

A Special Report prepared for the Teagle Foundation

Exploring the Relationships between Spirituality,
Liberal Learning, and College Student Engagement

George D. Kuh and Robert M. Gonyea

Center for Postsecondary Research
Indiana University Bloomington
kuh@indiana.edu
Phone: 812.856.5824

July 11, 2005

Précis

Exploring the Relationships between Spirituality, Liberal Learning, and College Student Engagement

It was only a matter of time before the increasing influence of religion in society would become a topic of conversation and concern on college campuses. For institutions emphasizing liberal education, the presence of mounting numbers of students, faculty and staff who actively engage in religious practices and spiritual activities presents some delicate challenges. At one level the search for meaning is consistent with liberal education aims to think deeply and critically reflect on one's experience in the context of competing views. But if the open consideration of new ideas is considered central to liberal education, what is the educational experience of students who arrive on campus with static notions of truth based on their religious beliefs? Might they be less likely to engage in the kinds of activities that lead to desired liberal education outcomes?

This report provides some current information about the college student experience related to religion and spirituality. We analyzed the responses of nearly 150,000 first-year and senior students from 461 four-year colleges and universities to the 2004 National Survey of Student Engagement. We were especially interested in how participating in spirituality-enhancing activities and talking with people who hold very different religious beliefs contributed to spiritual development and affected other aspects of the college student experience, such as deep learning, time usage, perceptions of the campus environment, overall satisfaction with college, and desired outcomes of liberal arts education. We were also interested in whether these relationships hold generally for all students, or whether distinctive patterns of behavior were specific to certain types of students or to institutions with particular characteristics. For example, do students majoring in traditional liberal arts fields differ in systematic ways from their counterparts in other majors? Are students attending different types of institutions, such as faith-based colleges, more or less engaged in various educational practices and do they benefit from college in the same ways as students at other types of schools?

The results point to ten noteworthy patterns:

1. *Women, seniors, and full-time students are different in predictable ways from men, first-year students, and part-time students, with the former groups being more engaged overall in educational pursuits and generally benefiting more from college. One noteworthy exception is with first-year students reporting greater gains in a deepened sense of spirituality.*
2. *Students from different racial and ethnic groups vary in their frequency of spirituality-enhancing activities, with African Americans leading the pack and White students being less engaged and benefiting less in terms of spirituality.*
3. *Students who frequently engage in spirituality-enhancing practices are also more likely to engage in a broader cross-section of collegiate activities.*

4. *Spirituality-enhancing activities have trivial or no effects on other aspects of college except for a deepened sense of spirituality.*
5. *Students who engage in deep learning report benefiting more from college in desired liberal education outcomes.*
6. *Grades, major field, and first-generation status are generally unimportant in terms of spirituality-enhancing practices, interacting with students who have different beliefs, and deepening one's spiritual moorings.*
7. *Institutional size and selectivity have no or only trivial effects on these activities and outcomes.*
8. *Baccalaureate general colleges tend to differ more from other types of institutions on the variables of interest, largely due to the presence of so many faith-based colleges within the baccalaureate general college type.*
9. *The nature of the campus environment matters much more than institutional type to engaging in effective educational practices and desired college outcomes.*
10. *Students at faith-based colleges engage in spiritual practices more and gain more in this area, but participate less often in other activities associated with liberal education outcomes.*

These findings lead us to draw four tentative conclusions about the relationships between religious and spirituality-enhancing practices, other college experiences, and college outcomes:

- *Involvement in religious or spirituality-enhancing activities during college is strongly linked to a deepened sense of spirituality across all types of students.*
- *Involvement in religious activities and spirituality-enhancing activities does not seem to hinder and may even have mild salutary effects on engagement in educationally purposeful activities and desired outcomes of college.*
- *Commonly used variables in studies of student development and college impact such as institutional size and selectivity, major field, and grades are unrelated to frequency of involvement in religious and spiritual activities during college.*
- *A faith-based mission and campus culture are major influences in how often students engage in religious and spirituality-enhancing and other activities during college.*

Contents

Précis.....	ii
Contents	iv
List of Tables	iv
Introduction.....	1
Purpose of the Inquiry.....	2
A Note on Methods.....	3
Variables of Interest.....	3
Analytical Approach.....	5
Major Findings.....	5
Student Development.....	5
Institutional Effects.....	7
Conclusions.....	9
Implications and Next Steps	10
Resources	12
Appendix A: Faith-Based Colleges and Universities	14
Appendix B: Detailed List of Majors.....	15
Appendix C: Data Sources and Analytical Methods	16
Variables	18
Analytical Approach.....	18
Correlational Analysis	22
Regression Analysis.....	25
Analysis of Consortium Questions	25
Crosstabulation of Deep Learning Scores.....	27
Limitations of the Study.....	30
Appendix D: SPSS Frequency Output.....	31

List of Tables

Table 1: Results of Seven Regression Models.....	8
Table 2: Comparison of NSSE 2004 Institutions and All Four-Year Institutions in the U.S.	16
Table 3: Comparison of NSSE 2004 Respondents and All Students Attending Four-Year Institutions in the U.S.	17
Table 4: Primary Majors Reported by NSSE 2004 Students.....	17
Table 5: Normality Statistics of the Data Set.....	18
Table 6: T-test Results of Selected Student Characteristics – Effect Size and Significance	21
Table 7: One-Way ANOVA Results of Selected Student Characteristics by Class	22
Table 8: Correlations for First-Year and Senior Students	24
Table 9: Correlations between CIC Consortium Items and NSSE Faith-Related Items.....	26
Table 10: CCCU Consortium Frequencies by Class.....	27
Table 11: Crosstabulation of WORSHIP by Deep Learning by Carnegie Classification.....	29
Table 12: Crosstabulation of WORSHIP by Deep Learning by Faith-Based Institution Status ..	30

Exploring the Relationships between Spirituality, Liberal Learning, and College Student Engagement

Introduction

One of the more intriguing trends at the turn of the 21st century is the prominent influence of religion in various aspects of American life. The renewed interest in religion and spirituality is not just a function of aging baby boomers acknowledging their mortality. The University of Pennsylvania reported that 86% of those between the ages of 11-18 believe religion is an important part of life (Hulett, 2004). Colleges and universities along with other societal institutions are seeking ways to better understand the implications of this phenomenon. Many schools find themselves in a peculiar situation, trying to respond appropriately to students who understandably wish to make religion and spiritual enlightenment a meaningful part of their collegiate experience.

Most colonial colleges were founded to transmit and preserve the values, beliefs, traditions, and cultural heritage of their sponsoring denominational groups. Today, a small segment of higher education remains devoted to this mission. These include denominational and faith-based colleges, particularly the members of the Council for Christian Colleges and Universities, and some visible national universities such as Baylor, Brigham Young, and Notre Dame. At the same time, increasing numbers of students are openly practicing their religious beliefs or exploring spiritual dimensions of their personal development, whether at a small private church-related college or a large public university. Their presence will, if it hasn't already, present challenges to faculty members, administrators and governing boards who have not determined how to strike the appropriate relationship between spiritual or religious practices and student learning, or whether these human development goals can or even should be legitimately addressed within the curriculum.

Although the relevant issues are too complex to summarize here, some tension points immediately surface. For example, some faculty members worry that students who arrive at college holding fast to religious beliefs are conditioned to ward off challenges to preferred ways of thinking that come with the "liberal learning" territory and graduate without testing and seriously re-examining their beliefs and values. At institutions as different as Knox College (Hulett, 2004) and The Air Force Academy (Gorski, 2004), many students have little tolerance for peers who practice religious beliefs different from their own. These behaviors, too, are antithetical to the goals of liberal learning.

The search for meaning associated with spirituality and religion seems consistent with the cultivation of open, tolerant attitudes that the liberal arts tradition values. In this sense, one would expect that students exposed to liberal arts educational practices as described by Blaich and others (2004) would be more open to diverse views about various matters including religion and spirituality. There is ample evidence that college does have a liberalizing effect on students as they become less rigid in their orientation toward religion by the time they are seniors (Astin, 1993; Feldman & Newcomb, 1969; Kuh, 1976, 1999, 2000; Pascarella & Terenzini, 2005). Faculty and peers appear to be critical factors in promoting or suppressing development in these areas (Astin, 1993; Pascarella & Terenzini, 1995), suggesting that the type of institution may be

important in this dimension of personal development. For example, students attending a church-related college are less likely to experience changes in their religious affiliation and degree of religiosity (Pascarella & Terenzini, 1991). Campus cultures are a key factor as an institution's environmental press can encourage or discourage religious and spiritual practices (Kuh, 2000) and participation in other activities that are linked with character development (Kuh & Umbach, 2004).

Purpose of the Inquiry

Given the dramatic demographic and attitudinal changes in recent college-going cohorts, it would be instructive to know how religion and spirituality relate today to other aspects of the college experience. For example, to what extent do students at different types of colleges and universities engage in religious or spiritual activities? How do religious and spiritual activities including worship interact with desirable educational activities, such as academic achievement, deep or integrative learning, studying, and extracurricular pursuits? Are students who actively engage in religious or spiritual activities more or less engaged in other activities known to be linked with desired outcomes of liberal learning?

To learn more about the relationships between religion, spirituality, and college experiences, we turned to the National Survey of Student Engagement (NSSE) database. Our goal was to provide some current information about the college student experience related to religion and spirituality that might stimulate productive discussion at the fall 2005 Teagle "Listening" as well as generate additional questions that bear on this important topic.

Three questions on the NSSE survey are especially relevant toward these ends:

1. In your experience at this institution, how often have you participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)?
2. In your experience at this institution, how often have you had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values? and
3. To what extent has your experience at this institution contributed to developing a deepened sense of spirituality?

By analyzing students' responses to these and other questions on the NSSE survey (see Appendices C, D, and E), we can estimate how activities related to religion and spirituality affect other aspects of the college student experience, such as student-faculty contact, challenging academic work, active and collaborative learning, deep learning, time usage, quality of relations with faculty, staff, and other students, perceptions of the campus environment, and overall satisfaction with college.

We can also use students' self reports about gains they have made during college in desired areas of knowledge, skills and competencies such as writing clearly, speaking effectively, self understanding, understanding others, and so forth. And we can estimate whether these relationships are general -- essentially the same across all students -- or conditional --

meaning they are specific to certain types of students or common primarily at institutions with certain characteristics. For example, do students majoring in traditional liberal arts fields differ in systematic ways from their counterparts in other majors? Does the strength of the denominational affiliation of an institution affect the relationship between spirituality and college student engagement and other desired outcomes?

