may be especially instrumental in reaffirming a commitment to contribute more fully to the well-being of their institutions, their students, and the larger community. Also important to consider, of course, is how the academic reward structure, various institutional dynamics, and general characteristics of the academic profession as a whole may, for many faculty, militate against their embracing nontraditional approaches to their academic work.

From a research standpoint, with few exceptions (see, e.g., Astin & Astin, 1999; Braskamp, 2003; Lindholm, Astin, & Astin, 2005), the empirical research on spirituality that has been conducted in higher education institutions has focused primarily on students, ignoring completely the experiences, attitudes, expectations, and behaviors of faculty. The result is a critical gap in our understanding of how we can create educational environments that maximize the personal and professional potential of students and faculty and that best prepare students to respond effectively to the demands of an

³Bennett distinguishes educators from instructors based on the roots of each word: “educator” from the root *educare*, “to draw out,” and “instructor” from the root *instruere*, “to build in” (p. 2).

increasingly complex and global society. Our study helps close this gap by examining one small aspect of this as-yet-largely-untapped area of inquiry. Yet, while it is informative to know that spiritually oriented faculty are generally more inclined than their less spiritual colleagues to employ a student-centered pedagogy when working with undergraduates, much remains to be learned about the intersections between faculty members' spirituality and their pedagogical choices. For example, findings from this study reveal many salient correlates of student-centered pedagogy; much of the variance in faculty's use of student-centered pedagogy remains unaccounted for in the model tested here. Nonetheless, the findings presented here provide a nationally normative starting point from which to examine in greater depth a wide range of potentially relevant associations and effects.

Qualitative follow-up research that is aimed at understanding how faculty view their spirituality's role in interactions with students and colleagues would be especially useful. Our earlier research shows that students who enter college today are actively engaged in a spiritual quest and have high expectations for the role their colleges and universities will play in their spiritual and emotional development (Astin, Astin, Lindholm, & Bryant, 2005). It is also important to examine how the curricular content of faculty members' courses—in conjunction with their pedagogical style—support students' developmental interests and needs in this realm. Future research that employs qualitative and quantitative methodologies to explore the current state of faculty beliefs and behaviors related to undergraduate students' spiritual development can contribute substantially to our understanding of how—in different types of campus contexts—to most appropriately and most effectively create and implement curricular programming that incorporates spiritual issues and perspectives.

APPENDIX

VARIABLE DEFINITIONS AND CODING SCHEMES

Dependent Variable

Use of Student-Centered Pedagogy

8-item¹ factor scale ($\alpha = .81$)

Independent Variables

Background Characteristics

Sex: Female

Dichotomous variable: 1 = *no*, 2 = *yes*

¹ Factor includes: *teaching practice*: cooperative learning, group projects, student presentations, student evaluations of each other's work, class discussions, reflective writing/journaling, student evaluations of their own work, student-selected course topics.

Age	10-point scale: 1 < 30 to 10 = 70+
Race: White/Caucasian	Dichotomous variable: 1 = no, 2 = yes
African American/Black	Dichotomous variable: 1 = no, 2 = yes
Latino/a ²	Dichotomous variable: 1 = no, 2 = yes
Asian American/Asian	Dichotomous variable: 1 = no, 2 = yes
American Indian/Alaska Native	Dichotomous variable: 1 = no, 2 = yes
Native Hawaiian/Pacific Islander	Dichotomous variable: 1 = no, 2 = yes
Other	Dichotomous variable: 1 = no, 2 = yes
Marital Status: Single	Dichotomous variable: 1 = no, 2 = yes
Married	Dichotomous variable: 1 = no, 2 = yes
Living with partner	Dichotomous variable: 1 = no, 2 = yes
Political orientation	5-point scale: 1 = Far Right. To 5 = Far Left

Work-Related Variables

Research orientation	3-item ³ factor scale ($\alpha = .76$)
Engage in work spanning multiple disciplines	Dichotomous variable: 1 = no, 2 = yes
Degree earned	4-point scale: 1 = none to 4 = doctorate or professional
Major: Agriculture/forestry	Dichotomous variable: 1 = no, 2 = yes
Biological sciences	Dichotomous variable: 1 = no, 2 = yes
Business	Dichotomous variable: 1 = no, 2 = yes
Education	Dichotomous variable: 1 = no, 2 = yes
Engineering	Dichotomous variable: 1 = no, 2 = yes
English	Dichotomous variable: 1 = no, 2 = yes
Fine arts	Dichotomous variable: 1 = no, 2 = yes
Health sciences	Dichotomous variable: 1 = no, 2 = yes
Humanities	Dichotomous variable: 1 = no, 2 = yes
Math/statistics	Dichotomous variable: 1 = no, 2 = yes
Physical sciences	Dichotomous variable: 1 = no, 2 = yes
Social sciences	Dichotomous variable: 1 = no, 2 = yes
Other technical field	Dichotomous variable: 1 = no, 2 = yes
Other major	Dichotomous variable: 1 = no, 2 = yes
Taught an interdisciplinary course	Dichotomous variable: 1 = no, 2 = yes
Taught a women's studies course	Dichotomous variable: 1 = no, 2 = yes
Academic rank	4-point scale: 1 = lecturer/instructor/other to 4 = full professor
Held academic administrative position	Dichotomous variable: 1 = no, 2 = yes
Hours per week spent preparing for teaching	9-point scale: 1 = none, 9 = 45+
Received award for outstanding teaching	Dichotomous variable: 1 = no, 2 = yes

Institutional Characteristics

Institutional control: Private	Dichotomous variable: 1 = no, 2 = yes
Institutional selectivity	Average SATM + SATV
Number of undergraduate students	Continuous variable: 72 to 37,605
Institutional type: University	Dichotomous variable: 1 = no, 2 = yes

² Latino/a includes: Mexican/Chicano/a, Puerto Rican, and other Latino.

