

Religiousness and Spirituality in College Students:  
Separate Dimensions with Unique and Common Correlates

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Much of the research described in this article was funded by Grant # 1 R21 AA13056-01A1 to Tom Johnson from the National Institute on Alcohol Abuse and Alcoholism and supported in part by the Fetzer Institute.

This article grew out of our research on the relationship between alcohol use and religion/spirituality in college students. However, it has also been influenced by our experiences as educators, working with college undergraduates and graduate students, and (for 2 of us) as clinicians, working with individuals across the life span. Therefore, one theme that will cut across the different sections of this article is the theme of development: how individuals grow and change intellectually, socially, emotionally, and spiritually. A central focus of the article will be the issue of definition and measurement of terms such as religion and spirituality. We will begin by discussing some issues related to measuring religiousness and spirituality and describing the different dimensions of religiousness and spirituality we have identified in Midwestern college students. Next, we will describe our preliminary work examining developmental patterns in these dimensions of religiousness and spirituality. The third section addresses how various beliefs and behaviors, such as alcohol use and attitudes towards college, are related to different dimensions of religiousness and spirituality in college students. Finally, we will provide our first tentative explorations of the implications and applications of our work.

We hope that this article will be of interest and use to a wide audience, therefore we have attempted to minimize references to statistical and methodological details. Where possible, we refer the readers to other presentations of our work that do include more statistical details. Where we are presenting new results that have not appeared elsewhere, we will provide statistical results as appendices, rather than breaking up the flow of the text. Readers who want to see more of the data are welcome to peruse the appendices and even contact us for more details. We also acknowledge that the results we have obtained with predominantly Christian, Midwestern college students may not translate to students from other parts of the country or from other religious or spiritual backgrounds. However, we hope that our findings can be a starting point for discussion and offer hints that others (and we ourselves) may follow up in our lives as researchers, educators, learners, and helpers.

## **I. Measuring Religiousness and Spirituality**

### Definitions of Religion and Spirituality

The question of measurement is a central one in science. In order to measure any concept, such as length or intelligence, one must start with some idea of how one is going to define that construct. What does “length” or “intelligence” mean? In the case of a physical attribute such as length, we tend not to give much thought to problems of measurement. We just get out a ruler and go at it. However, when we are confronted with more abstract concepts such as “intelligence,” we must pause a moment before beginning. Some concepts are so complex and potentially value laden that it becomes difficult to pin down what one means by using the term. Zinnbauer et al (1997), acknowledged this aspect of religiousness and spirituality by sub-titling an article on the subject: “Unfuzzifying the fuzzy.” A frequently cited statement about the word religion also addresses the issue: “any definition of religion is likely to be acceptable only to its author (Yinger, 1967, p. 18).

As psychologists, our starting point has been definitions of religion and spirituality created by psychologists of religion. Table 1 provides some examples of different ways that psychologists have defined religion and spirituality.

### **Table 1.**

### **Example Definitions of Religion and Spirituality**

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#### Religion

- Argyle & Beit-Hallahmi (1975, p. 1): “a system of beliefs in a divine or superhuman power, and practices of worship or other rituals directed towards such a power.”
- Pargament (1997, p. 32): “a search for significance in ways related to the sacred”
- Pargament (1999a, p. 6) - religion is moving from a broadband construct . . . to a narrowband construct that has to do with the institutional”
- Spilka et al. (2003, p. 9): “religiousness is about the person’s involvement with a religious tradition and institution”

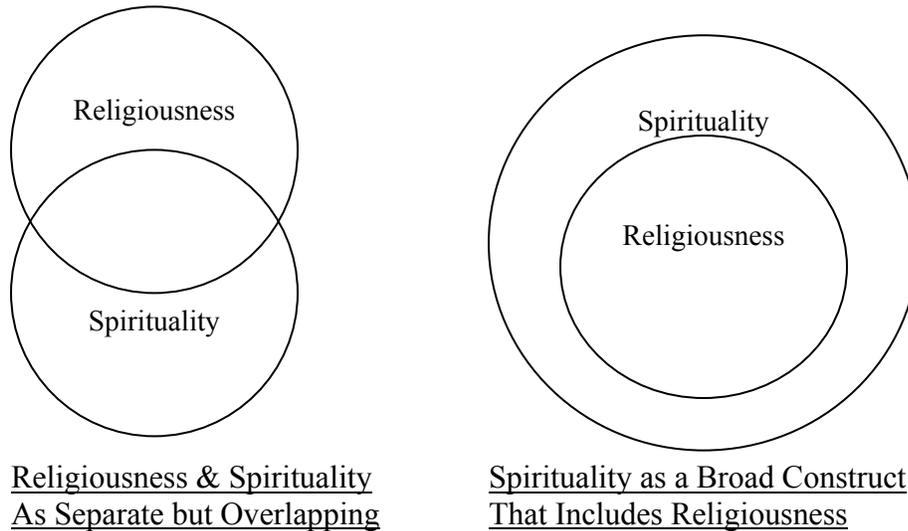
#### Spirituality

- Pargament (1999, p. 12): “a search for the sacred”:
  - Plante & Sherman (2001, p. 6): “a more personal experience, a focus on the transcendent that may or may not be rooted in an organized church or formal creed”
  - Spilka et al. (2003, p. 9): “more personal than institutional. . . Spirituality is about a person’s beliefs, values, and behavior”
  - Rayburn (2004, p. 53): “caring for others, seeking goodness and truth, transcendence, and forgiveness/cooperation/peacefulness”
-

Note that religion takes in many things. Many sociologists used to define religion entirely in terms of rituals and the social functions those rituals served. They denied that the concept of God or gods or spirits were in any way important in defining religion (Stark, 2003). Today, some sociologists are finally realizing that for theistic religions, concepts of god are key parts of religion. Some people (such as Stephen J. Gould and many others who continue a tradition started by Immanuel Kant) have defined religion as a source of moral values, which is certainly part of what religions do, but for most believers is probably only the tip of the iceberg. Spirituality is often connected to things like meaning in life, which can be an entirely secular affair, or meditation, which can also be divorced from any specific religious context. The exact role of the supernatural in defining spirituality has been a point of debate, with some authors arguing that a concept of the sacred is essential in defining spirituality (Pargament, 1999), while others arguing that spirituality can be completely atheistic and separate from any organized religious context (Rayburn, 2004).

### The Relationship Between Religion and Spirituality

Pargament et al., 1995 and Zinnbauer et al., 1997) suggest that the most common view is that religion and spirituality are overlapping, but still separate concepts (see Figure 1). Most individuals in these studies described themselves as both spiritual and religious, but a significant minority (especially among baby boomers and practitioners of New Age spirituality) described themselves as spiritual, but not religious. A substantial number of individuals also hold the view that spirituality is a broad concept that subsumes religion (see Figure 1). Much fewer people in these studies viewed religiousness as a broad construct or viewed religiousness and spirituality as separate. However, Pargament and others (Pargament, 1999a; Zinnbauer, Pargament, & Scott, 1999) have claimed that among psychologists and many other academics, the view of religiousness and spirituality as being separate and unequal has been growing. Psychologists are much less religious than the general population, but many are willing to identify themselves as spiritual (Spilka et al., 2003). Such authors have noted that many social scientists and academics in general show a trend towards dichotomizing or polarizing religion and spirituality; that is, viewing them as opposites. This polarization is accompanied by a tendency to characterize spirituality as good, individualistic, liberating, and mature, while portraying religion as bad, institutionalized, constraining, and childish. Pargament argues, as do we, that such polarization both distorts and oversimplifies religion and spirituality. Both religion and spirituality have the potential to inspire some of the noblest human characteristics, such as selfless love and caring for others, as well as the basest human traits, such as bigotry or genocide (Pargament, 2002).

**Figure 1****Common Views of the Relationship Between Religiousness and Spirituality**

Religiousness & Spirituality  
As Separate but Overlapping

Spirituality as a Broad Construct  
That Includes Religiousness

**Dimensions of Religiousness and Spirituality**

Over the past decade, there has been an explosion of interest in relationships between religiousness or spirituality and different aspects of physical, mental, emotional, and behavioral health. One challenge facing researchers in these areas has been how to define and measure spirituality and/or religiousness. There are close to 200 published measures of constructs related to religiousness and spirituality (Hill, 2003), many of which have seen only limited use. A number of authors have argued that these measures can be rationally grouped into perhaps only 10-12 different categories or dimensions (Hill, 2003; Hill, Pargament, Swyers, Gorsuch, McCullough, Hood, & Baumeister, 1998; Fetzer Institute/National Institute on Aging Working Group, 1999). Table 2 shows the categories listed by Hill (2003, Hill et al., 1998).