Finally, to better understand these phenomena, we examined the results from consortia of denominational colleges and universities that added mission-specific questions to the NSSE survey over the past several years.

Readers interested in more detail about the data sources and analytical methods used for this study will find this information in Appendix C. Before summarizing the major findings, we briefly summarize the source of the data and the analytical approaches used.

A Note on Methods

The data for this study are from 149,801 randomly sampled first-year (51%) and senior students (49%) who completed the NSSE survey in 2004 when they were attending 461 different four-year colleges and universities in the United States. Almost two-thirds were women; 90% were full-time students. In terms of major field, about 40% of the seniors were majoring in what might be considered liberal arts disciplines (arts, humanities, biological and physical sciences, social sciences) with the rest distributed among professional fields (42%) and other areas (15%) or undecided (3%). Although it is common to focus on the effects of major field in studies of this type, our preliminary analyses showed that major field was not associated with the key variables of interest; thus, major is not included in any of the regression models reported later (Table 1).

Schools were assigned to one of five major Carnegie institutional categories: Doctoral/Research-Extensive (Doc-Ext), Doctoral/Research-Intensive (Doc-Int), Master's I & II (MA), Baccalaureate-Liberal Arts (Bac-LA), and Baccalaureate-General (Bac-Gen). About 16% of the institutions are liberal arts colleges, the same proportion that make up the national pool. In addition to using Carnegie institutional categories, 29 of the participating colleges and universities were classified as "faith-based" for the purpose of this study (Appendix A). The faith-based college category is made up institutions with reputations of being fundamentalistic in their adherence to a religious tradition. Member schools of the Council for Christian Colleges and Universities were also assigned to this category. Our intention in classifying schools as faith-based or not is an attempt to represent the emphasis schools give to religion and religious practices. Reasonable people may disagree as to whether other schools should be placed in or removed from this group.

Variables of Interest

Religion and Spirituality. As mentioned earlier, the three independent variables from NSSE of special interest in this analysis are:

- **WORSHIP:** In your experience at this institution, how often have you participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)?

- DIFFSTU: In your experience at this institution, how often have you had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values?
- GNSPIRIT: To what extent has your experience at this institution contributed to developing a deepened sense of spirituality?

We use these and other variable names occasionally throughout the report as shorthand labels to communicate the concepts more efficiently.

Deep Learning. A measure of deep learning from NSSE is particularly relevant to this inquiry because it is composed of the eight behaviors listed below that are essential to acquiring the skills and competencies needed to become an intentional learner, one of the more important outcomes claimed by proponents of liberal learning (Association of American Colleges and Universities, 2002; Entwistle & Entwistle, 1991; Schneider, 2004; Tagg, 2003).

- Worked on a paper or project that required integrating ideas or information from various sources
- Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments
- Put together ideas or concepts from different courses when completing assignments or during class discussions
- Discussed ideas from your readings or classes with faculty members outside of class
- Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)
- Synthesizing and organizing ideas, information, or experiences into new, more complex interpretations and relationships
- Analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components
- Making judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions
- Applying theories or concepts to practical problems or in new situations

Out-of-Class Environment. Campus cultures are known to affect student engagement and learning (Kuh, Kinzie, Schuh, Whitt & Associates, 2005; Kuh & Whitt, 1988; Pascarella & Terenzini, 2005). In this analysis we are particularly interested in students' perceptions of the degree to which their institution:

- Provides the support they need to thrive socially

- Encourages them to attend campus events and activities such as special speakers, cultural performances, athletic events, and so forth
- Helps them cope with non-academic responsibilities (work, family, etc.)
- Encourages interactions among students from different economic, social, and racial or ethnic backgrounds

Self-Reported Outcomes. In addition to the deepened sense of spirituality outcome noted earlier, NSSE asks students to estimate the progress or gains they have made since starting college in 15 additional areas, almost all of which are valued in the liberal arts tradition. These can be divided into three clusters: personal-social development (PERS-SOC), practical competence (PRAC-COMP), and intellectual skills (INTEL-SKILLS). We included these outcomes in the analysis to determine the degree to which practicing religious or other spirituality-enhancing activities was associated with students' growth and development in these important areas, relative to other educational activities known to be positively correlated with desired outcomes of college.

Analytical Approach

We analyzed the data in several different ways to gain insight into the relationships between religion, spirituality, and college student engagement and related experiences. They include descriptive statistics, t-tests, analysis of variance, and regression analyses. We feature the regression results in this report. The regression models were fitted iteratively to include only items that were statistically related to the respective dependent variable. Student background characteristics and institutional characteristics were used as controls and items of interest to this study, such as WORSHIP and DIFFSTU were always entered into the regression last.

We also use effect size to denote whether a statistically significant difference represents a “real,” meaningful difference in student behavior or institutional performance. That is, is the difference big enough that the finding warrants attention and, perhaps, interventions in terms of policy or programmatic changes? Generally, effect sizes greater than .10 are worth pondering, especially if a pattern of effects is evident. Again, a more detailed presentation of the data analysis and results is in Appendices C, D and E.

Major Findings

Table 1 presents the results of seven separate regression models. In this table, the unstandardized beta coefficients (*B*) can be interpreted as the effect size. These models, along with selected supporting evidence from the other analyses summarized in Appendices C and D, provide evidence for ten prominent patterns in the results. In general, these patterns hold for both first-year and senior students.

Student Development

1. *Women, seniors, and full-time students are different in predictable ways from men, first-year students, and part-time students, with the former groups being more engaged overall in*

educational pursuits and benefiting more from college. For example, consistent with other research (Kuh, 2003; National Survey of Student Engagement, 2004; Pascarella & Terenzini, 2005), men tend to expend less effort in some areas such as deep learning and generally gain less in desired outcomes, except for the practical competence cluster of skills and competencies. Other comparisons (Appendix D) slightly favor woman as well. For example, women are about 3% more likely to ‘frequently’ engage in WORSHIP and to gain ‘substantially’ in GNSPIRIT.

First-year students report engaging in deep learning much less often and do not report gaining as much from their college experience. This makes sense because first-year students tend to be dualistic in their thinking (Perry, 1970) which limits their capacity for deep learning. Also, seniors have been in college longer; thus, they benefit more from the experience. One noteworthy exception to this pattern is with regard to a deepened sense of spirituality where first-year students report greater gains than seniors. This anomaly is worth investigating further, perhaps through focus groups with students.

Full-time students more frequently interact with students who hold very different beliefs than themselves, due in large part to living on campus and having more opportunities to have such interactions, inside and outside the classroom, and to explore non-academic, holistic, developmental, and wellness types of activities that are traditionally associated with the liberal arts college experience. Also, about 6% more full-time students “frequently” participate in WORSHIP activities than do part-time students. Consequently, it’s no surprise that about 6% more full-time students report “substantial” gains in GNSPIRIT. Taken together, these and other patterns of results that follow are evidence of the internal validity of the instrument.

2. *Students from different racial and ethnic groups vary in their frequency of spirituality-enhancing activities, with African Americans leading the pack and White students being less engaged and benefiting less in terms of spirituality.* Compared with Whites, students of color generally report gaining more in personal-social development (PERS-SOC) including spirituality, practical competence (PRAC-COMP), and intellectual skills (INTEL-SKILLS). African American students tend to participate more often in spirituality-enhancing activities and, likewise, report the greatest gains of any group in this area, though all other groups report greater gains in spirituality than Whites. For unknown reasons, Hispanics or Latinos worship less than other groups, yet they deepen their sense of spirituality during college to a greater degree than Whites.
3. *Students who frequently engage in spirituality-enhancing practices are also more likely to engage in a broader cross-section of collegiate activities.* For example, they exercise more, attend cultural events more often, and are more likely to perform community service. They also are somewhat more satisfied with college and view the out-of-class environment more positively. Finally, they spend less time relaxing and socializing and devote more time to extra-curricular activities. One exception to this finding is that varsity athletes participate less in spirituality-enhancing activities than any other student group.

4. *Spirituality-enhancing activities have trivial or no effects on other aspects of college except for a deepened sense of spirituality.* Worship, meditation, prayer and similar activities during college contribute to personal and social development through a deepened sense of spirituality. There is no evidence that these behaviors have negative effects on other desirable activities, such as studying, deep learning, or extracurricular involvements.
5. *Consistent with other research, students who engage in deep learning report benefiting more from college in the desired outcomes (PERS-SOC, PRAC-COMP, INTEL-SKILLS).*
6. *Grades, major field, and first-generation status are generally unimportant in terms of spiritual practices, interacting with students who have different beliefs, and deepening one's spiritual moorings.*

Institutional Effects

7. *Institutional size and selectivity have no or only trivial effects on the variables of interest (WORSHIP, DIFFSTU, and GNSPIRIT).* This finding is consistent with many other studies of the relationships between institutional characteristics and student engagement (Kuh & Pascarella, 2004; Pascarella & Terenzini, 2005).
8. *Baccalaureate general colleges tend to differ more from other types of institutions on the variables of interest, largely due to the presence of so many faith-based colleges within the baccalaureate general college type.* Crosstabulations (Appendix C, Table 11) show that students at baccalaureate general colleges participate more frequently in spirituality-enhancing activities and gain more in this area; however, they are less likely to engage in meaningful ways with students from different backgrounds. In contrast, students at baccalaureate liberal arts colleges interact more frequently with students from different political views and religious backgrounds and are comparable to students at other types of institutions (except baccalaureate general colleges) in terms of the frequency of their participation in spirituality-enhancing activities and the extent to which they report deepening their sense of spirituality during college. The effects of institutional type on other aspects of the college experience were so small that they were dropped from the other regression models.
9. *The nature of the campus environment matters much more than institutional type to engaging in effective educational practices and desired college outcomes.* Students who view the out-of-class climate as supportive of their social and non-academic needs more frequently engage in deep learning activities. They also report greater gains in all of the outcomes on the NSSE survey, including a deepened sense of spirituality.