³Factor includes: *hours per week*: research and scholarly writing; *primary interest*: research; and *work activity*: number of professional writings published/accepted for publication in past two years.

Institutional citizenship climate 5-item⁴ factor scale ($\alpha = .79$)
 Positive collegial environment 15-item⁵ factor scale ($\alpha = .87$)

Spirituality

Spirituality 3-item⁶ factor scale ($\alpha = .88$)

Faculty Values, Perceptions, and Goals

Personal goal: Become an authority in my field 4-point scale: 1 = *not important*, 4 = *essential*
 Help others in difficulty 4-point scale: 1 = *not important*, 4 = *essential*
 Have congruence between personal values and institutional values 4-point scale: 1 = *not important*, 4 = *essential*
 Be very well-off financially 4-point scale: 1 = *not important*, 4 = *essential*
 Obtain recognition from colleagues 4-point scale: 1 = *not important*, 4 = *essential*
 Be a good teacher 4-point scale: 1 = *not important*, 4 = *essential*
 Serve as a role model to students 4-point scale: 1 = *not important*, 4 = *essential*
 Be involved in programs to clean up the environment 4-point scale: 1 = *not important*, 4 = *essential*
 Focus on personal/spiritual development 6-item⁷ factor scale ($\alpha = .88$)
 Civic-minded values 8-item⁸ factor scale ($\alpha = .80$)
 Civic-minded practice 7-item⁹ factor scale ($\alpha = .71$)

⁴Factor includes: *institutional priority*: develop a sense of community among students and faculty, develop leadership ability in students, teach students how to change society, provide resources for faculty to engage in community-based teaching/research, create/sustain partnerships with surrounding communities.

⁵Factor includes: *institutional opinion*: my research is valued by faculty in my department, my teaching is valued by faculty in my department, there is adequate support for faculty development, my department mentors new faculty well, faculty are involved in campus decision-making, the criteria for advancement and promotion are clear, my values are congruent with institutional values; *institutional description*: faculty here respect each other, there is respect for diverse values and beliefs, faculty are typically at odds with administrators (recoded); *institutional priority*: mentor new faculty; and *satisfaction*: professional relations with faculty, social relations with faculty, competency of colleagues, relationships with administrators.

⁶Factor includes: *personal characteristics*: consider myself a spiritual person and seek opportunities to grow spiritually; and *personal objective*: integrate spirituality into my life.

⁷Factor includes: *goals for undergraduates*: develop moral character, provide for emotional development, help develop personal values, enhance self-understanding, enhance spiritual development, and facilitate search for meaning/purpose in life.

⁸Factor includes: *personal objectives*: influence social values, influence political values; *goals for undergraduates*: instill a commitment to community service, prepare for responsible citizenship; *general opinions*: colleges should be actively involved in solving social problems, colleges are responsible for working with surrounding communities, colleges should encourage students to be involved in community service, community service as part of a course is a poor use of resources (recoded).

⁹Factor includes: *general activities*: collaborated with the local community in research/teaching, used your scholarship to address local community needs, engaged in public service/professional consulting without pay; *hours per week*: community/public service; *teaching practice*: community service as a part of coursework, taught a service learning course, advised student groups in community service.

Positive outlook	5-item ¹⁰ factor scale ($\alpha = .78$)
Diversity advocate	5-item ¹¹ factor scale ($\alpha = .78$)
Personal stress	12-item ¹² factor scale ($\alpha = .71$)
Work stress	10-item ¹³ factor scale ($\alpha = .72$)
Belief: Individuals can do little to change society	4-point scale: 1 = <i>disagree strongly</i> . 4 = <i>agree strongly</i>
I have to work harder than my colleagues to be perceived as a legitimate scholar	3-point scale: 1 = <i>not at all</i> , 3 = <i>to a great extent</i>
The chief benefit of college is that it increases earning power	4-point scale: 1 = <i>disagree strongly</i> to 4 = <i>agree strongly</i>
Overall job satisfaction	4-point scale: 1 = <i>not satisfied</i> to 4 = <i>very satisfied</i>

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¹⁰ Factor includes: *personal characteristics*: experience joy in your work, feel good about the direction in which your life is headed, achieve a healthy balance between your personal and professional life, feel that your work adds meaning to your life, experience close alignment between your work and personal values.

¹¹ Factor includes: *institutional opinion*: This institution should reflect diversity more strongly in the curriculum; *general opinions*: A racially/ethnically diverse student body enhances the educational experiences of all students, promoting diversity leads to the admission of too many underprepared students (recoded); *personal objective*: promote racial understanding; *goal for undergraduates*: enhance knowledge of/appreciation for other racial/ethnic groups.

¹² Factor includes: *source of stress*: household responsibilities, child care, care of elderly parent, my physical health, health of spouse/partner, personal finances, children's problems, marital friction, being part of a dual-career couple, self-imposed high expectations, lack of personal time, subtle discrimination.

¹³ Factor includes: *source of stress*: committee work, faculty meetings, job security, change in work responsibilities, working with underprepared students, research/publishing demands, institutional procedures and "red tape," teaching load, keeping up with information technology, review/promotion process.

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