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# Spiritual Formation among Doctoral Psychology Students in Explicitly Christian Programs

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# Spiritual Formation among Doctoral Psychology Students in Explicitly Christian Programs

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How does training in an explicitly Christian doctoral program in clinical psychology affect students' faith development? Two studies are reported that consider students' locus of control, spiritual perceptions, and religious behaviors over the course of training. The first study involved 157 students from 5 doctoral programs who completed questionnaires at the beginning and end of an academic year. A number of changes were reported from the beginning to the end of the year, including increased internal locus of control, decreased awareness of God, decreased church attendance, and decreased ratings on the importance of religion. A number of differences between cohorts were also observed, with first-year students affirming more spiritual attributions, religious problem-solving, and religious behaviors than students in other cohorts. The second study included 140 first- and second-year students from 4 doctoral programs. Changes were reported over the academic year, including increased disappointment with God and fatigue, and decreased church attendance, personal prayer, and importance of religion. No differences between first- and second-year students were observed. Various possible explanations are offered for these findings, including eroding of faith, enhanced self-efficacy, rearranging faith, and fatigue.

Several explicitly Christian doctoral programs have emerged and become accredited by the American Psychological Association in recent decades (Johnson & McMinn, 2003). These programs typically hire faculty who endorse a Christian statement of faith and include curriculum pertaining to the integration of psychology and Christianity. Most explicitly Christian doctoral programs also show admission preference to students who express endorsement of and personal commitment to Christian beliefs.

According to Slife and Reber (2009), psychology tends to have a naturalist narrative emerging from modernism that may actually compete with a Christian narrative, formed from theological anthropology. If this is the case, then even Christian students admitted to explicitly Christian doctoral training programs might experience a degree of faith degradation throughout training. Given the centrality of faith in the identity of these programs, and the students they admit, this seems an important area of research. How does attending an explicitly Christian doctoral program affect the spiritual development of students?

Past research, mostly unpublished, has generated mixed results. Pearce (1996) found that

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during the course of graduate school many students move toward a more relational, intimate, interactive relationship with God. Hofer (2004) did a 9-year follow-up with the participants in Pearce's study, finding the participants reported having an even deeper, stronger, and more important relationship with God than when in the program. But not all research suggests increased faith experience during graduate school. Edwards (2006) found a linear decline in faith commitment over the course of three years among clinical psychology graduate students at a Christian university. Whereas Edwards found a decline on all 8 subscales of the God Image Inventory (GII) as well as decreased church attendance, Mullis (2008) reported positive change on 2 of the 8 GII subscales over a similar 3-year span.

From the limited research available, it seems likely that faith development during graduate school is a multidimensional research issue, calling for studies that look at various aspects of religious and spiritual beliefs and practices. Moreover, it may not be a linear phenomenon. Students may have critical periods where faith is enhanced or compromised, and these periods may occur either during or after graduate studies.

Most of the prior studies investigating spiritual development of students in explicitly Christian doctoral programs have focused on how students perceive God (God image) or attachment to God. These are important variables, but many more dimensions of faith warrant investigation. How is it that students explain the events of their own lives as well as the often-troubling events they see in their patients and clients? How do students use faith to cope with the inevitable struggles they experience in graduate school? To what extent is faith part of their problem solving as they encounter fatigue and other challenges of training? The present studies consider an array of variables that pertain to spiritual development, including locus of control, religious coping, attribution, awareness of God, relationship with God, religious problem solving, fatigue, and social support.

Moreover, previous studies have focused only on students in one institution. The present studies are collaborative multisite endeavors involving students from five Christian doctoral training programs in clinical psychology. In an effort to foster collaboration and avoid competition, we have not computed or reported results for individual programs. Rather, we offer these findings

in aggregate form in an effort to explore spiritual development among students in Christian doctoral training programs.

Based on the work of Slife and Reber (2009), we hypothesized that various markers of students' spiritual development will show declines throughout an academic year of training in explicitly Christian doctoral programs. Given the mixed findings of past studies, and the exploratory nature of the current studies, we held this hypothesis lightly.

## Study 1

### Participants and Procedures

Participants were graduate students drawn from five explicitly Christian doctoral training programs. Faculty collaborators were identified at each of the five programs. These faculty members helped recruit participants for the study after the required institutional review procedures were completed. Participants completed a consent form, pretest measures, and demographic information at the beginning of the 2010-2011 academic year. Participants were then asked to complete a posttest at the end of the academic school year. At pretest, participants provided a code consisting of the last four digits of their social security number. The four-digit code allowed pretest data to be matched with posttest data in a way that ensured confidentiality. No incentive was offered at the beginning of the year (Time 1) administration, and a \$2 incentive was offered at the end of the year (Time 2) administration. All questionnaires from the pretest and posttest were returned within the academic year the study was conducted.