**Table 2****Categories of Measures of Religious and Spiritual Constructs**

- religious/spiritual preference or affiliation
- religious/spiritual history
- religious/spiritual social participation
- religious/spiritual private practices
- religious/spiritual social support
- religious/spiritual coping
- religious/spiritual beliefs and values
- religious/spiritual commitment

- religious/spiritual techniques for regulating and reconciling relationships (forgiveness)
  - religious/spiritual experiences
- 

While categories have been formed using logical analysis of question content, few studies have attempted to identify empirically the number and type of dimensions represented by numerous measures of religiousness and spirituality (MacDonald, 2000; Slater, Hall, & Edwards, 2001). An empirical approach would use factor analytic techniques to group together measures based on how people actually respond to them. We began our study of religiousness/spirituality and college student drinking by performing such analyses. Our practical purpose was to reduce the number of constructs that we would have to use in our later analyses. However, an additional benefit of such analyses is that they provide another way of examining how religiousness and spirituality are defined and how they are interrelated in a given population. The data we will be reporting on in the sections that follow are based on two samples of students, a cross-sectional sample (including separate groups of freshman, sophomores, juniors, and seniors) and a prospective or longitudinal sample (following the same group of students from before college into their freshman year). Our initial factor analysis to identify dimensions of religiousness and spirituality was done with the cross-sectional sample (Johnson, Kristeller & Sheets, 2003; Kristeller, Johnson & Sheets, 2004). We will describe the prospective sample in later sections where we explore change over time in religiousness and present some of the correlates of religiousness and spirituality.

Participants in the Initial Cross-Sectional Sample. The cross-sectional sample was drawn from an initial stratified, random sample of 1200 students. These students were mailed a set of questionnaires (described below) regarding religiousness, spirituality, personality, emotional adjustment, and alcohol use. Out of the students who were sent questionnaires, we obtained 560 usable surveys. Of these, the final sample was made up of 515 students who were age 26 and under. The mean age of students in the sample was 20.61 years (SD = 1.68 years). The sample was 61.6% female and 88 % white. (Both percentages reflect the overall proportions of women and minorities at our institution.) The sample was 28.3 % freshmen, 20.6 % sophomores, 25.2% juniors, and 25.8 % seniors. Approximately 94 % identified themselves as Christian.

Measures in the Cross-Sectional Sample. Participants in the cross-sectional sample provided demographic and background information (including religious preference), and completed measures of religiousness and spirituality, alcohol use and problems, beliefs about alcohol use, personality, and psychological adjustment. Table 3 lists the 29 measures of religiousness and spirituality that were included in the cross-sectional sample. The measures are organized and ordered based on Hill's categories that were shown in Table 2.

**Table 3****Measures of Religiousness and Spirituality Included in Our Work (by Category)**

## Religious/Spiritual Social Participation

Organizational Religiousness (Idler, 1999)

Religious/Spiritual Private Practices  
Private Practices (Levin, 1999)  
Religious/Spiritual Social Support

Positive Religious Social Support (Krause, 1999)

Negative Religious Social Support (Krause, 1999)

## Religious/Spiritual Coping

Brief R-COPE Positive Religious Coping (Pargament, 1999b; Pargament et al., 1998)

R-COPE Active Religious Surrender (Pargament, 1999b; Pargament et al., 2000)

R-COPE Passive Religious Deferral (Pargament, 1999b; Pargament et al., 2000)

R-COPE Religious Distraction (Pargament, 1999b; Pargament et al., 2000)

Brief R-COPE Negative Religious Coping (Pargament, 1999b; Pargament et al., 1998)

R-COPE Punishing God Reappraisal of Stressful Events (Pargament, 1999b; Pargament et al., 2000)

## Religious/Spiritual Beliefs and Values

FACIT-Sp Meaning &amp; Peace (Peterman, et al., 2002)

FACIT-Sp Connectedness (Peterman, et al., 2002)

FACIT-Sp Faith (Peterman, et al., 2002)

Altruistic Life Goals (Novacek &amp; Lazarus, 1990)

Personal Growth Life Goals (Novacek &amp; Lazarus, 1990)

Life Attitude Profile - Existential Vacuum (Recker &amp; Peacock, 1981)

Life Attitude Profile - Will to Meaning (Recker &amp; Peacock, 1981)

Life Attitude Profile - Goal Seeking (Recker &amp; Peacock, 1981)

Loving God Scale (Benson &amp; Spilka, 1973)

Controlling God Scale (Benson &amp; Spilka, 1973)

## Religious/Spiritual Commitment

Intrinsic Religious Orientation (Gorsuch &amp; McPherson, 1989)

Extrinsic – Personal Benefits Religious Orientation (Gorsuch &amp; McPherson, 1989)

Extrinsic – Social Religious Orientation (Gorsuch &amp; McPherson, 1989)

Quest Scale – Facing Existential Questions (Batson and Schoenrade, 1991 a &amp; b)

Quest Scale – Openness to Change in Religious Beliefs (Batson and Schoenrade, 1991 a &amp; b)

Quest Scale – Viewing Religious Doubts as Positive (Batson and Schoenrade, 1991 a &amp; b)

## Religious/Spiritual Experiences

Daily Spiritual Experiences (Underwood, 1999; Underwood &amp; Teresi, 2002)

## Single-Items not Included in Above Categories

Results - Factor Structure. Full details of the results can be found in Kristeller et al. (2004). To examine the factor structure of the measures, we randomly split our sample into two sub-samples. An exploratory Principal Components Analysis (PCA) on the first sub-sample (N = 251) yielded five factors that accounted for 70 % of the variance. We performed a Confirmatory Factor Analysis with the other sub-sample (N=264) and got good fit for the five factor model (CFI = .939). We labeled the five factors: Religious Involvement; Search for Meaning; Religious Distress; Quest; and Spiritual Well Being.<sup>1</sup>

Table 4 lists the factors and gives a description of the content represented by the factors. The largest number of measures loaded on the Religious/Spiritual Involvement factor. It is also noteworthy that this factor included measures from all seven of the categories shown in Table 3. This suggests that most of the students in our sample view religiousness and spirituality as overlapping significantly. Most of the measures loading on factor 1 reflect traditional definitions of religiousness, but a few also reflect personal experiences that are more typically thought of as being a part of spirituality. Further indication of the integration or overlap of spirituality and religiousness in our students is shown by examination of students' responses to the questions about how spiritual and how religious they viewed themselves to be. (These single-item ratings of religiousness and spirituality also loaded on factor 1). By and large, our students saw themselves as either high in both religiousness and spirituality or low in both. Examination of the pattern of responses on the self-ratings of religiousness and spirituality indicate that only about 2 % of our total sample (and virtually no one among the African Americans in our sample) considered him or herself to spiritual, but not religious

**Table 4**

**Factors Obtained in Religiousness and Spirituality Measures**

<u>Factor</u>	<u>Description</u>
1) Religious Involvement	Strong personal identification with one's religion Frequent participation in public and private religious practices Frequent positive spiritual experiences; Utilizing one's religion as a source of healthy coping and support
2) Search for Meaning	A concern for finding meaning and purpose in life; A desire to help others; A desire to become a better person
3) Religious Distress	Feeling abandoned or punished by God; Feeling angry at God; Doubting God's existence
4) Quest	Willingness to face religious doubts and existential questions; Openness to change in one's religious or spiritual beliefs; The belief that change in one's beliefs is a positive or natural process
5) Spiritual Well-Being	Feeling that life has meaning and purpose; Feeling connected to and forgiving of others; Feeling connected to God or a higher power; Being thankful for one's life and hopeful about the future; Reporting experiences of peace, compassion, and harmony

Since performing the initial analyses, we have attempted to replicate this factor structure in four additional samples of college students. The factor structure is largely stable from sample to sample. The only factor showing some inconsistency across samples was the Search for Meaning factor. We have also explored how additional measures of religiousness and spirituality not included in our original study relate to the above factor structure. In most cases, measures loaded on to existing factors. (For example, Paloutzian & Ellison's [1982, 1991] Religious Well Being subscale loaded on our Religious Involvement factor, while their Existential Well-Being subscale loaded on our Spiritual Well-Being factor. Extrinsic social religious orientation and negative religious support loaded on our Religious Distress factor.) The only exception was that groups of items from Hood's Mysticism Scale (1975) formed a sixth factor. Items on this scale reflect experiences of one-ness with the universe, awareness of ultimate realities, experiences that cannot be conveyed in words, and experiences of profound sacredness, joy, and unity.

We have made some preliminary comparisons between the factor structure in African American and white college students. In one sample of African Americans, the results are consistent with those reported above, while in another sample the factor structure was somewhat different. However, the sample size was relatively small for both sets of analyses, so the results may not be stable when examined with a larger sample of African Americans. In summary, the five-factor structure we obtained replicates very well in our samples of students from our institution. Two of the factors, Religious/Spiritual Involvement and Spiritual Well-Being map reasonably well onto traditional concepts and definitions of religiousness and spirituality.

Table 5 shows the intercorrelations of the factors, with factor scores computed by standardizing and summing the measures loading on a given factor. Religious Involvement is positively correlated with Search for Meaning and Spiritual Well-Being, again supporting the overlap between Religiousness and Spirituality in our College students. Religious Involvement was negatively correlated with Quest and Religious Distress. We explore potential developmental implications of these relationships in a later section. Quest had a small positive correlation with Search for Meaning

**Table 5**  
**Intercorrelations of**  
**Factors**

	<u>Search for</u> <u>Meaning</u>	<u>Religious</u> <u>Distress</u>	<u>Quest</u>	<u>Spiritual</u> <u>Well-Being</u>
Religious Involvement	.32*	-.15*	-.29*	.46*
Search for Meaning		.05	.17*	.18*
Religious Distress			.32*	-.34*
Quest				-.30*

### **Take Home Message Number 1**

Our examination of the results suggests that **in our samples, Religiousness and Spirituality are separable, but interrelated**. It is likely that samples of students reflecting different cultural or religious backgrounds could produce results different from those obtained with our students. We recommend that researchers and those who work with students carefully examine the patterns of beliefs, practices, and experiences that are common in the student populations with whom they are working.