Table 1: Results of Seven Regression Models

variable	WORSHIP		DIFFSTU		GNSPIRIT		DEEP LEARNING		PERS-SOC GAINS		PRAC-COMP GAINS		INTEL-SKILL GAINS	
	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.
<i>Student characteristics</i>														
Class: Being a first-year student	-	-	-	-	.06	***	-.33	***	-.18	***	-.37	***	-.24	***
Sex: Being male	-	-	-	-	-	-	-.03	***	-.06	***	.12	***	-.02	***
Full-time student	-.06	***	.11	***	-	-	-	-	-	-	-	-	-	-
Transfer student	-	-	-.10	***	-	-	-	-	-	-	-	-	-	-
Fraternity/sorority participation	-.08	***	-	-	-	-	-	-	-	-	-	-	-	-
Varsity athlete	-.23	***	-	-	-	-	-	-	-.04	***	.01	*	-	-
First generation student	-.06	***	-.05	***	-	-	-	-	-	-	-	-	-	-
International student	-.09	***	-	-	.15	***	-	-	.09	***	.15	***	.07	***
Self-reported grades	.05	***	-	-	-.03	***	.04	***	-.03	***	-.01	***	-	-
Race/ethnicity (White ref group)														
<i>Black or African American</i>	.24	***	-	-	.15	***	.09	***	.16	***	.18	***	.18	***
<i>Asian American or Pacific Islander</i>	-.05	***	-	-	.14	***	-.02	*	.13	***	.11	***	.02	*
<i>Hispanic or Latino</i>	-.07	***	-	-	.10	***	.05	***	.10	***	.05	***	.09	***
<i>Other race</i>	-.02	-	-	-	.02	-	.01	-	.03	*	.05	***	.03	**
<i>Institutional characteristics</i>														
Private institution	.05	***	-.03	***	.22	***	.05	***	.02	***	-.06	***	.01	**
Institutional enrollment size	-	-	-	-	-	-	-.02	***	.01	***	.03	***	-.01	***
Institutional selectivity rating (<i>Barron's</i>)	-	-	-	-	-	-	.02	***	-.03	***	-.03	***	-	-
Carnegie type (Bac-gen ref group)														
<i>Doc-ext</i>	.04	***	.05	***	-.05	***	-	-	-	-	-	-	-	-
<i>Doc-int</i>	-.04	***	.02	*	-.06	***	-	-	-	-	-	-	-	-
<i>Master's</i>	-.07	***	.03	***	.00	-	-	-	-	-	-	-	-	-
<i>Bac-lib arts</i>	-.22	***	.08	***	-.16	***	-	-	-	-	-	-	-	-
<i>Other Carnegie type</i>	.04	**	-.06	***	-.10	***	-	-	-	-	-	-	-	-
Faith-based institution	.87	***	-.24	***	.52	***	-.11	***	.06	***	-.11	***	-.09	***
<i>Student engagement activities</i>														
Relaxing and socializing (hrs/wk)	-.07	***	.03	***	-.02	***	-.04	***	-.02	***	-	-	-.02	***
Participating in co-curricular activities (hrs/wk)	.06	***	.03	***	.02	***	-.04	***	.02	***	-	-	-.02	***
Attended art exhibit, gallery, play, dance, theater perf.	.13	***	.06	***	-.02	***	-	-	.01	***	-	-	-.03	***
Exercised or participated in physical fitness activities	.19	***	-	-	-.03	***	-	-	.02	***	-	-	.03	***
Worked with faculty-activities other than coursework	.01	***	.01	***	.03	***	.17	***	.02	***	-.01	***	-.02	***
Partic. in community-based project, part of course	.05	***	-.02	***	.07	***	.12	***	.09	***	.01	***	-	-
Community service or volunteer work	.17	***	.02	***	-.03	***	-	-	-	-	-	-	-	-
Serious conversations w/ students: diff. race/ethnic.	-	-	.59	***	-	-	.11	***	.03	***	-	-	-.01	***
Deep learning	-	-	.03	***	.05	***	-	-	.20	***	.26	***	.37	***
<i>Student perceptions of the campus environment</i>														
Perceptions of the non-academic environment	.04	***	.01	***	.26	***	.14	***	.37	***	.18	***	.22	***
Perceptions of campus relationships	.02	***	-.02	***	.04	***	.09	***	.10	***	.10	***	.11	***
Overall satisfaction score	.06	***	-	-	.07	***	.10	***	.17	***	.20	***	.25	***
<i>Items of interest</i>														
DIFFSTU: Serious conversations w/ students: diff. relig. beliefs, polit. opinions, or pers. values	.02	***	na	na	-.04	***	.22	***	.00	-	-.04	***	-.01	***
WORSHIP: Activities to enhance spirit. devpt.	na	na	.02	***	.34	***	.01	***	.03	***	.00	-	-.01	***
	<i>Model R-square</i>		.19		.49		.37		.38		.49		.32	

*** p<.001, ** p<.01, * p<.05

'-' (dash) = variable not included in the model.

na = not applicable.

10. *Students at faith-based colleges engage in spiritual practices more and gain more in this area, but participate less often in certain other activities associated with liberal education outcomes.* As expected, students at the 29 faith-based schools in the data set worship much more frequently and report deepening their sense of spirituality to a greater degree than students at other institutions. This is true even though other denominationally-affiliated colleges are combined with non-denominational institutions in the comparison group.

However, students at faith-based colleges have far fewer serious conversations with students whose religious, political, and personal beliefs and values differ from their own. This is not surprising, given the strong cultural press of these institutions and the selection bias of students who matriculate and persist. Because the student body is relatively homogenous in terms of values, attitudes and beliefs, students simply don't have access to many people whose views are very different from their own. As a result, the campus culture compels students to act and think alike.

More worrisome, the regression model shows a tendency for students at faith-based colleges to engage less in deep learning and gain less in developing practical competence and intellectual skills. However, the effect sizes associated with these differences are quite small. In addition, in the absence of controls (bivariate analyses, Table 12) the differences are not as apparent. Moreover, t-tests comparing students at faith-based and other colleges students indicate a very small positive effect on engaging in deep learning. Nonetheless, students at faith-based colleges tend to be less engaged in a variety of educationally purposeful activities. To the extent there are educational and social tradeoffs for attending a faith-based college, especially in terms of outcomes traditionally associated with liberal learning, the collegiate experience of students at faith-based colleges warrant a more thorough examination.

Conclusions

From this analysis we draw four tentative conclusions.

- Involvement in spirituality-enhancing activities during college is strongly linked to a deepened sense of spirituality across all types of students. African Americans, both for first-year and senior students, report gaining the most in terms of spirituality.
- Involvement in spirituality-enhancing activities does not seem to hinder and may even have mild salutary effects on engagement in educationally purposeful activities and desired outcomes of college. For example, participation in religious activities is positively correlated with interacting with students with very different religious and political beliefs and personal values, though the effect size is trivial. This pattern does not hold, however, for faith-based colleges.
- Commonly used variables in studies of student development and college impact such as institutional size and selectivity, major field, and grades are unrelated to frequency of involvement in religious and spiritual activities during college. For example, students

majoring in liberal arts areas or professional fields do not differ in the frequency with which they engage in religious practices.

- A faith-based mission and campus culture appear to be major factors influencing student participation in religious and spirituality-enhancing and other activities during college. The more supportive students perceive the campus environment to be, the more they engage in religious or spiritual activities and the more they report gaining in terms of a deepened sense of spirituality.

Implications and Next Steps

As with any exploratory study, the findings of this project lead to more questions. We know from other research that campus cultures and environments have a non-trivial influence on how students spend their time, their satisfaction, and what they gain from attending college (Kuh et al., 2005; Pascarella & Terenzini, 2005). We see this again in the results of this study which leads us to wonder, for example:

- What can colleges do to make their campus climates more supportive of students' non-academic needs and interests and at the same time encourage them to become involved in religious and spiritual activities in ways that further liberal education aims?
- Are some faith-based colleges able to engage their students in deep learning activities to a greater degree, thereby attaining a better balance in terms of religiosity and liberal arts education?
- Are some public institutions able to create an especially hospitable climate on campus that promotes spirituality-enhancing activities for those who seek them and opportunities to deepen the spiritual dimensions of the college experience?

Other findings pose puzzles to which we do not have ready explanations:

- Why do first-year student report a greater sense of deepened spirituality than seniors? Is this because students come to a qualitatively different understanding of spirituality by the time they are seniors and revise the extent to which they have changed in this dimension? Do college experiences over time erode students' sense of spirituality? Or does comparatively more spiritual development actually happen during the first-year of college? Perhaps the challenge of transitioning away from home spurs more personal reflection and values clarification during the first year of college?
- Why do Hispanic/Latino students and international students who spend less time in worship activities gain more than Whites in terms of a deepened sense of spirituality?
- How does structural diversity – the percentages of students from different racial and ethnic backgrounds or from different religious traditions -- promote or inhibit student development including clarifying values and deepening spiritual beliefs?

The changing nature and characteristics of college students in virtually every sector coupled with the rising prominence of religion and spirituality worldwide underscore the importance of answering these and related questions. In the absence of such information, efforts to improve teaching and learning will almost certainly have limited impact on student development and institutional effectiveness.

Resources

Astin, A.W. (1993). *What matters in college? Four critical years revisited*. San Francisco: Jossey-Bass.

Association of American Colleges and Universities (2002). *Greater expectations: A new vision for learning as a nation goes to college*. Washington, DC: Author.

Blaich, C., Bost, A., Chan, E., & Lynch, R. (2004, February). Defining liberal arts education. *Liberal Arts Online* (http://liberalarts.wabash.edu/cila/displayStory_print.cfm?news_ID=1400).

Denton-Borhaug, K. (2004). The complex and rich landscape of student spirituality: Findings from the Goucher College Spirituality Survey. *Religion and Education*, 31(2), 21-40.

Entwistle, N. J. and Entwistle, A. (1991). Contrasting forms of understanding for degree examinations: The student experience and its implications. *Higher Education*, 22, 205-227.

Feldman, K.A. & Newcomb, T.M. (1969). *The impact of college on students*. San Francisco: Jossey-Bass.

Gorski, E. (2004, December 26). Air force academy comes to grips with religious diversity: A cadet survey this fall revealed slurs and proselytizing. Next month, the academy starts sensitivity training. *Denver Post*, p. A-01.

Hulett, L.S. (2004). Being religious at Knox College: Attitudes toward religion, Christian expression, and conservative values on campus. *Religion and Education*, 31(2), 41-61.

Kuh, G.D. (1976). Persistence of the impact of college on attitudes and values. *Journal of College Student Personnel*, 17, 116-122.