A total of 218 students completed the pretest at the beginning of the academic year and 157 students who completed the pretest also completed the posttest (72% completion rate). Of these, 55 (35%) were male and 102 (65%) were female. The mean age was 27 ( $SD = 6.0$ ), with a minimum of 20 and maximum age of 55. There were 51 first-year students (32.5%), 49 second-year students (31.2%), 36 third-year students (22.9%), 16 fourth-year students (10.2%), and 5 fifth-year students (3.2%). The majority, 108 respondents, reported their ethnicity to be European-American (68.8%), followed by 12 Hispanic/Latino (7.6%), 12 Asian-American/Pacific Islander (7.6%), 11 African-American (7.0%), and 1 Native American (0.6%). Eleven participants reported themselves as other ethnicity (7.0%).



## Measures

**Locus of Control.** Levenson's (1974) Multidimensional Locus of Control Scale is a 20-item self-report scale, which asks participants to choose the determinants of their life reinforcements. Three factors include "Powerful Others Control," "Internal Control," and "Chance Control." The reliability for the scale is adequate (Coefficient alpha: P scale = .77, I scale = .64, C scale = .78). The items were rated on a 5-point Likert-type scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). As used in the Wong-McDonald and Gorsuch's (2000) research, 8 items assessing God Control were added to the measure.

**Surrender Scale.** Wong-McDonald and Gorsuch's (2000) Surrender Scale is a 12-item measure of religious coping. Surrender involves actively releasing one's will to trust in God's providence and goodness. Items are based on a 5-point Likert-type scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). The Surrender Scale was derived from 30-items originally written based on the biblical concept of surrender (Matt. 10:39; John 10:10). The 12-item version of the scale has high internal consistency, with Wong-McDonald and Gorsuch (2000) reporting a Cronbach's alpha of .94.

**Spiritual Assessment Inventory.** Hall and Edwards's (2002) Spiritual Assessment Inventory (SAI) is a five factor, 47-item scale measuring two dimensions of spiritual development based on a relationship with God. The two dimensions are Awareness of God and Quality of Relationship with God. The internal consistency of the 47-items is high (Cronbach's alpha: Awareness = .95, Disappointment = .90, Realistic Acceptance = .83, Grandiosity = .73, Instability = .84). The items are rated on a 5-point Likert-type scale ranging from 1 ("Not True At All") to 5 ("Very True").

**Religious Problem-Solving Scale.** The Religious Problem-Solving Scale (Pargament et al., 1988) is a 36-item scale that measures how one distinguishes the different degrees of responsibility assigned to self or God in solving problems and the level of initiative taken in problem solving. The measure provides three different subscales entitled Self-Directing, Collaborative, and Deferring. Items are based on a 5-point Likert-type scale ranging from 1 ("Never") to 5 ("Always"). The internal consistency of the 36 items is high (Cronbach's alpha: Self-Directing = .91, Collaborative = .93, Deferring = .89).

**Demographics.** Participants were also asked their sex, year in doctoral training, age, highest

degree completed, racial/ethnic identity, religious denomination, and frequency of attending church services. The question measuring frequency of church attendance was taken from Koenig, Parkerson, and Meador's (1997) Duke University Religion Index (DUREL). The church attendance item ranged from 1 ("More than once a week") to 6 ("Never"). Also, participants were asked how important religion is to them with a single item ranging from 1 ("Not at all. I have no religion.") to 5 ("Extremely important. It is the center of my life.").

## Results

Descriptive statistics for each subscale are reported in Table 1. In order to determine the changes among graduate students, a series of mixed-model repeated measures analyses of variance (ANOVAs) were computed—one for each of the various scales used as dependent variables. Each of these ANOVAs had a repeated measures factor (the scores at the beginning and end of the academic year) and a between-groups factor (the students' year in the program). We recognize the sizable risk of Type I error that comes with multiple hypothesis tests, but opted to maintain an alpha of .05 because of the exploratory nature of this research. As such, significant differences should be viewed with some caution.

With regard to internal locus of control, both a repeated-measures,  $F(1,152) = 4.69$ ,  $p = .032$ , and between-groups,  $F(4,152) = 4.21$ ,  $p = .003$ , effect was found. No significant interaction effects were found. Students reported an increase of internal control between the beginning and end of the academic year. Post-hoc comparisons using the Least Squared Difference (LSD) test revealed that Internal locus of control was higher for third-year students than for second-year students. No differences were noted for the External, Powerful Other, or God Control scales.