**II. Developmental Patterns in Religiousness and Spirituality** We approach the study of alcohol use from a developmental perspective, examining how patterns of use change over time and what variables predict such changes. Therefore, in our current work we have been interested how patterns of change in religiousness and spirituality might be related to patterns of change in alcohol use. Developmental issues are typically considered important in the study of religiousness and spirituality. A traditional view has been that religiousness decreases during college (Feldman, 1969). However, Spilka et al. (2003) argued that recent research presents a more complex picture of religious development in emerging adulthood. While church attendance does typically decrease over the college years, other aspects of religiousness and spirituality, such as religious commitment, may not. Spilka et al. (2003) suggested that there are different individual trajectories of change that may involve increases or decreases in religiousness and/or spirituality.

Alternatively, stage models of development propose that changes over time are likely to be fundamental shifts in the form and/or nature of religiousness/spirituality, rather than merely changes in amount (Fowler, 1981; Parks, 2000). Fowler's model characterized changes in faith development over time as involving a shift from an external focus of religious authority to a more personal locus of faith. Given the definitions of religiousness and spirituality, we offered above, this might be framed as a movement from doctrinal religiousness to individualized spirituality. Parks' model (2000) expanded on Fowlers' work. She characterized the transition from adolescence to mature adulthood as a movement from authority bound, conventional, and dependent religiousness and spirituality in adolescence, through a more tentative, searching phase in young adulthood (where she places most college students). She also added another stage to Fowler's model between Young Adult Faith and Mature Adult Faith. Relative to Young Adult Faith, Tested Adult Faith is more grounded in experience, less fragile, and involves connectedness to self-selected groups. Finally, Mature Adult Faith is characterized by beliefs and relationships that are more open and a sense of the interdependence of all beings.

To explore these issues in our data, we will begin by describing some results from the first two waves of our prospective sample (including data from prior to entering college and at the end of the freshman year). We will then use the cross-sectional sample to compare freshmen, sophomores, juniors, and seniors.

**Participants in the Prospective Sample.** A prospective or longitudinal sample follows the same group of students over time. At ISU, entering freshman attend an orientation program on campus in June prior to the start of their freshman year. In June 2002 we were able to gather data on 96 % of the students who attended freshman orientation (N = 1515). At Wave 1 (June 2003) the mean age of the sample was 18.17 years (SD = 1.53 years). The wave 1 sample was 61.3% female and 88 % white. Wave 2 was collected from March-May of 2003 (N = 788). At wave 2, the mean age of the sample was 18.88 (SD = .73). The wave 2 sample was 68 % female

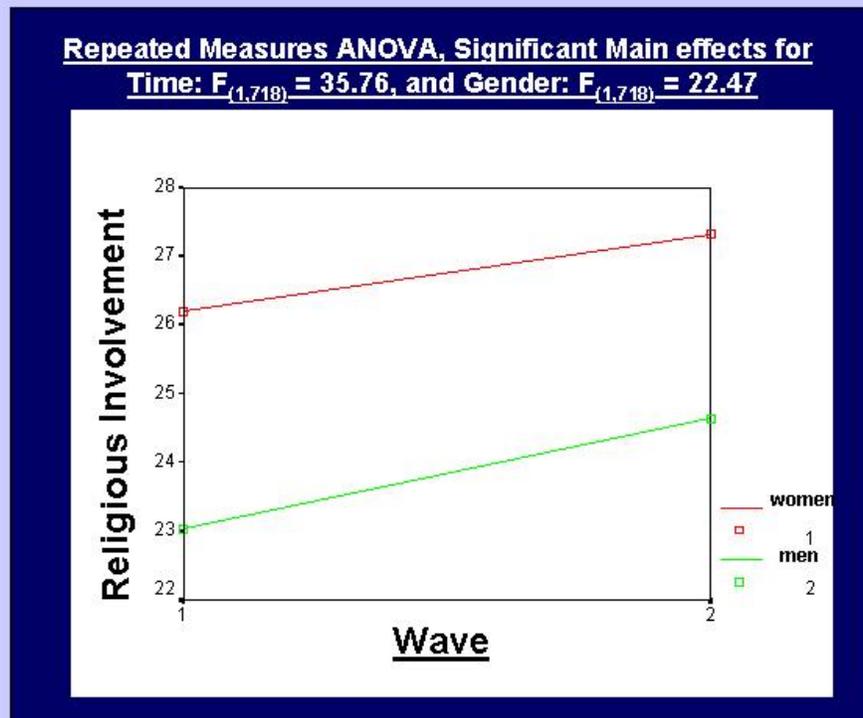
and 86 % white. The descriptive data for the wave 2 sample indicate differential dropout from wave 1 to wave 2. Those who dropped out from wave 1 to wave 2 differ significantly from those who completed both sets of questionnaires. However, there were no obvious patterns in the variables that significantly differed (e.g., the dropout group was higher on some measures of religiousness and lower on others, etc.).<sup>2</sup>

### Results From the Prospective Sample

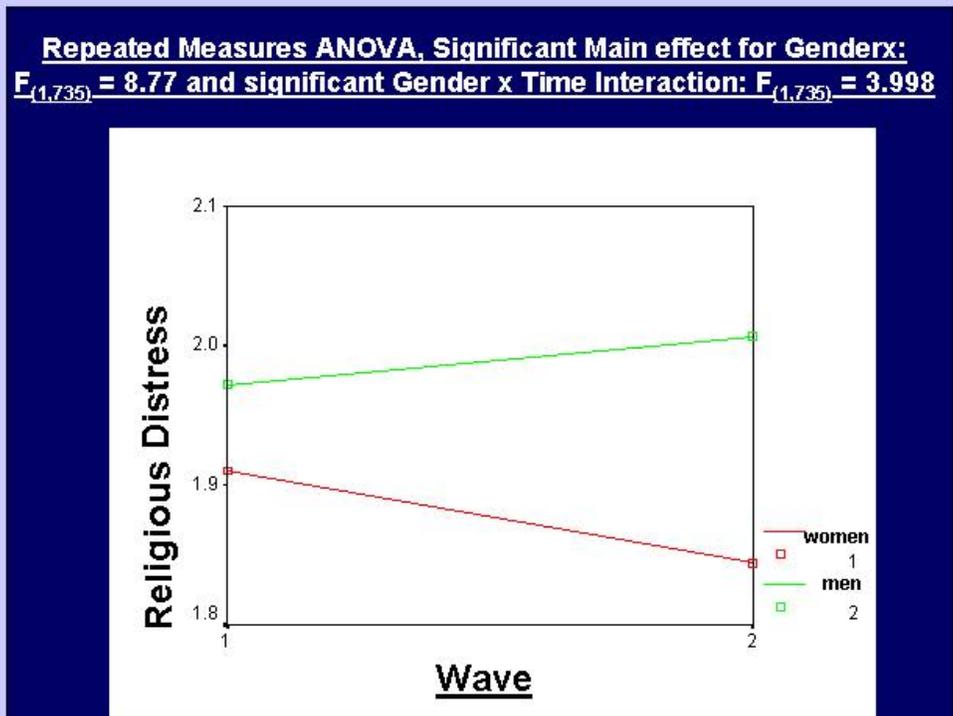
As described above, the two-time points represented in the prospective sample were the summer prior to entering college and the end of the freshman year of college. We tested for changes in individual measures as well as changes on the Religiousness/Spirituality factors. In terms of examination of individual measures (using 2 x 2 repeated measures ANOVA, gender x time) some scales went up, some went down, some did not change. For example, public participation in religious activities decreased from the summer before college to the spring of the freshman year, while many private practices and experiences increased in frequency. Feelings of meaning in life, inner peace, and connectedness to others decreased. Among the other measures included in the study, negative affect increased, as did most measures related to alcohol use.