Kuh, G.D. (1999). How are we doing? Tracking the quality of the undergraduate experience, 1960s to the present. *The Review of Higher Education*, 22, 99-119.

Kuh, G.D. (2000). Do environments matter? A comparative analysis of the impress of different types of colleges and universities on character. *Journal of College and Character*. From <http://www.collegevalues.org/articles.cfm?a=1&id=239>.

Kuh, G.D. (2003). What we're learning about student engagement from NSSE. *Change*, 35(2), 24-32.

Kuh, G.D., Kinzie, J., Schuh, J.H., Whitt, E.J., & Associates (2005). *Student success in college: Creating conditions that matter*. San Francisco: Jossey-Bass.

Kuh, G.D., & Pascarella, E.T. (2004). What does institutional selectivity tell us about educational quality? *Change*, 36(5), 52-58.

Kuh, G.D., & Umbach, P.D. (2004). College and character: Insights from the National Survey of Student Engagement. In J. Dalton, T. Russell, and S. Kline (Eds.), *Assessing character outcomes in college, New Directions in Institutional Research*. San Francisco: Jossey-Bass.

Kuh, G.D., & Whitt, E.J. (1988). *The invisible tapestry: Culture in American colleges and universities*. ASHE-ERIC Higher Education Report, No. 1. Washington, DC: Association for the Study of Higher Education.

National Survey of Student Engagement (2004). *Student engagement: Pathways to collegiate success*. Bloomington, IN: Indiana University Center for Postsecondary Research.

Pascarella, E.T., & Terenzini, P.T. (1991). *How college affects students*. San Francisco: Jossey-Bass.

Pascarella, E.T., & Terenzini, P.T. (2005). *How college affects students: A third decade of research (Vol. 2)*. San Francisco: Jossey-Bass.

Perry, W.G. 1970. *Forms of intellectual and ethical development in the college years. A scheme*. New York: Holt Rinehart and Winston.

Rosenthal, R., & Rosnow, R.L. (1991). *Essentials of behavioral research: methods and data analysis (2nd ed.)*. New York: McGraw-Hill.

Schneider, C.G. (2004). Practicing liberal education: Formative themes in the reinvention of liberal learning. *Liberal Education*, 90(2), 6-11.

Tagg, J. (2003). *The learning paradigm college*. Bolton, MA: Anker.

**Appendix A:
Faith-Based Colleges and Universities**

The 29 institutions below participated in NSSE 2004 and were characterized as “faith-based” for the purpose of this study. They include those with reputations as being fundamentalistic in terms of adhering to their religious tradition. Also, member schools of the Council for Christian Colleges and Universities were assigned to this category for this heuristic exercise.

<u>Institution</u>	<u>City, ST</u>
Abilene Christian University	Abilene, TX
Berry College	Mount Berry, GA
Brigham Young University	Provo, UT
Brigham Young University-Hawaii Campus	Laie, HI
Cardinal Stritch University	Milwaukee, WI
Cedarville University	Cedarville, OH
Concordia College	Bronxville, NY
Eastern Mennonite University	Harrisonburg, VA
Friends University	Wichita, KS
Grove City College	Grove City, PA
Holy Family University	Philadelphia, PA
Holy Names University	Oakland, CA
Houghton College	Houghton, NY
Huntington College	Huntington, IN
Jarvis Christian College	Hawkins, TX
John Brown University	Siloam Springs, AR
Johnson Bible College	Knoxville, TN
Judson College (AL)	Marion, AL
Judson College (IL)	Elgin, IL
Lincoln Christian College and Seminary	Lincoln, IL
Malone College	Canton, OH
Manchester College	North Manchester, IN
Nazareth College of Rochester	Rochester, NY
Northwest Christian College	Eugene, OR
Saint John Vianney College Seminary	Miami, FL
Southwestern Assemblies of God University	Waxahachie, TX
Trinity Christian College	Palos Heights, IL
Westmont College	Santa Barbara, CA
Wisconsin Lutheran College	Milwaukee, WI

Appendix B: Detailed List of Majors

Arts and Humanities

- Art, fine and applied
- English (language and literature)
- History
- Journalism
- Language and literature (except English)
- Music
- Philosophy
- Speech
- Theater or drama
- Theology or religion
- Other arts & humanities

Biological Sciences

- Biology (general)
- Biochemistry or biophysics
- Botany
- Environmental science
- Marine (life) science
- Microbiology or bacteriology
- Zoology
- Other biological science

Business

- Accounting
- Business administration (general)
- Finance
- International business
- Marketing
- Management
- Other business

Education

- Business education
- Elementary/middle school education
- Music or art education
- Physical education or recreation
- Secondary education
- Special education
- Other education

Engineering

- Aero-/astronautical engineering
- Civil engineering
- Chemical engineering
- Electrical or electronic engineering
- Industrial engineering
- Materials engineering
- Mechanical engineering
- General/other engineering

Physical Science

- Astronomy

- Atmospheric science (including meteorology)
- Chemistry
- Earth science (including geology)
- Mathematics
- Physics
- Statistics
- Other physical science

Professional

- Architecture
- Urban Planning
- Health technology (medical, dental, laboratory)
- Law
- Library/archival science
- Medicine
- Dentistry
- Veterinarian
- Nursing
- Pharmacy
- Allied health/other medical
- Therapy (occupational, physical, speech)
- Other professional

Social Science

- Anthropology
- Economics
- Ethnic studies
- Geography
- Political science (including government, international relations)
- Psychology
- Social work
- Sociology
- Gender studies
- Other social science

Other

- Agriculture
- Communications
- Computer science
- Family Studies
- Natural resources and conservation
- Kinesiology
- Criminal justice
- Military science
- Parks, recreation, leisure studies, sports management
- Public administration
- Technical/vocational

Undecided

**Appendix C:
Data Sources and Analytical Methods**

The data for this study are from the NSSE 2004 survey cycle, the most recent data set available. We use responses from randomly sampled first-year and senior students, excluding students from targeted oversamples and local administrations, students attending Canadian institutions, students younger than 15 years, and students older than 65 years. This resulted in 149,801 student records from 461 different four-year colleges and universities in the United States.

Institutions. As Table 2 shows, the 461 institutions are fairly representative of the national profile of all four-year colleges and universities in the U.S. Fifty-seven percent were private schools, 9% were doctoral-extensive institutions, 9% were doctoral-intensive institutions, 44% were master’s level institutions, 16% were baccalaureate liberal arts colleges, and 15% were baccalaureate general colleges. The remaining 7% were specialized institutions.

**Table 2:
Comparison of NSSE 2004 Institutions and
All Four-Year Institutions in the U.S.**

	NSSE 2004 Institutions	All U.S. 4-year Institutions
<i>Carnegie Classification</i>		
Doc/Research – Extensive	9%	8%
Doc/Research – Intensive	9%	5%
Master’s I & II	44%	30%
Baccalaureate – Liberal Arts	16%	16%
Baccalaureate – General	15%	11%
Specialized institutions	7%	29%
<i>Sector</i>		
Public 4-year	43%	37%
Private 4-year	57%	63%

Students. Fifty-one percent of the respondents were first-year students and 49% were seniors. Table 3 shows selected student background characteristics. Though NSSE respondents differ somewhat from the national profile, they are generally similar to students attending liberal arts colleges in that more are enrolled full-time and more are women. In addition, 11% were members of a social fraternity or sorority, 10% were varsity athletes, and almost a third (32%) were first-generation students. Forty-two percent reported earning mostly ‘A’ grades with another half (49%) earning mostly ‘B’ grades.

**Table 3:
Comparison of NSSE 2004 Respondents and All
Students Attending Four-Year Institutions in the U.S.**

	NSSE 2004 Respondents	Students Attending All U.S. 4-year Institutions
<i>Gender</i>		
Men	35%	44%
Women	65%	56%
<i>Race/Ethnicity</i>		
African American/Black	7%	11%
Amer. Indian/Alaska Native	1%	1%
Asian/Pacific Islander	4%	6%
Caucasian/White	76%	67%
Hispanic	6%	8%
Other	.2%	5%
Multiple	2%	-
<i>Enrollment Status</i>		
Full-time	90%	83%
Part-time	10%	17%

Students were reasonably well distributed according to primary major fields, as shown in Table 4. A detailed list of the majors included within each of the categories in Table 4 can be found in Appendix B.

**Table 4:
Primary Majors Reported by
NSSE 2004 Students**

Major Category	Percent
Arts and Humanities	14.9
Biological Science	7.1
Business	16.5
Education	11.2
Engineering	5.4
Physical Science	3.3
Professional	9.1
Social Science	13.9
Other	15.7
Undecided	2.9

Variables

As mentioned earlier in the report, the three independent variables from NSSE of interest were:

- **WORSHIP:** In your experience at this institution, how often have you participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)?
- **DIFFSTU:** In your experience at this institution, how often have you had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values?
- **GNSPIRIT:** To what extent has your experience at this institution contributed to developing a deepened sense of spirituality?

Analytical Approach

Several different analyses were conducted to gain insight into the relationships between religion, spirituality, and college student engagement and related experiences. First, we will provide some descriptive information about the three behaviors of interest –DIFFSTU, WORSHIP, and GNSPIRIT.

The mean of DIFFSTU is 2.7 (Table 5). This means that on the response metric (1=never, 2=sometimes, 3=often, and 4=very often) on average students say they occasionally have such serious conversations with people who have very different religious beliefs, political opinions and personal values (more than “sometimes” and closer to “often”). The WORSHIP mean of 2.1 suggests that on average students say they participate in spiritual activities “sometimes.” The 2.0 mean of GNSPIRIT (1=very little, 2=some, 3=quite a bit, 4=very much) suggests that students on average have deepened their sense of spirituality to “some” degree. The standard deviation of all three items is about 1.0, meaning that student responses varied considerably on the four point scale. Thus, these items discriminate among students fairly well.