Further analyses suggested that differences might exist between first-year students and all subsequent years. To increase power, a new binary variable was created to indicate if a student was in the first year of his or her doctoral program or a subsequent year. This new binary variable was then used as the between-groups factor in subsequent analyses. A significant difference was found for the God Control scale between first years and subsequent years,  $F(1,154) = 7.07$ ,  $p = .009$ .

On the Surrender Scale, which is a measure of religious coping, differences between groups was



**Table 1**  
*Means (and Standard Deviations) for Pretest and Posttest Subscales in Study 1*

Scale/Subscale	Year 1 (N = 51)		Year 2 (N = 49)		Year 3 (N = 36)		Year 4 (N = 16)		Year 5 (N = 5)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
<b>Locus of Control</b>										
Powerful Others	2.5 (.4)	2.6 (.5)	2.5 (.4)	2.5 (.5)	2.4 (.5)	2.4 (.5)	2.6 (.5)	2.5 (.3)	3.1 (.7)	2.8 (.5)
Internal	3.4 (.5)	3.5 (.4)	3.5 (.5)	3.6 (.5)	3.7 (.4)	3.8 (.4)	3.8 (.4)	3.9 (.3)	3.6 (.3)	3.7 (.3)
Chance	2.2 (.5)	2.4 (.4)	2.3 (.4)	2.3 (.4)	2.1 (.5)	2.3 (.5)	2.3 (.4)	2.4 (.4)	2.6 (.6)	2.4 (.5)
God Control	4.0 (.6)	3.9 (.6)	3.8 (.6)	3.8 (.7)	3.8 (.5)	3.6 (.6)	3.7 (.5)	3.7 (.7)	3.7 (.2)	3.6 (.6)
<b>Religious Coping</b>										
Surrender	3.9 (.5)	3.9 (.5)	3.6 (.7)	3.7 (.8)	3.8 (.6)	3.8 (.6)	3.7 (.5)	3.8 (.4)	4.0 (.5)	3.8 (.2)
<b>SAI</b>										
Awareness	3.8 (.6)	3.4 (.7)	3.3 (.9)	3.2 (.9)	3.2 (.8)	3.2 (.9)	3.4 (.6)	3.2 (.6)	3.6 (.9)	3.5 (1.0)
Realistic Accept	4.3 (.8)	4.2 (.8)	3.9 (.9)	3.9 (.8)	3.9 (1.0)	3.8 (.9)	3.9 (.8)	3.8 (.8)	4.0 (.9)	3.9 (.9)
Disappointment	2.4 (.9)	2.7 (.9)	2.6 (1.0)	2.5 (.9)	2.7 (1.1)	2.5 (1.0)	3.4 (.7)	2.3 (.7)	3.7 (1.3)	3.7 (1.6)
Grandiosity	1.6 (.5)	1.4 (.5)	1.4 (.5)	1.3 (.4)	1.5 (.5)	1.4 (.5)	1.3 (.4)	1.2 (.2)	1.4 (.3)	1.4 (.2)
Instability	1.9 (.6)	1.9 (.6)	1.9 (.6)	1.8 (.5)	1.9 (.6)	1.8 (.7)	1.8 (.7)	1.8 (.5)	2.0 (.5)	1.9 (.6)
Imp Manage	2.6 (.8)	2.2 (.8)	2.2 (.7)	2.0 (.8)	2.0 (.7)	1.9 (.7)	2.3 (.7)	2.3 (.8)	2.0 (.8)	1.8 (.7)
<b>RPS</b>										
Collaborative	3.6 (.6)	3.4 (.6)	3.1 (.7)	3.2 (.7)	3.3 (.7)	3.2 (.7)	3.3 (.6)	3.2 (.6)	3.6 (.7)	3.5 (.6)
Self-Directing	2.3 (.6)	2.6 (.6)	2.8 (.8)	2.8 (.9)	2.8 (.7)	2.8 (.7)	2.5 (.7)	2.7 (.6)	3.0 (.6)	2.7 (.7)
Deferring	2.6 (.6)	2.4 (.5)	2.3 (.6)	2.3 (.7)	2.1 (.5)	2.2 (.5)	2.1 (.6)	2.1 (.7)	2.2 (.7)	2.1 (.5)
<b>Other</b>										
Importance	4.6 (.6)	4.5 (.6)	4.3 (1.0)	4.1 (1.0)	4.3 (.8)	4.2 (.9)	4.3 (1.0)	3.9 (1.2)	4.6 (.6)	4.4 (.6)
Church Attend	1.9 (.8)	2.3 (.8)	2.5 (1.4)	2.7 (1.2)	2.5 (1.0)	2.5 (1.0)	3.1 (1.3)	2.9 (1.4)	2.2 (1.1)	3.1 (.7)