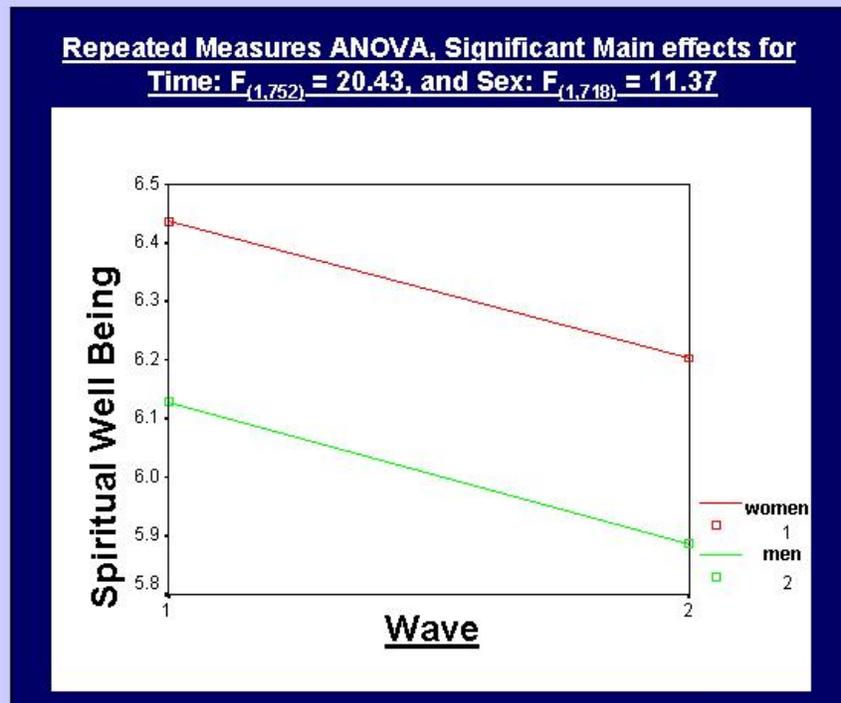
We also tested for changes in the factor scores. We computed standardized scores for each factor (using means and standard deviations from time 1). We then used repeated measures ANOVAs to compare factor scores before entering college (time 1) and at the end of the freshman year (time 2). For Religious Involvement, the Repeated Measures ANOVA yielded significant Main effects for Time ( $F(1,718) = 35.76$ ), and Gender ( $F(1,718) = 22.47$ ). The gender by time interaction was not significant. Women scored higher than did men on Religious Involvement, but both men and women showed an increase in Religious Involvement from time 1 to time 2. For Religious Distress, we found a significant main effect for Gender ( $F(1,735) = 8.77$ ) and a significant Gender x Time Interaction:  $F(1,735) = 3.998$ . Men and women did not differ in Religious Distress at time 1, but they did differ significantly at time 2 ( $t_{(334,28)} = -3.06$ ,  $p < .01$ ). Men did not change significantly in Religious Distress from time 1 to time 2, but Religious Distress decreased significantly for women ( $t_{(510)} = 2.68$ ,  $p < .01$ ). For Spiritual Well-Being, repeated measures ANOVA yielded significant main effects for Time ( $F(1,752) = 20.43$ ) and Gender ( $F(1,718) = 11.37$ ). Spiritual Well-Being decreased from time 1 to time 2, and was consistently lower in men than in women. There were no significant results for Search for Meaning. We did not measure the Quest factor at time 1, so no comparisons were possible for that factor.

**Figure 2. Religious Involvement Increased**



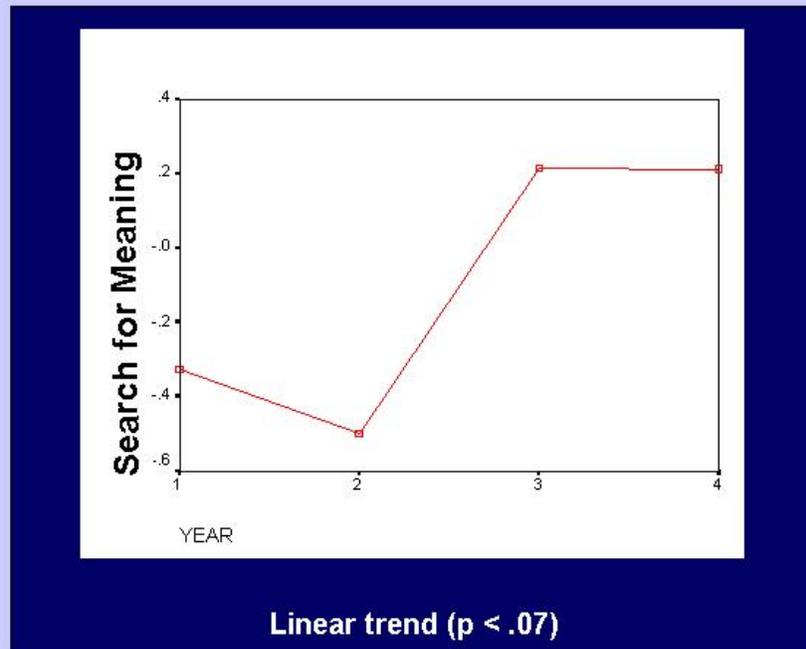
**Figure 3. Religious Distress Differed by Gender**



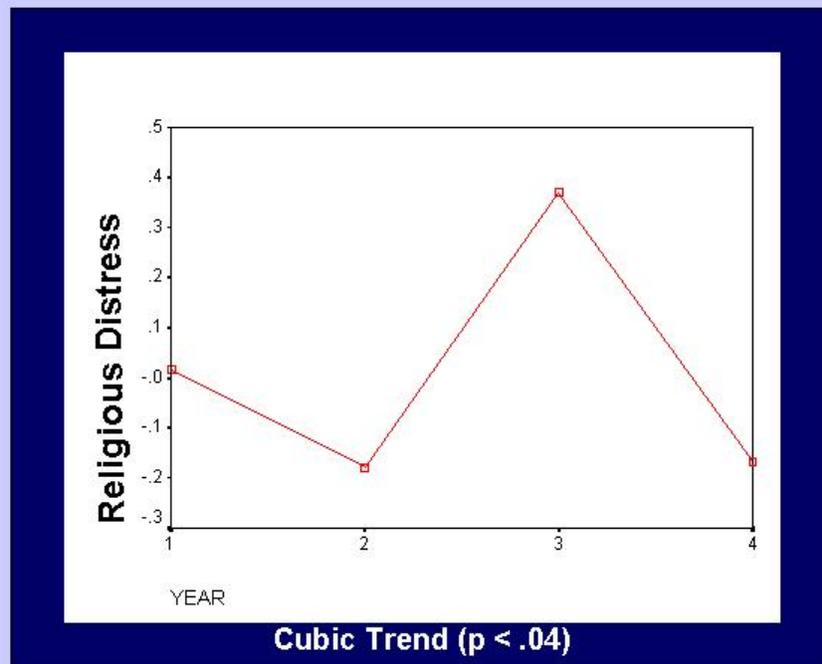
**Figure 4. Spiritual Well-Being Decreased**

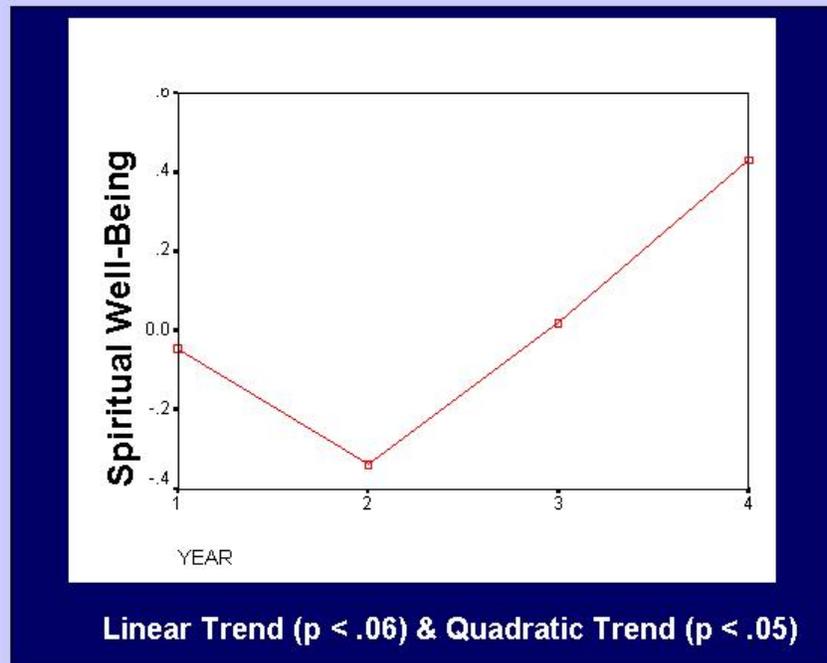
Results from Cross Sectional Sample Using data from the cross-sectional sample described above, we compared Freshmen, Sophomores, Juniors, and Seniors. Since this method includes different students in each group rather than following the same individuals over time, conclusions about individual change must be tentative. We performed a 2 x 4 (Gender x Year) MANOVA with scores on the Five Factors as the Multiple Dependent Variables. The overall MANOVA was only marginally significant ( $p < .07$ ). We were interested not only in the possibility of linear change (e.g., overall increase or decrease over time), but also in the possibility of non-linear changes (e.g., going up, then coming back down, etc.). Therefore, we tested for linear, quadratic, and cubic trends for each of the five factors. We found evidence for a marginally significant linear trend for Search for Meaning ( $p < .07$ , increasing over time). Figure 4 shows the means by year for Search for Meaning. Religious Distress displayed a significant cubic trend ( $p < .04$ , decreasing, increasing, and then decreasing again). Figure 5 shows the means by year for Religious Distress. Spiritual Well-Being displayed a marginally significant linear trend ( $p < .06$ ) and a significant quadratic trend ( $p < .05$ ). Figure 6 shows the means by year for Spiritual Well-Being.

**Figure 5. Search for Meaning Increases**



**Figure 6. Religious Distress Bounces Around**



**Figure 7. Spiritual Well-Being Goes Down then Up**

**Summary & Current Hypotheses** While we must recognize that the differences in the cross-sectional sample may reflect cohort differences rather than developmental changes, we can make some tentative descriptions of the patterns of developmental change we might observe in religiousness and spirituality among students at our university. For example, we can hypothesize a slight increase in religious involvement from the summer before college to the end of the freshman year, but no major changes in amount of religious involvement from then on. We should note, however, that this lack of overall change in level of religious involvement does not necessarily mean that the quality of religious involvement might not change over time. In fact, the pattern of results we observed on other factors may be consistent with aspects of the developmental models of Fowler and Parks. Spiritual Well-Being may decrease from the summer before college into the first two years, bottoming out in the sophomore year and then rising steadily. Interestingly, Religious Distress and Search for Meaning may also increase from the sophomore year to the Junior year, but while Search for meaning may remain stable into the senior year, Religious Distress may decrease from the Junior to the Senior year.