Table 5:
Normality Statistics of the Data Set

		DIFFSTU	WORSHIP	GNSPIRIT
N	Valid	149,585	149,542	149,138
	Missing	205	248	652
Mean		2.7	2.1	2.0
Std. Error of Mean		0.00	0.00	0.00
Std. Deviation		1.0	1.1	1.1
Skewness		-0.14	0.62	0.66
Std. Error of Skewness		0.006	0.006	0.006
Kurtosis		-1.06	-1.02	-0.89
Std. Error of Kurtosis		0.013	0.013	0.013

We also conducted t-tests and one-way ANOVAs for all bivariate relationships between several student characteristics and each of the three items of interest (Tables 6 and 7). The frequency tables in Appendix D may also be of interest, as they reflect the magnitude of the differences between student groups on the three items. Occasionally we refer to effect size as a way of determining whether a statistically significant difference really represents a “real,” meaningful difference in terms of student behavior and warrants attention. That is, is the difference big enough to be noticed when comparing groups of students or types of institutions? The effect size is the proportion of a standard deviation change in the dependent variable as a result of a one-unit change in an independent variable. Taking the advice of Rosenthal and Rosnow (1991) we consider an effect size of .10 or less to reflect a trivial difference, between .10 and .30 small, and between .30 and .50 moderate, and greater than .50 large.

Class rank. First year students more frequently engage in DIFFSTU and report greater gains in GNSPIRIT, but do not differ on WORSHIP (Table 6). However, the effect size for DIFFSTU (.02) is so small that this difference probably has little practical import. Indeed, the frequency tables in Appendix D indicate that only 1-2% more of first-year students report frequently engaging in DIFFSTU than seniors. Almost a third (32%) of first-year students report deepening their sense of spirituality a ‘substantial’ amount (quite a bit or very much) compared with 28% of seniors.

Sex. Although men and women differ statistically on most comparisons (the one exception is first-year students on DIFFSTU), the effect sizes ($|.08|$ and less) are close to trivial. On balance, the comparisons favor women, as they were about 3% more likely to ‘frequently’ engage in WORSHIP and to gain ‘substantially’ in GNSPIRIT.

Enrollment status. As expected, full-time students were more likely than their part-time counterparts to engage in both activities and to report greater gains on GNSPIRIT ($p < .001$). Effect sizes indicate that these differences are small to moderate in influence, especially with DIFFSTU. For example, 58% of full-time first-year students ‘frequently’ have serious conversations with students who are different from them religiously, politically, and personally, compared with only 43% of first-year part-timers. The same pattern exists for seniors. About 6% more full-time students “frequently” participate in WORSHIP activities than do part-time students. This is because full-time students have more opportunities and available time to engage in such activities. Also, full time students have the luxury of exploring non-academic, holistic, developmental, and wellness types of activities that are traditionally associated with the liberal college experience. Consequently, about 6% more full-time students report “substantial” gains in GNSPIRIT.

Social fraternities and sororities. Mean differences between members of social Greek-letter organizations and non-members are significant, although effect sizes were small or trivial. Members of social fraternities and sororities more ‘frequently’ engage in serious discussions with students who differ from them religiously, politically, or personally compared with non-members. The WORSHIP item shows an interesting pattern for these students. Ten percent fewer Greek members report that they “never” WORSHIP, but about the same percentage of Greeks and non-Greeks report worshipping “very often.” This means the fraternity and sorority members tend to worship more than occasionally (“sometimes” and “often” combined). More Greek

members also gain more in terms of spirituality, although the effect sizes associated with these differences are so small as to be trivial.

Varsity Athletes. As with many other group comparisons, varsity athletes and non-athletes differed statistically, but the effect sizes were generally quite small. Almost three fifths of both athletes and non-athletes ‘frequently’ engage in DIFFSTU (Appendix D). While more non-athletes ‘never’ participated in worship, meditation or prayer, about the same percentage (17%) of athletes and non-athletes indicated they did so ‘very often.’ More athletes reported gaining in spirituality, with effect sizes of .10 for first-year students and .14 for seniors on this item (Table 6). Note, however, that this effect is eliminated in the regression model when other controls are present.

First-generation status. Students with neither parent holding a college degree report are about 6 to 8% less likely to ‘frequently’ engage in DIFFSTU and WORSHIP, yet they are virtually the same as their second-generation counterparts in deepening their spirituality. The effect sizes in Table 6 are small, but not trivial. What a “deepened sense of spirituality” means to first-generation students may be worth exploring in more detail, perhaps through cognitive interviews and focus groups. Perhaps attending college opens some spiritual doors for certain first generation students that are qualitatively different from what they experienced prior to college when participating in formal worship activities.

Self-reported grades. Earning better grades is positively associated with more frequent engagement in both DIFFSTU and WORSHIP and with spiritual development (GNSPIRIT) (Table 7). The patterns are identical for first-year and senior students. For example, students earning As and Bs were 5-7% more likely to ‘frequently’ engage in DIFFSTU. Thirty-seven percent of first-year ‘A’ students reported that they WORSHIP ‘frequently’ while only about 24% of first-year ‘C’ students do so. Seniors are essentially the same. The results are about the same for GNSPIRIT.

Primary major. There are no significant differences by major field for seniors. By this time, if major field were to make a difference in religious or diversity experiences it would be evident. The differences associated with major field at the end of the first year of college are not likely a function of major field per se as few students have systematic exposure to major field departments and courses so early in their college studies.

Race and ethnicity. Although race and ethnic background do not make a difference for DIFFSTU, this characteristic does interact with the other two variables. For example, 34% of first-year and 38% of senior African American students ‘frequently’ engage in WORSHIP activities compared with White students, 32% and 31% respectively. Hispanic students are the least likely to worship ‘frequently,’ 23% and 26% respectively. Consistent with their behavior, African American students report “substantial” gains in GNSPIRIT (40% first-year, 36% seniors) compared with White students (31% first-year, 27% seniors).

Institutional type. Schools were assigned to one of five major Carnegie institutional categories: Doctoral/Research-Extensive (Doc-Ext), Doctoral/Research-Intensive (Doc-Int), Master’s I & II (MA), Baccalaureate-Liberal Arts (Bac-LA), and Baccalaureate-General (Bac-Gen). Table 7 shows that on the one hand more students attending Bac-LA institutions frequently

engaged in DIFFSTU (67% first-year, 65% seniors ‘frequently’) than students at any other type of institution. On the other hand, while students attending Bac-Gen colleges were significantly less likely (51% first-year and 48% senior ‘frequently’) to engage in DIFFSTU, they were much more likely to frequently engage in worship activities (44% first-year, 43% senior) than other students and to gain more in terms of spirituality (47% and 46% respectively). This pattern is consistent with other analyses of student engagement data (Kuh & Umbach, 2004). The latter may be due in part to the fact that Bac-Gen colleges are relatively homogenous in terms of student background characteristics and include a larger number of denominationally-affiliated institutions. Note, too, that students attending the larger research-intensive universities (Doc-Ext and Doc-Int) were less likely to report gains in spiritual development.

**Table 6:
T-test Results of Selected Student Characteristics –
Effect Size and Significance**

Student Characteristics	class	DIFFSTU		WORSHIP		GNSPIRIT	
		effect size	sig.	effect size	sig.	effect size	sig.
Class (first-year=1, senior=0)		.02	***	.01	ns	.11	***
Sex (male=1, female=0)	FY	.01	ns	-.07	***	-.07	***
	Sen	.03	***	-.06	***	-.08	***
Enrollment Status (full time=1, less than full time=0)	FY	.37	***	.21	***	.17	***
	Sen	.31	***	.14	***	.14	***
Transfer status (yes=1, no=0)	FY	-.12	***	.00	ns	-.04	*
	Sen	-.18	***	-.13	***	-.14	***
Fraternity/Sorority (yes=1, no=0)	FY	.14	***	.12	***	.05	***
	Sen	.15	***	.09	***	.09	***
Varsity athletes (yes=1, no=0)	FY	.03	**	.09	***	.10	***
	Sen	.08	***	.08	***	.14	***
First generation status (yes=1, no=0)	FY	-.13	***	-.20	***	-.03	**
	Sen	-.13	***	-.14	***	-.02	**
International student (yes=1, no=0)	FY	-.10	***	-.11	***	.21	***
	Sen	-.06	***	-.06	***	.25	***
Private institution (yes=1, no=0)	FY	.13	***	.28	***	.41	***
	Sen	.08	***	.18	***	.48	***

* p<.05, ** p<.01, *** p<.001, ns=not significant

Table 7:
One-Way ANOVA Results of Selected Student Characteristics by Class

		DIFFSTU	WORSHIP	GNSPIRIT
Grades	FY	'A' and 'B' > 'C'	'A' > 'B' > 'C'	'A' and 'B' > 'C'
	Sen	'A' and 'B' > 'C'	'A' > 'B' > 'C'	'A' and 'B' > 'C'
Race/Ethnicity	FY	<i>no differences</i> (<i>p</i> >.001)	Afr Amer & White > Asian > Hispanic	Afr Amer > all others
	Sen	<i>no differences</i> (<i>p</i> >.001)	Afr Amer > White > all others	Afr Amer, Asian, & Hispanic > White
Major	FY	Soc Sci & Art/Hum > Bio Sci & Phys Sci > Eng, Educ, Prof, & Bus	Educ & Art/Hum > Bio Sci, Phys Sci, Soc Sci, & Eng > Bus	Educ > others > Eng
	Sen	<i>no differences</i> (<i>p</i> >.001)	<i>no differences</i> (<i>p</i> >.001)	<i>no differences</i> (<i>p</i> >.001)
Carnegie Classification	FY	Bac-LA > Doc-Ext, Doc-Int, & Master's > Bac-Gen	Bac-Gen > Doc-Ext & Bac-LA > Master's & Doc-Int	Bac-Gen > Master's & Bac-LA > Doc- Int & Doc-Ext
	Sen	Bac-LA > Doc-Ext, Doc-Int, & Master's > Bac-Gen	Bac-Gen > Doc Ext > Bac-LA, Master's, & Doc-Int	Bac-Gen > Master's & Bac-LA > Doc- Int & Doc-Ext

Correlational Analysis

Table 8 shows bivariate correlations among the three items of interest to this study with the five NSSE clusters of effective educational practice, time on task, perceptions of the campus environment, quality of relations among groups, satisfaction, and deep learning scale. A bivariate correlation is the extent to which two items are related to one another, and does not necessarily equal causation. Correlations are reported separately for first-year and seniors students, although as with previous analyses the general pattern shows very few differences between classes.

Note the relatively strong correlations (.46 and .41) between WORSHIP (activities to “enhance your spirituality”) and GNSPIRIT (gaining a “deepened sense of spirituality”). Though not surprising given their significant content overlap, this provides evidence of internal construct validity of the items.