This pattern might reflect the fact that, for many of our students, coming to college leads to some separation from their old social network, including their religious network. Some students may react to the loss of religious social experiences by turning inward and engaging in private practices, such as increasing their frequency of prayer. Parks (2000) argues that the transition into and out of Young Adult Faith is facilitated by the availability of some form of connection to

a community that can nurture and mentor faith development. Some decline in spiritual well-being may accompany the changes and stresses of the first year of college, and may be consistent with Parks' description of the fragility of the faith that young adults begin to construct for themselves. The decline in Spiritual Well-Being or other factors (such as developmental tasks that face students entering the second half of their college career, or experiences or knowledge that lead students to question their religious beliefs), may lead to both religious distress and Search for Meaning increasing into the Junior year. The pattern observed in our cross-sectional sample suggests that an active search for meaning (and hypothetically the presence of mentoring communities) may be fruitful in many students and facilitate a decline in Religious Distress and increase in Spiritual Well-Being in the senior year. Such an increase in Spiritual Well-Being could be consistent with a transition to Fowlers' stage of Conjunctive Faith (which emphasizes the connectedness and peace reflected in our Spiritual Well-Being factor) or Parks' stage of Tested Adult Faith.

As we stressed earlier, these hypotheses are based on making assumptions about change over time based on cross-sectional data. It could be, for example, that the lower levels of Religious Distress in our sample of Seniors was not due to Seniors having reduced their levels of Religious Distress from what they had been the year before, but by Juniors with high levels of Religious Distress dropping out and never making it to the Senior year. While we obviously need more information, the possibility of such changes suggests that Student Counseling centers, coursework, and religious organizations may wish to attend to and address Religious and Spiritual issues throughout students' time in college. We have already collected data from a third wave of our prospective sample and will continue to explore change over time in students' patterns of religiousness and spirituality.

### **Take Home Message Number 2**

#### **Religiousness and Spirituality may change over the course of college in interactive ways.**

While our current data only allow us to create a tentative sketch of how religiousness and spirituality develop in college students, we will be able to paint a much fuller picture once we have further waves from our prospective sample. We are anxious to compare our results to the efforts of other researchers, such as those involved in the Faithful Change Study sponsored by the Council for Christian Colleges and Universities and the College Student Spirituality Study being conducted by the Higher Education Research Institute at UCLA. One possibility that must be considered is that, while there may be some utility to making generalizations about developmental trends in religiousness and spirituality over college, descriptions of how an entire group of students changes (or does not change) may mask the fact that religiousness and spirituality could increase in one group of students, decrease in another, and yet remain unchanged in a third. The technique of Growth Mixture Modeling has been used to characterize and study different patterns of developmental change in alcohol use (e.g., steady increase, early onset heavy use) in adolescents and college students (Chassin, Pitts, & Prost, 2002; Colder, Campbell, Ruel, Richardson, & Flay, 2002; Tucker, Orlando, & Ellickson, 2003). We hope to use such techniques to identify groups of students that show unique patterns or trajectories of developmental change in religiousness and spirituality. One reason that identifying such specific subgroups and patterns of change could be useful is that a large number of important variables in college students are related to religiousness and spirituality. In the next section, we will present some of our results concerning correlates of religiousness and spirituality in college students.

**III. Correlates of Religiousness and Spirituality in College Students**  
**What Predicts Religious Distress?** Religious Distress may reflect an important developmental concern in college students. In the general adult population, religious distress or negative religious coping is associated with increased emotional distress and poorer medical outcomes (Pargament 2002; Pargament et al., 1998). We continue to be interested in variables that are associated with Religious Distress in college students. Table 6 summarizes some of the variables that we have found to be associated with religious distress in our cross-sectional and prospective samples of college students (Johnson, Kristeller, & Sheets, 2003; Johnson, Maddux, Sheets, & Kristeller, 2004; Johnson, Sheets, & Kristeller, 2003, 2004).

**Table 6**

**Variables Associated with High Levels of Religious Distress in Our Samples**

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- 1) Previous Religious Distress
- 2) High scores on the Quest factor
- 3) Perceiving college experiences as threatening to one's faith
- 4) Belief in a punishing God
- 5) Low levels of the personality trait of Agreeableness
- 6) Low Spiritual Well-Being
- 7) High Levels of Negative Affect

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In the future, we hope to use our prospective sample to identify students who show changes (increases or decreases) in Religious Distress over time. This will allow us to identify variables that predict changes in Religious Distress, and perhaps use path modeling or other statistical techniques to test causal hypotheses.

**Alcohol Use & Problems** The primary focus of our NIAAA funded project has been to identify relationships between alcohol use and Religiousness/Spirituality in college students, as well as identify what variables might mediate such relationships. In other words, we are attempting to identify the causal mechanisms that might link Religiousness/Spirituality with patterns of alcohol use and problems. (More complete descriptions of this work can be found in Johnson, Kristeller, & Sheets, 2003; Johnson, Sheets, & Kristeller, 2003, 2004.)

Our primary outcome measures are alcohol use, expressed in terms of both frequency of heavy or binge drinking as well as overall mean quantity consumed per week, and problems or negative consequences associated with drinking (e.g., hangovers, driving under the influence, risky sex, missing class, physiological dependence, etc.). In addition to use and problems, we have measured students' beliefs about the effects of alcohol (alcohol outcome expectancies), the reasons they give for drinking (motives for drinking), and their beliefs about how much and how often their peers drink (perceived norms).

Regarding our Religiousness and Spirituality factors, •Religious Involvement, Search for Meaning, and Spiritual Well-Being were all negatively correlated with both alcohol use and problems (Johnson et al., 2003). Religious Distress is consistently positively correlated with alcohol problems (Johnson et al., 2003). In most analyses, we treat Religious Involvement as a

continuous variable. However, to provide an illustration of the magnitude of the difference in drinking between students high in Religiousness and those low in Religiousness, we divided students into four equal groups based on their score on the Religious Involvement factor. The group of students lowest in Religious Involvement (lowest quartile) averaged just over five standard drinks per week, while those highest in Religious Involvement (upper quartile) averaged less than 1.5 drinks per week. The results for peak drinking are even more striking. Peak drinking refers to the most drinks that a student had on any one drinking occasion during the current school year. The mean peak for students lowest in Religious Involvement was over 8 drinks on one occasion, while those highest in Religious Involvement had a mean peak consumption of just over 3 drinks.

**What is the Best Predictor of Alcohol Use & Problems?** Of our 5 Religiousness and Spirituality factors, **Religious Involvement** was the best predictor of alcohol use and problems. As described above, Religious Involvement, Search for Meaning, Spiritual Well-Being, and Religious Distress were all correlated with alcohol use and problems. To examine the relative strength of these relationships, we conducted simultaneous regressions using all five factors to predict alcohol use and problems (Johnson, Kristeller, & Sheets, 2003). In these regressions, Religious Involvement was the most consistent predictor alcohol use and problems. To further test the predictive power of the factors, we conducted a series of hierarchical regressions. In the first step, we entered beliefs about alcohol (alcohol outcome expectancies and motives for drinking) and measures of personality traits known to predict alcohol use. In the second step, we entered the Religiousness and Spirituality factors. Even after accounting for other variables that are known to predict alcohol use, higher Religious Involvement was predictive of lower quantity of consumption and fewer problems. In addition, higher Search for Meaning was predictive of lower frequency of drinking and lower mean number of drinks per week (Johnson, Kristeller, & Sheets, 2003).

To identify potential causal connections between Religiousness and alcohol use/problems, we have conducted several studies utilizing path modeling (Johnson, Sheets, & Kristeller, 2003; Johnson, Maddux, Sheets, & Kristeller, 2004). In our path models, perceived norms, attitudes towards alcohol use, affect and well-being, and motives for drinking all mediated the relationship between religiousness and alcohol use. For example, we found that higher levels of Religious Involvement appeared to lead to higher levels of Spiritual Well-Being. This in turn was associated with lower desire to use alcohol as a means of coping with distress and fewer alcohol related problems. Higher Religious Involvement was also associated with more negative attitudes towards alcohol use. Negative attitudes in turn predicted lower perceptions of how much one's peers drink. We have already replicated some of our findings in our prospective sample (Johnson, Maddux, Sheets, & Kristeller, 2004) and are anxious to begin to explore these relationships in more detail and in more ethnically and religiously diverse populations. Our hope is to relate developmental changes in religiousness and spirituality to developmental changes to alcohol use and problems. In summary, religious involvement seems to affect alcohol use by influencing overall well-being, beliefs about alcohol, and the social groups with which one affiliates. However, we should note that we have also typically found small but statistically significant direct effects of religious involvement on alcohol use that are not explained by the mediators we have examined so far.

We have also begun to consider the implications of our results for alcohol abuse prevention programming. For example, as we learn more about the relationship between alcohol use and

Religiousness/Spirituality, it may become possible to incorporate findings into social norms marketing campaigns. Our findings also reinforce the importance of attempting to facilitate the development of “pro-social” peer networks, perhaps through partnerships with religious or spiritual groups on campus. Given that many important life goals may be connected with students’ religious beliefs, Motivational Enhancement approaches might benefit from addressing Religious and Spiritual issues and goals. Further, the importance of life meaning and religious distress in the lives of college students and as predictors of alcohol use suggest that these issues should be addressed in prevention efforts, at college counseling centers, through campus religious life groups, and/or even in the classroom. Finally, given the demonstrated efficacy of some forms of religious and spiritual coping (Pargament, 1997), colleges may wish to find ways to assist students in effectively using religious or spiritual resources in coping with life stress.

**Academic Attitudes & Behaviors**As described above, the first wave of our prospective sample was collected during a summer welcome program in June of 2002. As part of the same program, our university routinely administers a 155-item “Student Information Questionnaire” (SIQ). We were able to match data from the SIQ with data from our questionnaires for 1048 students (60 % female; 89 % white). The SIQ was prepared by ISU Office of Institutional Research and Testing and is administered annually to all incoming freshmen. The SIQ contains questions about family background, high school grades, attitudes towards high school, activities during high school, anticipated activities during college, attitudes towards college and learning in general, reasons for attending college, anticipated benefits of attending college, experiences with cultural diversity, and self-ratings of a variety of abilities and skills.

To reduce the number of items on the SIQ for our analyses, we conducted factor analyses of question subsets to create composite scores. This still left us with a very large number of analyses. To examine the relationship between SIQ subscales and Religiousness, we conducted a series of hierarchical regressions, with SIQ subscales as the dependent variables. In the first step of the regression, we entered values for parents level of education (mean of fathers and mothers’ education when appropriate), parents occupational category (coded from blue collar to professional), students’ estimates of their family’s household income, and the number of close friends of the student that were attending college. We anticipated that these variables would explain a good deal of the variance in students’ academic attitudes and behaviors. In the second step, we entered Religious Involvement, Spiritual Well-Being, Search for Meaning, and Religious Distress. This allowed us to test the predictive power of Religiousness and Spirituality over and above demographic and background variables.

In these analyses, Religious Involvement and Spiritual Well-Being were the strongest predictors of academic attitudes & behaviors among the R/S factors. Religious Involvement and Spiritual Well-Being were generally better predictors than Parent Income, Parent Education, Parent Occupation, and number of students’ friends attending college. We make this claim based on several aspects of the findings. First, in the hierarchical regressions, the Religiousness and Spirituality variables usually added to the variance explained by the demographic variables. Second, Religious Involvement and Spiritual Well Being were significant predictors of academic attitudes and behaviors more often than any of the demographic variables.

Out of 26 sets of regressions:

- Spiritual Well-Being was a significant predictor in 18
- Religious Involvement was a significant predictor in 17 analyses

- Religious Distress was a significant predictor in 12
- Search for Meaning was a significant predictor in 8
- Parent Income was a significant predictor in 8
- Number of friends going to college was a significant predictor in 7
- Parent Education was a significant predictor in 5
- Parent Occupation was a significant predictor in 4

Finally, the magnitude of the relationships between the Religiousness and Spirituality variables and academic attitudes and behaviors was usually stronger than the relationship between the demographic variables and the academic attitudes and behavior. To provide a textual summary of the findings, Table 7 lists the variables that were associated with Religious Involvement, the variables associated with Spiritual Well-Being, and the variables associated with both Religious Involvement and Spiritual Well-Being. Appendix 1 gives a list of the specific items that make up each of the factors listed in Table 7 (as well as the exact question wording on single items). Appendix 2 presents a more detailed summary of the findings of the hierarchical regressions for the interested reader.

### **Table 7**

#### **Summary of Relationships Between Academic Attitudes and Behaviors and Religious Involvement and Spiritual Well-Being.**

##### Academic Attitudes and Behaviors Associated with Religious Involvement

- Broad interests and tendency to look at both sides of issues
- Predicted time will spend working in college (inverse).*
- Hours per week during High School spent in studying and community activities.
- Predicted time will spend studying during college.
- Self-Report of high school grades. •Likelihood of graduating college with honors.
- Predicted college GPA.
- Hours per week spent socializing, watching TV, or playing video games during High School (inverse relationship)*
- Predicted time will spend playing video games, using internet, or socializing in college (inverse relationship)*
- Likelihood of going Greek (inverse relationship).*

##### Academic Attitudes and Behaviors Associated with Spiritual Well-Being

- Involvement in and enjoyment of social activities in High School.
- Predicted time spent in campus organizations & events during college.
- Enjoyment of thinking & learning.
- Importance of learning in college
- Expectation that college will improve ability to think, evaluate information, & communicate effectively.
- Expectation that college will improve ability to manage time & responsibilities & work with others.
- Academic (learning & career) motives for attending college.
- Time spent during High School in planning for your future.
- Lower likelihood of failing a class while in college.

- Self-rated ability to think, evaluate different views, and communicate orally & in writing.
- Self-rated ability to plan and manage time and responsibilities.
- Self-rated ability to communicate, work with, and understand others.
- Positive attitudes towards group work.

#### Academic Attitudes and Behaviors Associated with Both Religious Involvement and Spiritual Well-Being

- Positive attitudes towards & enjoyment of high school.
- Social motives for attending college.
- Received support, encouragement, & attention from high school teachers

Note: Italics indicate inverse relationships **Take Home Message Number 3**

**Religiousness and Spirituality are important, unique predictors of attitudes and behaviors of college students.** At least in our population, there appears to be value in considering Religion and Spirituality to be **separate, but related** constructs. Religiousness and Spirituality had a few correlates in common, but **many unique correlates**. Religious Involvement was related to values and positive or pro-social behaviors; while Spiritual Well-being appeared to be related to impressions and evaluations of one's inner emotional and cognitive life, as well as overall well-being. Our path analytic studies of alcohol use also suggest that Spiritual Well-Being may be a consequence of Religious Involvement.

### **IV. Implications & Questions**

#### **Conclusions?**

In preparing a summary of the implications of our findings, we realized that, while we can draw a number of conclusions, these conclusions also leave us with a number of questions. We do not pretend to have the answers to all (or perhaps any) of these questions at the present, but we feel that it is important for these questions to be on the table. Therefore, most of our "conclusions" are followed by questions.

#### **1) Religious distress and spiritual journeys happen in the lives of our students.**

Even in the secular university, students bring their religious backgrounds and spiritual experiences with them. Those of us who are involved in the lives of college students, be we educators, administrators, chaplains, or parents, must ask ourselves, "What do we want to do with that?" How should we respond to students' searches, distress, and discovery? How can we facilitate a students' spiritual journey without evangelizing on the one extreme or belittling or ignoring such concerns on the other? We can be spectators, or get down in the mud with them. We can leave it to extremist groups that foster hate and violence, or we can choose to be willing to address these issues in the lives of our students. Perhaps in order to move towards an answer, we may need to figure out what we want to do with our own spiritual journeys. There are often few spaces in the academy that allow us to privately explore our own values, goals, or spirituality, let alone social forums that let us share our journeys with others and create discourse around these issues. Our Center for Teaching and Learning at Indiana State University has implemented a number of faculty Learning Communities. During the 2003-2004 academic year,

a faculty Learning Community on Spirituality and the Educational Process met to share experiences, ideas, teaching and learning techniques, and personal stories. While this is but a first step, to the participants it has been an overwhelmingly positive experience that has created at least a small space for faculty to share their own spiritual journeys. The members of that learning community have elected to continue to meet, as well as prepare presentations on our experiences for other faculty at our institution.

**2) For many students, religious traditions and experiences can be a source of values and practices that we may want to nurture.**

While our data suggest that student Religiousness is associated with a number of desirable behaviors such as spending more time studying and drinking less alcohol, we are still left with the question of how to decide which values and practices associated with religiousness we want to nurture? How can we nurture values and practices that will improve society and promote peace, compassion, and justice? In addition, what can we (ethically) do to foster such values and practices in students without a religious background?

**3) Religion and Spirituality influence the conceptual lenses through which our students view themselves, others, and the world.**

One way to think about the relationship between religiousness and spirituality and the lives of college students is that they are part of the context and culture that makes each student who they are. It seems then, that it might be beneficial for students to have an understanding of the role of their religious and spiritual background in shaping their current beliefs, values, behaviors, and experiences. Several questions follow from this assumption: What practices, activities, and forums can we create to help students become more aware of those lenses, reflectively examine them, and continue to grow spiritually, emotionally, socially, and intellectually? What are the likely effects of such increased awareness? What problems and crises might we inadvertently create, and how can we minimize the risks and maximize the benefits of increased self-awareness?