However, DIFFSTU is only weakly related with WORSHIP and GNSPIRIT (between .08 and .10). This may be due in part to the limited content overlap between the items. That is, DIFFSTU includes serious discussion with students who hold very different religious beliefs, political opinions, and personal values and, as a result, this behavior would not necessarily be expected to correspond strongly with a deepened sense of spirituality or participating in religious activities. Seeking spiritual enlightenment is only one of many responses to having serious conversions with students of different beliefs and opinions.

Other items correlating moderately with DIFFSTU include the Deep Learning scale and three of the NSSE clusters of effective educational practices: academic challenge, active and collaborative learning, and student-faculty interaction. Thus, it appears that this behavior – having serious discussions with peers from different backgrounds – represents a form of engagement that associates well with different kinds of learning behaviors.

With the exception of GNSPIRIT, WORSHIP does not correlate well with any of the items or scales examined in this study. In fact, worship activities are weakly linked with effective educational practices, especially active and collaborative learning and enriching educational experiences (EEE). The absence of a relationship between religious practices and other enriching educational experiences is somewhat surprising, given that the types of activities included in EEE are found in other analyses to be positively linked to a range of desired outcomes of college. Note the negative (though trivial in magnitude) correlation of WORSHIP with hours spent socializing, caring for dependents, and commuting. This makes sense, in that students who must use more of their discretionary time caring for others or commuting, or who spend it socializing, have less time to devote to worship. In addition, some aspects of socializing (consuming alcohol, for example) are antithetical to the values espoused by some who worship devoutly.

Although neither DIFFSTU nor WORSHIP are related to a supportive campus environment, GNSPIRIT is correlated moderately (.40 and .41) with this cluster of effective educational practices and reasonably well with satisfaction (OPINSCOR) at .27 and .29. Smaller correlations exist between GNSPIRIT and the other four benchmarks and students’ perceptions of campus relationships with other students, faculty members, and administrators. Perhaps developing a deepened sense of spirituality is best done in the context of a campus environment where students are surrounded by congenial peers, faculty, and staff and feel supported academically and socially.

**Table 8:
Correlations for First-Year and Senior Students**

Variable	DIFFSTU		WORSHIP		GNSPIRIT	
	FY	SN	FY	SN	FY	SN
DIFFSTU: Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values						
WORSHIP: Participated in activities to enhance your spirituality	.10	.10				
GNSPIRIT: Institutional contribution: Developing a deepened sense of spirituality	.08	.09	.46	.41		
Academic Challenge benchmark	.31	.30	.14	.12	.23	.22
Active and Collaborative Learning benchmark	.35	.34	.21	.16	.24	.22
Student-Faculty Interaction benchmark	.31	.35	.19	.17	.27	.26
Enriching Educational Experiences benchmark (includes DIFFSTU)	-	-	.21	.19	.22	.22
Supportive Campus Environment benchmark	.17	.15	.17	.17	.40	.41
Hours per 7-day week spent preparing for class	.09	.10	.11	.08	.08	.05
Hours per 7-day week spent participating in co-curricular activities	.12	.15	.16	.13	.12	.13
Hours per 7-day week spent relaxing and socializing	.03	.01	-.08	-.08	-.07	-.06
Hours per 7-day week spent providing care for dependents living with you	-.06	-.07	-.04	.00	.01	-.01
Hours per 7-day week spent commuting to class	-.03	-.01	-.04	-.03	.01	.02
Quality: Your relationships with other students	.15	.12	.14	.12	.22	.21
Quality: Your relationships with faculty members	.12	.11	.11	.09	.22	.21
Quality: Your relationships with administrative personnel and offices	.05	.02	.10	.10	.22	.22
Overall satisfaction score	.13	.11	.17	.15	.27	.29
Deep learning scale	.41	.41	.16	.14	.25	.24

Regression Analysis

Seven separate multiple linear regression models were created (Table 1). Regression analysis allows us to use more than one independent variable to predict a single dependent variable. The coefficient of a predictor variable represents the effect of that variable while holding constant, or controlling for, the effects of the other independent variables. Control variables in the models included student background characteristics: class rank, race/ethnicity, self-reported grades, enrollment status (full time), Greek members, athletes, first generation students, and transfer students. Institution-level controls included sector (private) and Carnegie type. After controls were introduced, relevant engagement variables were entered into the models to explain as much variance within each dependent variable as possible. The final variables to be entered into the models were the three variables of interest in this study.

The variables selected for the models were chosen based on content and on the results of the t-tests, ANOVAs, and bivariate correlations previously reported. Variables that did not have any significant impact within the model were ultimately excluded from the models to avoid problems with multicollinearity and overspecification. All non-dichotomous variables were standardized before entering into the model. As a result, unstandardized beta coefficients can be interpreted as effect sizes.

The major findings from the regressions analyses were summarized in the report narrative and will not be repeated here.

Analysis of Consortium Questions

Four of the consortia that participated in NSSE 2004 asked additional questions that were related to the purposes of this study. The four were the Consortium of Christian College and Universities (CCCU), Catholic Institutions, Jesuit Institutions, and the Council of Independent Colleges (CIC). Below is a sampling of the additional questions asked by these groups:

CCCU Questions

How much do you agree or disagree with the following statements? (Response options range from 'strongly disagree' to 'strongly agree.')

- I have a personally meaningful relationship with God.
- This institution has helped me to critically evaluate whether or not my behavior is consistent with Christian values.

Catholic Consortium Questions

Every institution has a mission statement. We would like to know how familiar you are with your school's mission. Please indicate your agreement with each of the following statements: (Response options range from 'strongly disagree' to 'strongly agree.')

- Ethical and spiritual development of students is an important part of the mission at this institution.
- The faculty, staff, and students here are respectful of people of different religions.

Jesuit Consortium Questions

To what extent has your experience at this institution contributed to your development of each of the following? (Response options include ‘very little,’ ‘some,’ ‘quite a bit,’ and ‘very much.’)

- Making connections between your intellectual and spiritual life.

CIC Consortium Questions

Compared to when you first enrolled at this institution, how likely are you to do the following? (Response options include ‘much less likely,’ ‘somewhat less likely,’ ‘about as likely,’ ‘somewhat more likely,’ and ‘much more likely.’)

- Engage in spiritual reflection or meditation.
- Discuss the meaning of your life with others you trust.

Because these additional questions were asked only of students attending one of the consortium institutions, we have far fewer responses to analyze compared with the national data set. Equally important and more problematic, the variance in the responses is attenuated compared with the national data set due to the fact that these students were relatively homogeneous in terms of values and attitudes, a byproduct of matriculating to colleges and universities with salient missions and declared value orientations.

With these caveats in mind, our analyses of these data yielded two key findings. First, the faith-related items on the NSSE survey and similar items included among the additional questions used by these consortia are strongly correlated. For example, Table 9 shows that students attending CIC schools answered the WORSHIP and GNSPIRIT items from NSSE and the additional CIC consortium faith-related items in very similar ways. This indicates that NSSE items can serve as reliable proxies for a range of faith-related behaviors.

**Table 9:
Correlations between CIC Consortium Items
and NSSE Faith-Related Items**

	DIFFSTU		WORSHIP		GNSPIRIT	
<i>Compared to when you first enrolled at this institution, how likely are you to:</i>	<u>FY</u>	<u>SEN</u>	<u>FY</u>	<u>SEN</u>	<u>FY</u>	<u>SEN</u>
Engage in spiritual reflection or meditation.	.14	.03	.49	.44	.58	.58
Discuss the meaning of your life with others you trust.	.20	.11	.33	.26	.47	.47
Talk about issues of faith and religious traditions with others.	.19	.08	.43	.38	.51	.50

The second key finding is that students attending these institutions respond in very similar ways to faith-related questions. For example, at CCCU schools, more than 90% of first-year and senior students respond that they either ‘agree’ or ‘strongly agree’ with the statement.

This finding lends credence to the speculation that students who attend faith-based colleges are much more homogeneous in their attitudes, values, and religion beliefs than students at other types of institutions.

**Table 10:
CCCU Consortium Frequencies by Class**

CCCU Item	Response Options	FY		Senior	
		N	Col %	N	Col %
I have a personally meaningful relationship with God.	Strongly Disagree	1	0.1	2	0.2
	Disagree	6	0.6	5	0.6
	Neutral	43	4.4	42	4.8
	Agree	209	21.3	234	26.8
	Strongly Agree	720	73.5	591	67.6
My relationship with God contributes to my sense of well-being.	Strongly Disagree	1	0.1	5	0.6
	Disagree	7	0.7	3	0.3
	Neutral	29	3	28	3.2
	Agree	178	18.2	196	22.4
	Strongly Agree	763	78	642	73.5
The way I do things from day to day is often affected by my relationship with God.	Strongly Disagree	2	0.2	4	0.5
	Disagree	13	1.3	10	1.1
	Neutral	76	7.8	70	8
	Agree	292	29.9	297	34.1
	Strongly Agree	595	60.8	491	56.3
Even if the people around me were opposed to my Christian convictions, I would still hold fast to them.	Strongly Disagree	1	0.1	2	0.2
	Disagree	5	0.5	4	0.5
	Neutral	49	5	41	4.7
	Agree	305	31.2	273	31.3
	Strongly Agree	617	63.2	551	63.3
I feel as if I need to be open to consider new insights and truths about my faith.	Strongly Disagree	4	0.4	4	0.5
	Disagree	18	1.8	18	2.1
	Neutral	144	14.7	99	11.4
	Agree	397	40.6	352	40.6
	Strongly Agree	415	42.4	395	45.5

(More information about the 2004 consortia is available on the NSSE web site at <http://www.indiana.edu/~nsse/html/consortia.htm>.)

Crosstabulation of Deep Learning Scores

To better understand the relationship between engagement in spiritually-enhancing activities and deep learning activities, we examined the crosstabulated frequencies of these items. For this purpose, the distribution of deep learning scores was collapsed into three equal parts, lowest third, middle third, and highest third. Similarly, the WORSHIP item was collapsed so that ‘often’ and ‘very often’ responses became ‘frequently.’ Table 11 shows the results of the crosstabulation procedure of these two items broken out by Carnegie types; Table 12 shows the same by way of whether or not the students attended a faith-based institution.

Faith-based colleges are over-represented among baccalaureate general colleges, which may explain why WORSHIP is more frequent and GNSPIRIT is greater at those institutions. Liberal arts colleges are not all that different from remaining types of institutions on the WORSHIP and GNSPIRIT items. To understand the frequencies in the two tables below, the 46.7% value at the top left of Table 11 (first value for Doc-Ext) can be interpreted as, “Of students in the lowest third on the deep learning scale, 46.7% say they never worship, meditate, pray, etc.”