**4) Both social construction and individual phenomenology have been glorified by intellectuals. Both are potentially valid and vital.**

The Western tradition has tended to focus on individual self-awareness and self-development. The postmodern trend has, in contrast, emphasized the role of the social in creating and defining reality. In cultural studies, individualistic and collectivist societies are contrasted. Just as there has been a tendency to polarize religion and spirituality, it may be that the academy has been too willing to polarize the social and the personal, the individualistic and the collectivistic. Perhaps it might be fruitful to think of religion as pertaining to that which is socially constructed and spirituality as pertaining to what is personally constructed or experienced. Alternatively, can we identify both socially constructed and individually experienced aspects of both religion and spirituality? Regardless of how we sort out these relationships, a key question becomes how we can help students take guidance both from their dialogs with others and their own inner experience. **A Tentative Plan of Action** A complete “battle plan” for pursuing answers to the questions we and others have raised regarding religiousness and spirituality is beyond the scope of this paper. Several recent and forthcoming works offer many valuable suggestions that are consistent with our findings and views (e.g., Chickering, Dalton, & Stamm, in press; Parks, 2000; etc.). Nonetheless, we will offer one potential sequence that we have begun to develop and utilize with our own students that may be of some help. Koth (2003) noted that reflection, often through journaling, has become a standard part of the service-learning model. However, such reflection does not typically include any activities or techniques aimed at facilitating spiritual growth. Our own approach to this is based in part on the experiences of two of us as psychotherapists. Cognitive (Beck, 1995, constructivist (Neimeyer, 1996), and narrative (Gonçalves, 1995) therapists describe the psychotherapy process as involving two steps: 1) creating a space for the client to become more aware of his or her story and to “tell” that story; and 2) promoting reflection, analysis, and experience that may help rewrite that story. Such therapies thus emphasize developmental processes (Mahoney, 1991) in a manner similar to models of the development of the self (Kegan, 1982), morality (Kohlberg, 1976), and faith (Fowler, 1981, 1996; parks, 2000).

While development and change are complex processes that cannot be reduced to formulas or cookbook sets of instructions, Table 8 lays out at least a basic sequence of activities that might facilitate spiritual development in the context of both the traditional college classroom and experiential and service learning formats. At this point we will have to leave the details up to the readers imagination (and perhaps the content of a future paper), but hopefully the sequence outlined can serve as a starting point for useful work. The first author has begun utilizing the Reaction and Reflection Questions shown in table 8 as with graduate students who serve as instructors for sections of Psychology 101 (as part of a seminar on the Teaching of Psychology). Using as an initial stimulus a quote from the forthcoming work of Chickering, Dalton, and Stamm (in press), the graduate instructors completed the reflection and reaction questions prior to a small group discussion. This group of instructors is currently working to adapt the Reaction and Reflection Questions for use by college freshmen in Introductory Psychology.

**Table 8**

**Proposed Steps in Sequence of Experience and Reflection to Foster Spiritual Development**

<u>Step</u>	<u>Examples</u>
1) Provide experiences (or take advantage of those students already have)	a) Provide a reading (or piece of music or artwork, etc.) b) Utilize experiential or service learning experiences c) Have students identify key life experiences, vivid memories, or important life events/transitions
2) Promote awareness of students' own thoughts, feelings, and actions	a) Any activity or practice that might enhance awareness of experiences, including: journaling <ul style="list-style-type: none"> <li>• creative writing (poems or plays)</li> <li>• verbal expression to another person (in dyads or small groups)</li> <li>• visual arts (drawing, painting, etc.)</li> <li>• role plays</li> <li>• meditation</li> <li>• prayer</li> <li>• body scanning</li> </ul> b) Use of Reaction Questions: <ul style="list-style-type: none"> <li>• What feelings, emotions, or passions are stirred in you by this passage?</li> <li>• What thoughts or verbal reactions come immediately to mind as you read or re-read this passage?</li> <li>• What does reading this passage make you want to do? What actions or behaviors might be instigated by this passage?</li> </ul>
3) Facilitate reflection regarding the values, beliefs, and assumptions that underlie students' thoughts, feelings, & actions	a) Journaling b) Use of Reflection Questions: <ul style="list-style-type: none"> <li>• Where do your emotional, cognitive, and behavioral reactions come from?</li> <li>• What aspects of your reactions can you trace to the influence of people or groups that have been important to you (such as teachers, friends, peers, parents, church, or religious group, etc.)?</li> <li>• How are your reactions related to your own personal intuitions, experiences, and conclusions?</li> <li>• What personal life experiences have you had that might have influenced your reactions to the above passage? What values or beliefs do you have that might help explain your reactions to the above passage?</li> <li>• What are the origins of these values or beliefs?</li> </ul>

	<p>(How did you come to have those specific beliefs? Which did you get from others and which are based on your own conclusions?)</p> <p>c) Identification of some past experience with which to compare the current experience (via modalities described above in 2a)</p>
<p>4) Call attention to dissonances or conflicts between core values or goals and thoughts, feelings, &amp; actions</p>	<p>a) Use of Additional Reflection Questions:</p> <ul style="list-style-type: none"> <li>• What aspects of your behavioral, emotional, or cognitive reactions might be INCONSISTENT with your own personal values, beliefs, &amp; experiences?</li> <li>• What might you do now that you are aware of this inconsistency?</li> </ul> <p>b) Socratic Dialog</p> <p>c) Complete assessments of personal goals (e.g., Emmons, 1999; Little, 1989; Novacek &amp; Lazarus, 1990; etc.) or values (e.g., Rokeach, 1973; Schwartz, 1992, etc.) and compare to narratives or other expressions of experiences</p>
<p>5) Allow students the space to rethink things</p>	<p>a) Still more journaling</p> <p>b) Creating safe and open environments for classroom discussion</p> <p>c) Quiet time alone</p>

**V. Concluding Postscript**

We began our studies of Religiousness and Spirituality and college student drinking in the spring of 2000. While we have numerous fascinating findings, our work is still in its infancy. At this point, we have more hypotheses than conclusions. The extrapolations from our data that we have described in this paper await confirmation or disconfirmation in future works by ourselves and others. Nonetheless, we felt that there were some conclusions from our data that are reasonably robust at this stage. We have tried to highlight some of these as “take home messages” in the text. We hope that the remainder of our conclusions and hypotheses stimulate even more interest in understanding Religiousness and Spirituality in college students. A number of participants at the 2004 College Student Values Conference offered the observation that, because of our traditions of separation of church and state, the secular university may be an especially appropriate venue for studying and exploring spiritual issues. Hopefully the secular university will be able to aspire to goals of respect and appreciation for diverse religious viewpoints and traditions and offer a “safe space” where spiritual issues can be discussed without the undue influence of one particular denominational viewpoint. We concur, but would add that those of us at secular universities should also welcome the experiences, insights, and input of our colleagues at religiously affiliated institutions. The emerging picture will be much fuller, the colors more vibrant, the details sharper, as we bring together multiple perspectives from believers and

unbelievers, from those who see themselves as religious and those who see themselves as spiritual, and from those who are still involved in the search.

### **Endnotes**

1. In our original papers (Johnson, Kristeller, & Sheets, 2003; Kristeller, Johnson, & Sheets, 2004) we referred to the Religious Involvement factor as “Religious/Spiritual Involvement” and the Spiritual Well-Being factor as “Spiritual Meaning & Peace.” The Religious Involvement factor does contain one measure (the Daily Spiritual experiences Scale, Underwood, ----) that is intended as a measure of spirituality, and self-ratings of spirituality also load on this scale. However, most of the measures that loaded on this scale reflect religious affiliation and activity. The Spiritual Well-Being factor includes the Meaning & Peace subscale of the FACIT-Sp, hence our original label, but we have come to view the combination of measures that load on this factor as reflecting broad dimensions of spiritual well-being.
2. For wave 3 (which we began collecting in February 2004) we have initiated several procedures to improve tracking and contact of potential participants. So far, we have obtained data from over 700 students at wave 3, and we hope to be able to include not only all participants from wave 2, but also many of those from wave 1 who did not complete the wave 2 questionnaires.

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Appendix 1

Table Listing Individual Items for Each of the Factors Used in Analyses

Dependent Variable	SIQ Item Wordings
Broad interests and tendency to look at both sides of issues	37b. I am only going to college to become an expert in one field. (reverse scored) <sup>a</sup> 38b. Given the same set of facts bout an issue, people will form the same opinion. (reverse scored) 38c. I usually choose sides quickly when there are competing points of view. (reverse scored) 38k. Deciding things for myself and being responsible for myself has not been as easy as I thought it would be. (reverse scored)
Predicted time will spend working in college	On average, how much time per week [do] you expect to spend during the first year in college <sup>b</sup> 41a. Working in an on-campus job. 41b. Working in an off-campus job.
Hours per week during High School spent in studying and community activities.	Use the scale below to indicate how many hours you spent engaged in the following activities in a typical week in high school <sup>b</sup> 24a. Studying or preparing for class on your own (e.g., homework assignments, projects, exams) 24b. Studying or preparing for class with other students 24h. Participating in community activities (e.g., volunteering, church activities, etc.)
Predicted time will spend studying during college.	On average, how much time per week [do] you expect to spend during the first year in college <sup>b</sup> 41c. Studying, researching or doing homework on your own 41d. Meeting with professors or instructors to discuss or prepare for class 41e. Meeting with other students to discuss or prepare for class
Self- Report of high school grades	What were your usual grades in high school? <sup>c</sup>
Likelihood of graduating college with honors	Use the scale below to indicate what you think the chances are of the following things happening to you during your college career <sup>d</sup> 44e. Graduate with honors
Predicted college GPA	Using a 4-point scale (4=A, 3=B, 2=C, 1=D, 0=4), what do you predict your overall grade point average will be during your first year? <sup>e</sup>
Hours per week spent socializing, watching TV, or playing video games during High School	Use the scale below to indicate how many hours you spent engaged in the following activities in a typical week in high school <sup>b</sup> 24c. Socializing with friends 24f. Using a computer or the internet for recreation 24g. Playing video games or watching TV