Thus, these tables suggest:

- No matter the Carnegie type, students in the highest third of the Deep Learning scale are less likely to respond “never” and more likely to respond “often” or “very often” (frequently) to the WORSHIP item.
- Overall, Bac-Gen students are more likely to say they frequently worship, meditate, or pray, but the same pattern from low-third to high-third on Deep Learning is about the same.
- Students at faith-based institutions are much more likely to worship, meditate, or pray, but the variance between the low-third and high-third on Deep Learning seems about the same as that for non-faith-based schools.

Table 11:
Crosstabulation of WORSHIP by Deep Learning by Carnegie Classification

% within Deep Learning (Thirds)			Deep Learning (Thirds)			Total
Carnegie Groups (IPEDS)			lowest third	middle third	highest third	
Doc-Ext	Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	never	46.7%	38.5%	34.4%	40.6%
		sometimes	25.0%	27.8%	27.1%	26.5%
		frequently	28.4%	33.7%	38.5%	32.8%
	Total	100.0%	100.0%	100.0%	100.0%	
Doc-Int	Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	never	53.9%	45.1%	37.8%	46.2%
		sometimes	23.4%	27.7%	27.4%	26.1%
		frequently	22.7%	27.2%	34.8%	27.7%
	Total	100.0%	100.0%	100.0%	100.0%	
Master's	Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	never	52.6%	42.8%	35.6%	44.2%
		sometimes	24.9%	29.0%	29.0%	27.5%
		frequently	22.6%	28.3%	35.4%	28.3%
	Total	100.0%	100.0%	100.0%	100.0%	
Bac-LA	Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	never	47.1%	40.0%	33.7%	39.3%
		sometimes	28.5%	31.3%	32.7%	31.2%
		frequently	24.4%	28.7%	33.6%	29.6%
	Total	100.0%	100.0%	100.0%	100.0%	
Bac-Gen	Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	never	37.9%	29.4%	24.2%	30.8%
		sometimes	26.0%	25.7%	25.2%	25.7%
		frequently	36.1%	44.8%	50.7%	43.6%
	Total	100.0%	100.0%	100.0%	100.0%	
Other	Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	never	50.2%	45.4%	35.2%	44.4%
		sometimes	20.1%	20.6%	25.2%	21.6%
		frequently	29.7%	34.1%	39.6%	34.0%
	Total	100.0%	100.0%	100.0%	100.0%	

Table 12:
Crosstabulation of WORSHIP by Deep Learning by Faith-Based Institution Status

% within Deep Learning (Thirds)						
Faith-Based Institution			Deep Learning (Thirds)			
			lowest third	middle third	highest third	Total
no	Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	never	51.5%	42.5%	35.7%	43.6%
		sometimes	25.2%	29.0%	29.5%	27.9%
		frequently	23.3%	28.4%	34.8%	28.5%
	Total		100.0%	100.0%	100.0%	100.0%
yes	Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	never	11.5%	8.3%	7.4%	9.1%
		sometimes	20.0%	15.9%	13.1%	16.4%
		frequently	68.5%	75.9%	79.5%	74.6%
	Total		100.0%	100.0%	100.0%	100.0%

Limitations of the Study

One of the major limitations of the analysis is that institutions choose to participate in NSSE. Although NSSE institutions mirror all four-year institutions on most institutional characteristics (National Survey of Student Engagement, 2004), the fact that college and universities volunteer to participate requires that some caution be used when generalizing the results to students at other four-year institutions.

Another major limitation of this analysis is the absence of pre-college controls. That is, student self-selection may be a major reason for the institutional differences that were found, such as between baccalaureate liberal arts colleges, baccalaureate general colleges, and larger research intensive universities. To examine these institutional effects more carefully and control for students' pre-college experiences, we could do a subsequent study using schools that administer NSSE's Beginning College Student Survey as their students start college, NSSE at the end of the first year, and then again later to track changes over time. Consortia of colleges could be formed to look at these intersections more systematically to measure and enhance the student behaviors and institutional practices that more tightly couple liberal arts education and spirituality and add additional questions on the instrument that focus specifically on areas of interest. Such information would yield very rich insights that could inform institutional policy and practice as well as more clearly uncover institutional effects on religious practices and liberal learning.

**Appendix D:
SPSS Frequency Output**

Appendix D: Frequencies by Class Rank

		Institution reported: Class rank		Total
		1 Freshman/ First-year student	4 Senior	
		Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	10.6%	9.7%	10.2%
	2 Sometimes	31.6%	33.9%	32.8%
	3 Often	29.6%	29.6%	29.6%
	4 Very often	28.1%	26.8%	27.5%
	Total	100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	41.6%	42.1%	41.8%
	2 Sometimes	27.2%	27.3%	27.3%
	3 Often	13.5%	12.8%	13.1%
	4 Very often	17.6%	17.8%	17.7%
	Total	100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	39.4%	46.5%	42.9%
	2 Some	28.3%	25.5%	27.0%
	3 Quite a bit	18.2%	14.5%	16.4%
	4 Very much	14.0%	13.5%	13.8%
	Total	100.0%	100.0%	100.0%

Appendix D: First-Year Frequencies by Selected Student Characteristics

		Student reported: Your sex		Total
		1 Male	2 Female	
		Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	10.7%	10.6%	10.6%
	2 Sometimes	30.5%	32.2%	31.6%
	3 Often	30.8%	29.0%	29.6%
	4 Very often	28.0%	28.2%	28.2%
Total		100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	43.4%	40.7%	41.6%
	2 Sometimes	27.1%	27.3%	27.3%
	3 Often	13.7%	13.4%	13.5%
	4 Very often	15.7%	18.6%	17.6%
Total		100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	41.5%	38.4%	39.4%
	2 Some	27.8%	28.6%	28.3%
	3 Quite a bit	17.9%	18.4%	18.2%
	4 Very much	12.9%	14.7%	14.1%
Total		100.0%	100.0%	100.0%

		first generation student		Total
		0 no	1 yes	
		Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	9.5%	12.8%	10.6%
	2 Sometimes	30.9%	33.4%	31.6%
	3 Often	30.3%	28.0%	29.6%
	4 Very often	29.2%	25.8%	28.2%
Total		100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	38.6%	48.2%	41.6%
	2 Sometimes	27.9%	25.8%	27.3%
	3 Often	14.3%	11.8%	13.5%
	4 Very often	19.2%	14.2%	17.6%
Total		100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	39.3%	39.7%	39.4%
	2 Some	28.1%	29.0%	28.4%
	3 Quite a bit	18.3%	18.0%	18.2%
	4 Very much	14.3%	13.3%	14.0%
Total		100.0%	100.0%	100.0%

Appendix D: First-Year Frequencies by Selected Student Characteristics

		Thinking about this current academic term, how would you characterize your enrollment?		Total
		1 Less than full-time	2 Full-time	
		Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	20.8%	10.2%	10.6%
	2 Sometimes	35.9%	31.5%	31.6%
	3 Often	26.0%	29.7%	29.6%
	4 Very often	17.3%	28.6%	28.1%
Total		100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	55.0%	41.2%	41.7%
	2 Sometimes	20.4%	27.5%	27.2%
	3 Often	9.9%	13.6%	13.5%
	4 Very often	14.6%	17.7%	17.6%
Total		100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	48.0%	39.1%	39.4%
	2 Some	26.0%	28.4%	28.3%
	3 Quite a bit	14.2%	18.3%	18.2%
	4 Very much	11.8%	14.1%	14.0%
Total		100.0%	100.0%	100.0%

		Are you a member of a social fraternity or sorority?		Total
		1 No	2 Yes	
		Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	10.9%	7.5%	10.6%
	2 Sometimes	31.9%	29.4%	31.6%
	3 Often	29.5%	31.0%	29.6%
	4 Very often	27.7%	32.1%	28.1%
Total		100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	42.6%	32.2%	41.7%
	2 Sometimes	26.6%	33.7%	27.2%
	3 Often	13.2%	16.1%	13.5%
	4 Very often	17.6%	17.9%	17.6%
Total		100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	39.8%	35.5%	39.4%
	2 Some	28.1%	31.0%	28.3%
	3 Quite a bit	18.1%	19.4%	18.2%
	4 Very much	14.0%	14.1%	14.0%
Total		100.0%	100.0%	100.0%

Appendix D: First-Year Frequencies by Selected Student Characteristics

		Are you a student-athlete on a team sponsored by your institution's athletics department?		Total
		1 No	2 Yes	
		Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	10.8%	9.2%	10.6%
	2 Sometimes	31.6%	32.0%	31.6%
	3 Often	29.5%	30.6%	29.6%
	4 Very often	28.2%	28.2%	28.2%
Total		100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	42.6%	34.5%	41.7%
	2 Sometimes	26.5%	32.6%	27.2%
	3 Often	13.2%	15.8%	13.5%
	4 Very often	17.7%	17.1%	17.6%
Total		100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	40.2%	33.7%	39.4%
	2 Some	27.9%	31.4%	28.3%
	3 Quite a bit	17.9%	20.5%	18.2%
	4 Very much	14.0%	14.5%	14.0%
Total		100.0%	100.0%	100.0%

		letter grades				Total
		A	B	C	missing	
		Col %	Col %	Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	9.5%	10.6%	13.7%	17.0%	10.6%
	2 Sometimes	31.7%	31.2%	32.8%	35.5%	31.6%
	3 Often	29.5%	30.0%	28.5%	26.9%	29.6%
	4 Very often	29.3%	28.2%	25.0%	20.7%	28.1%
Total		100.0%	100.0%	100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	36.7%	43.5%	49.4%	50.1%	41.6%
	2 Sometimes	26.2%	28.2%	26.9%	25.6%	27.2%
	3 Often	14.3%	13.2%	12.1%	10.5%	13.5%
	4 Very often	22.7%	15.1%	11.6%	13.8%	17.6%
Total		100.0%	100.0%	100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	39.3%	38.8%	42.5%	39.6%	39.4%
	2 Some	27.6%	29.1%	28.1%	22.4%	28.3%
	3 Quite a bit	17.6%	18.8%	17.2%	21.5%	18.2%
	4 Very much	15.6%	13.2%	12.2%	16.4%	14.0%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