<p>Predicted time will spend playing video games, using internet, or socializing in college</p>	<p>On average, how much time per week [do] you expect to spend during the first year in college<sup>b</sup>                  41h. Socializing with friends who are ISU students                  41j. Using a computer or internet for recreation                  41k. Playing video games or watching television</p>
<p>Likelihood of going Greek</p>	<p>Use the scale below to indicate what you think the chances are of the following things happening to you during your college career:<sup>d</sup>                  44a. Join a fraternity or sorority</p>
<p>Involvement in and enjoyment of social activities in High School.</p>	<p>36h. I made as many friends as I wanted in high school.<sup>a</sup>                  36i. I enjoyed participating in social activities in high school.                  36j. I worked to get involved in many aspects of the high school experience.                  36k. I liked being in high school.</p>
<p>Predicted time spent in campus organizations &amp; events during college.</p>	<p>On average, how much time per week [do] you expect to spend during the first year in college<sup>b</sup>                  41f. At campus events (e.g., sports, speakers, plays)                  41g. Participating in campus organizations (e.g. student government, clubs, fraternities/sororities)                  41l. Participating in sports or exercising</p>
<p>Enjoyment of thinking &amp; learning.</p>	<p>38a. I enjoy discussing issues with people who don't agree with me.<sup>a</sup>                  38g. When examining complex problems and issues, I enjoy the diverse viewpoints that different courses can provide of the same topic.                  38h. Thinking and reasoning can help individuals create important new knowledge.                  38i. I try to explore the meaning and interpretations of the facts when I am introduced to a new idea.                  38j. When I discover new ways of understanding things, I feel even more inspired and motivated to learn.</p>
<p>Importance of learning in college.</p>	<p>37a. It is important that I increase my understanding of a variety of topics while I'm in college.<sup>a</sup>                  37c. A college education should prepare me to understand how experts in different fields examine similar problems or situations.                  37e. Given my choices, I think deciding to go to college was a good idea for me.</p>
<p>Expectation that college will improve ability to think, evaluate information, &amp; communicate effectively.</p>	<p>I expect that college will help me improve my ability to:<sup>a</sup>                  42a. Find new ways to think about problems or topics                  42b. Evaluate opposing options or viewpoints                  42c. Effectively communicate my ideas in writing                  42d. Effectively communicate my ideas by speaking                  42f. Solve complex problems                  42g. Intelligently discuss politics or current world events</p>

<p>Expectation that college will improve ability to manage time &amp; responsibilities &amp; work with others.</p>	<p>I expect that college will help me improve my ability to:<sup>a</sup>                  42e. Organize, prioritize, and plan my time                  42h. Use computers or the Internet                  42i. Work with others on projects                  42j. Effectively plan and manage my responsibilities                  42k. Understand and respect cultures, attitudes and customs of others</p>
<p>Academic (learning &amp; career) motives for attending college.</p>	<p>Use the scale below to indicate how important the following reasons were for you personally in your decision to go to college<sup>f</sup>                  47a. Finding a more rewarding career                  47b. Earning a college degree                  47c. Preparing for graduate or professional school                  47i. Learning about a variety of topics                  47j. Becoming and expert in a specific field</p>
<p>Time spent during High School in planning for your future.</p>	<p>During high school, how much time did you spend planning for your future?<sup>g</sup></p>
<p>Likelihood of failing a class in college</p>	<p>Use the scale below to indicate what you think the chances are of the following things happening to you during your college career:<sup>d</sup>                  44b. Fail one or more classes</p>
<p>Self-rated ability to think, evaluate different views, and communicate orally &amp; in writing.</p>	<p>Rate your ability to:<sup>h</sup>                  35a. Find new ways to think about problems or topics                  35b. Evaluate opposing options or viewpoints                  35c. Effectively communicate your ideas in writing                  35d. Effectively communicate your ideas by speaking                  35f. Solve complex problems                  35g. Intelligently discuss politics or current world events</p>
<p>Self-rated ability to plan and manage time and responsibilities.</p>	<p>Rate your ability to:<sup>h</sup>                  35e. Organize, prioritize and plan your time                  35j. Effectively plan and manage your responsibilities</p>
<p>Self-rated ability to communicate, work with, and understand others</p>	<p>Rate your ability to:<sup>h</sup>                  35h. Use computers or the internet for school work or research                  35i. Work with others on projects                  35k. Understand and respect the cultures, attitudes, and customs of others</p>
<p>Positive attitudes towards group work.</p>	<p>38d. I enjoy working with others on group projects or assignments.<sup>a</sup>                  38e. On difficult topics, I often work with others.                  38f. A group can almost always come up with more creative solutions to problems than can an individual.</p>

<p>Positive attitudes towards &amp; enjoyment of high school.</p>	<p>36a. In high school, I was able to do well in a variety of academic subjects<sup>a</sup>                      36b. In high school, I learned a lot from doing class assignments.                      36c. A lot of what I learned in high school can be applied to the real world.                      36d. In high school, most of the ideas and information I was exposed to were uninteresting and not worth the time. (reverse scored)                      36e. In high school, I only tried hard in my favorite classes. (reverse scored)                      36f. In high school, I was interested in many subjects.                      36g. In high school, I was only really good at one or two academic subjects. (reverse scored)</p>
<p>Social motives for attending college.</p>	<p>Use the scale below to indicate how important the following reasons were for you personally in your decision to go to college<sup>f</sup>                      47d. Making my parents happy                      47e. Socializing and meeting people                      47h. Finding a boyfriend/girlfriend/spouse</p>
<p>Received support, encouragement, &amp; attention from high school teachers</p>	<p>21. How often did you receive supportive individual attention from your high school teachers?<sup>i</sup>                      22. During your last year of high school, how much did you learn by talking and working with your high school teachers?<sup>j</sup>                      23. How strongly do you agree with this statement: “The supportive attention and encouragement I received from my high school teachers really motivated me in my classes.”<sup>a</sup></p>

Appendix 2

– Table Summarizing Results of Hierarchical Regressions Predicting Academic Attitudes and Behaviors

Dependent Variable	Step 1 R <sup>2</sup>	Step 2 R <sup>2</sup>	F for Change in R <sup>2</sup>	β for Parents' Education	β for Parents' Occupation	β for Parents' Income	β for # of Friends Going to College	β for Religious Involvement	β for Spiritual Well-Being	β for Search for Meaning	β for Religious Distress
Broad interests and tendency to look at both sides of issues	.003	.034	7.29***					<b>.13</b>			-.16
<i>Predicted time will spend working in college</i>	.026	.043	3.80**			-.10		<b>-.12</b>			
Hours per week during High School spent in studying and community activities.	.006	.092	21.86** *			.14		<b>.25</b>	.07		
Predicted time will spend studying during college.	.003	.017	3.25**					<b>.08</b>			-.09
Self- Report of high school grades	.032	.085	13.19** *				.18	<b>.21</b>			
Likelihood of graduating college with honors	.021	.074	11.88** *				.12	<b>.19</b>	.07		
Predicted college GPA	.035	.08	10.12** *	.12			.15	<b>.16</b>		.07	-.08
<i>Hours per week spent socializing, watching TV, or playing video games during High School</i>	.016	.074	14.30** *					<b>-.24</b>			.12

<i>Predicted time will spend playing video games, using internet, or socializing in college</i>	.016	.025	1.96			.15		<b>-.11</b>			
<i>Likelihood of going Greek</i>	.024	.048	5.27**			.14		<b>-.15</b>			.11
Involvement in and enjoyment of social activities in High School.	.039	.160	33.10** *	-.10	.09	.13	.10	.07	<b>.25</b>	-.13	.16
Predicted time spent in campus organizations & events.	.036	.053	3.84**			.19			<b>.11</b>		.09
Enjoyment of thinking & learning.	.010	.079	17.24***		.09				<b>.26</b>		
Importance of learning in college.	.009	.064	13.62** *		.09				<b>.24</b>	.08	
Expectation that college will improve ability to think, evaluate information, & communicate effectively.	.006	.056	11.62** *						<b>.20</b>	.13	
Expectation that college will improve ability to manage time & responsibilities & work with others.	.002	.032	6.71**						<b>.15</b>	.07	
Academic (learning & career) motives for attending college.	.009	.057	10.91**						<b>.21</b>	.08	.09
Time spent during High School in planning for your future.	.012	.069	13.84** *	.09			.09		<b>.20</b>		

Likelihood of failing a class in college	.011	.059	10.06** *						-07	<b>-017</b>		
Self-rated ability to think, evaluate different views, and communicate orally & in writing.	.024	.049	5.95**							<b>.17</b>		
Self-rated ability to plan and manage time and responsibilities.	.008	.067	14.37** *	-09	.08				.09	<b>.18</b>		-07
Self-rated ability to communicate, work with, and understand others	.008	.075	16.71** *						-08	<b>.26</b>	-08	.10
Positive attitudes towards group work.	.020	.080	14.53** *	-08		.14				<b>.24</b>		.12
Positive attitudes towards & enjoyment of high school.	.016	.101	21.86***				.13		<b>.17</b>	<b>.19</b>		
Social motives for attending college.	.022	.061	8.74**			.10			<b>-011</b>	<b>.12</b>		.17
Received support, encouragement, & attention from high school teachers	.015	.083	16.90** *				.09		<b>.14</b>	<b>.17</b>		

Notes: Only Beta values significant at  $p < .05$  or better are shown. Values in bold correspond to categorizations listed in Table 7 in the text (Factors predicted by Religious Involvement, Factors Predicted by Spiritual Well-Being, Factors Predicted by both Religious Involvement and Spiritual Well-Being).