Appendix D: First-Year Frequencies by Selected Student Characteristics

		Primary Major					
		1 Arts	2 Bio	3 Business	4 Ed	5 Eng	6 Phys Science
		Col %	Col %	Col %	Col %	Col %	Col %
Serious conversations w/ students very different from you-relig. beliefs, polit. opinions, pers. values	1 Never	7.4%	8.4%	13.3%	11.5%	11.4%	9.1%
	2 Sometimes	27.3%	29.3%	34.3%	34.8%	31.9%	31.0%
	3 Often	30.4%	29.8%	29.1%	29.6%	30.4%	29.4%
	4 Very often	34.9%	32.5%	23.4%	24.1%	26.3%	30.4%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	38.0%	39.3%	45.3%	36.5%	43.3%	42.2%
	2 Sometimes	25.3%	28.1%	28.3%	26.8%	26.1%	25.9%
	3 Often	13.7%	14.3%	13.0%	14.1%	13.5%	13.5%
	4 Very often	23.0%	18.3%	13.4%	22.6%	17.1%	18.4%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	40.1%	38.8%	38.0%	33.7%	47.7%	42.8%
	2 Some	26.6%	28.8%	29.6%	28.7%	26.6%	26.6%
	3 Quite a bit	16.4%	17.6%	19.4%	20.6%	16.2%	18.0%
	4 Very much	17.0%	14.8%	13.0%	17.0%	9.5%	12.6%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

		Primary Major				Total
		7 Professional	8 Social Science	9 Other	10 Undecided	
		Col %	Col %	Col %	Col %	Col %
Serious conversations w/ students very different from you-relig. beliefs, polit. opinions, pers. values	1 Never	12.8%	7.2%	11.8%	13.0%	10.6%
	2 Sometimes	34.1%	26.3%	33.0%	36.6%	31.6%
	3 Often	28.2%	31.0%	29.3%	28.6%	29.6%
	4 Very often	24.8%	35.5%	26.0%	21.9%	28.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	41.6%	41.1%	44.8%	46.5%	41.6%
	2 Sometimes	27.7%	28.3%	27.1%	28.2%	27.3%
	3 Often	14.1%	13.6%	13.1%	11.6%	13.5%
	4 Very often	16.6%	17.1%	15.0%	13.7%	17.6%
Total		100.0%	100.0%	100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	37.7%	39.7%	40.1%	44.0%	39.4%
	2 Some	29.4%	27.5%	28.9%	29.4%	28.3%
	3 Quite a bit	19.4%	17.5%	18.4%	16.6%	18.2%
	4 Very much	13.5%	15.3%	12.6%	10.0%	14.1%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

Appendix D: Senior Frequencies by Selected Student Characteristics

		Student reported: Your sex		Total
		1 Male	2 Female	
		Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	9.7%	9.6%	9.7%
	2 Sometimes	33.0%	34.4%	33.9%
	3 Often	29.8%	29.5%	29.6%
	4 Very often	27.5%	26.4%	26.8%
Total		100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	44.3%	40.8%	42.1%
	2 Sometimes	26.3%	27.9%	27.3%
	3 Often	12.5%	12.9%	12.8%
	4 Very often	16.9%	18.3%	17.8%
Total		100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	49.5%	44.8%	46.5%
	2 Some	24.2%	26.3%	25.5%
	3 Quite a bit	13.8%	14.9%	14.5%
	4 Very much	12.5%	14.1%	13.5%
Total		100.0%	100.0%	100.0%

		first generation student		Total
		0 no	1 yes	
		Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	8.6%	11.6%	9.6%
	2 Sometimes	33.1%	35.4%	33.9%
	3 Often	30.0%	29.1%	29.7%
	4 Very often	28.3%	24.0%	26.8%
Total		100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	39.7%	46.3%	42.0%
	2 Sometimes	27.9%	26.3%	27.4%
	3 Often	13.2%	12.0%	12.8%
	4 Very often	19.1%	15.4%	17.8%
Total		100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	46.1%	47.2%	46.5%
	2 Some	25.6%	25.5%	25.5%
	3 Quite a bit	14.6%	14.2%	14.5%
	4 Very much	13.7%	13.1%	13.5%
Total		100.0%	100.0%	100.0%

Appendix D: Senior Frequencies by Selected Student Characteristics

		Thinking about this current academic term, how would you characterize your enrollment?		Total
		1 Less than full-time	2 Full-time	
		Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	16.1%	8.6%	9.7%
	2 Sometimes	38.8%	33.1%	33.9%
	3 Often	26.5%	30.1%	29.6%
	4 Very often	18.7%	28.1%	26.8%
Total		100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	49.5%	40.8%	42.0%
	2 Sometimes	23.6%	28.0%	27.3%
	3 Often	11.9%	12.9%	12.8%
	4 Very often	15.1%	18.3%	17.8%
Total		100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	51.9%	45.6%	46.5%
	2 Some	24.8%	25.6%	25.5%
	3 Quite a bit	12.4%	14.8%	14.5%
	4 Very much	10.9%	13.9%	13.5%
Total		100.0%	100.0%	100.0%

		Are you a member of a social fraternity or sorority?		Total
		1 No	2 Yes	
		Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	10.1%	6.8%	9.7%
	2 Sometimes	34.3%	31.1%	33.9%
	3 Often	29.4%	31.2%	29.6%
	4 Very often	26.2%	31.0%	26.8%
Total		100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	43.1%	34.6%	42.1%
	2 Sometimes	26.5%	33.0%	27.4%
	3 Often	12.4%	15.1%	12.8%
	4 Very often	17.9%	17.3%	17.8%
Total		100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	47.2%	42.0%	46.5%
	2 Some	25.3%	27.3%	25.5%
	3 Quite a bit	14.3%	15.9%	14.5%
	4 Very much	13.3%	14.8%	13.5%
Total		100.0%	100.0%	100.0%

Appendix D: Senior Frequencies by Selected Student Characteristics

		Are you a student-athlete on a team sponsored by your institution's athletics department?		Total
		1 No	2 Yes	
		Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	9.9%	7.2%	9.7%
	2 Sometimes	33.9%	33.9%	33.9%
	3 Often	29.6%	29.7%	29.6%
	4 Very often	26.6%	29.1%	26.8%
Total		100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	42.7%	34.5%	42.1%
	2 Sometimes	26.9%	33.1%	27.3%
	3 Often	12.6%	15.2%	12.8%
	4 Very often	17.9%	17.2%	17.8%
Total		100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	47.2%	38.0%	46.5%
	2 Some	25.2%	29.9%	25.5%
	3 Quite a bit	14.2%	17.7%	14.5%
	4 Very much	13.4%	14.4%	13.5%
Total		100.0%	100.0%	100.0%

		letter grades				Total
		A	B	C	missing	
		Col %	Col %	Col %	Col %	Col %
Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	1 Never	8.6%	10.0%	14.5%	12.5%	9.7%
	2 Sometimes	34.1%	33.8%	33.8%	35.0%	33.9%
	3 Often	30.0%	29.5%	28.1%	29.1%	29.6%
	4 Very often	27.3%	26.8%	23.6%	23.4%	26.8%
Total		100.0%	100.0%	100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	38.9%	44.1%	48.2%	47.4%	42.1%
	2 Sometimes	26.8%	28.0%	26.3%	27.0%	27.3%
	3 Often	13.1%	12.7%	11.3%	10.9%	12.8%
	4 Very often	21.2%	15.2%	14.2%	14.8%	17.8%
Total		100.0%	100.0%	100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	45.4%	47.1%	52.1%	40.4%	46.5%
	2 Some	25.7%	25.5%	24.0%	27.2%	25.5%
	3 Quite a bit	14.3%	14.8%	12.9%	17.6%	14.5%
	4 Very much	14.6%	12.7%	11.0%	14.8%	13.5%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

Appendix D: Senior Frequencies by Selected Student Characteristics

		Primary Major					
		1 Arts	2 Bio	3 Business	4 Ed	5 Eng	6 Phys Science
		Col %	Col %	Col %	Col %	Col %	Col %
Serious conversations w/ students very diff. from you- relig. beliefs, polit. opinions, pers. values	1 Never	6.8%	6.6%	12.5%	10.6%	11.6%	8.0%
	2 Sometimes	29.5%	32.5%	36.6%	38.6%	34.0%	33.6%
	3 Often	30.5%	31.1%	28.3%	29.3%	29.0%	28.7%
	4 Very often	33.2%	29.8%	22.5%	21.5%	25.5%	29.7%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	38.7%	39.8%	45.4%	38.8%	43.5%	43.4%
	2 Sometimes	27.1%	27.0%	27.4%	25.6%	25.2%	26.3%
	3 Often	12.8%	14.0%	12.6%	12.9%	13.3%	11.5%
	4 Very often	21.4%	19.2%	14.6%	22.6%	18.0%	18.8%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	44.3%	46.4%	47.9%	42.7%	59.4%	53.5%
	2 Some	24.8%	26.5%	25.7%	26.4%	21.5%	22.6%
	3 Quite a bit	14.4%	13.8%	14.5%	15.7%	10.7%	13.1%
	4 Very much	16.5%	13.3%	11.9%	15.2%	8.4%	10.8%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

		Primary Major				Total
		7 Professional	8 Social Science	9 Other	10 Undecided	Col %
		Col %	Col %	Col %	Col %	Col %
Serious conversations w/ students very diff. from you- relig. beliefs, polit. opinions, pers. values	1 Never	10.3%	6.9%	11.5%	31.3%	9.7%
	2 Sometimes	37.2%	29.9%	34.6%	28.1%	33.9%
	3 Often	29.2%	30.4%	29.8%	21.9%	29.6%
	4 Very often	23.3%	32.8%	24.1%	18.8%	26.8%
Total		100.0%	100.0%	100.0%	100.0%	100.0%
Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)	1 Never	36.4%	42.7%	45.4%	64.5%	42.1%
	2 Sometimes	30.4%	29.0%	27.0%	9.7%	27.4%
	3 Often	14.7%	12.3%	12.2%	9.7%	12.8%
	4 Very often	18.5%	16.0%	15.5%	16.1%	17.8%
Total		100.0%	100.0%	100.0%	100.0%	100.0%
Institutional contribution: Developing a deepened sense of spirituality	1 Very little	40.9%	45.1%	47.5%	68.8%	46.5%
	2 Some	28.4%	25.7%	25.7%	25.0%	25.5%
	3 Quite a bit	16.6%	14.9%	14.3%	3.1%	14.5%
	4 Very much	14.2%	14.3%	12.5%	3.1%	13.5%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