*Notes.* Scores are reported as Means (Standard Deviations). Year 1 to Year 5 refers to the participant's year in doctoral training. SAI = Spiritual Assessment Inventory. Imp Manage = Impression Management. RPS = Religious Problem Solving Scale. Importance = Importance of Religion. Church Attend = Church Attendance.



noted, but only when clustering second-, third-, fourth-, and fifth-year students together and comparing them with first-year students,  $F(1,154) = 4.79$ ,  $p = .030$ . First-year students reported a greater experience of Surrender than students in subsequent years. No changes over time or interaction effects were observed.

With the SAI, a significant decrease from the beginning to the end of the academic year was found on the Awareness scale,  $F(1,152) = 7.31$ ,  $p = .008$ . The Awareness scale is designed to measure the individual's ability to recognize God's communication to self and through self. Although a significant between-groups effect was not observed, when the independent variable was collapsed to the binary variable described earlier, first-year students reported more Awareness than subsequent students,  $F(1,155) = 7.64$ ,  $p = .006$ . No interaction effects were found. Similarly, no between-group differences were noted for the Disappointment, Realistic Acceptance, Grandiosity, and Instability scales unless the independent variables were collapsed into the same binary variable in which case Realistic Acceptance was higher for first-year students than for students in subsequent years,  $F(1, 146) = 5.69$ ,  $p = .018$ , and also Grandiosity,  $F(1,155) = 3.98$ ,  $p = .048$ . No interaction effects were found. No repeated-measures differences or interaction effects were observed for these scales. The SAI also includes an Impression Management Scale, which is intended to assess the extent to which respondents are trying to give a favorable impression of their spirituality. Impression Management scores decreased from the beginning to end of the year,  $F(1,152) = 9.49$ ,  $p = .002$ . A between-groups differences was also noted,  $F(4, 152) = 2.62$ ,  $p = .037$ , with Impression Management being significantly lower for second-year students than for first-year students (based on a LSD post hoc test). An interaction effect was also observed with students in the first year decreasing more significantly from pretest to posttest than students in subsequent years,  $F(4, 152) = 3.22$ ,  $p = .014$ .

The Self-Directing subscale of the Religious Problems Solving Scale showed no significant difference over time. Using the binary cohort variable, a significant difference was noted between the first years and subsequent years,  $F(1,155) = 8.024$ ,  $p = .005$ , with first-year students reporting less self-directed problem solving than students in subsequent cohorts. On the Collaborative scale a significant difference was found between program

years,  $F(4, 152) = 2.51$ ,  $p = .044$ . Post hoc comparisons using the LSD test revealed that first-year students reported more collaborative religious problem solving than second-year students. The Deferring scale from the Religious Problem Solving Scale also revealed significant differences between program years,  $F(4,152) = 2.83$ ,  $p = .027$ , with a LSD post hoc comparison indicating higher scores for first-year students than for fourth-year students. No differences were noted over time for the Collaborative and Deferring scale, nor were interaction effects observed.

On the Importance of Religion item, a significant difference was found between the beginning and end of the year,  $F(1,135) = 5.27$ ,  $p = .023$ , with students reporting being more committed at the beginning of the academic year than at the end of the school year. Cohort differences were observed when using the binary variable as the between-groups variable, with first-year students reporting greater importance of religion than those in subsequent years,  $F(1,138) = 5.84$ ,  $p = .017$ . No significant interaction effects were found.

Regarding church attendance, students reported more frequent attendance at the beginning of the school year than at the end,  $F(1,146) = 5.94$ ,  $p = .016$ . A between-groups difference was also observed,  $F(4,146) = 2.79$ ,  $p = .028$ , and post hoc LSD tests revealed that first-year students reported more church attendance than second- or fourth-year students. A significant interaction was also observed,  $F(4,146) = 2.50$ ,  $p = .045$ , with first-year students showing a greater reduction in church attendance from pretest to posttest than other cohorts.

### Summary of Findings

On numerous measures we observed a change in reported spiritual perceptions and behaviors from the beginning to the end of the academic year. While students reported an increased internal locus of control, they also reported decreased importance of religion, awareness of God's presence, and church attendance from pretest to posttest. We also noted that differences between cohorts, when they occurred, always involved first-year students differing from students in other cohorts. These differences were noted for God Control, Surrender, Awareness and Realistic Acceptance of God's work in one's life, all three types of religious problem solving, importance of religion, and church attendance. To some extent these differences may be related to higher



Grandiosity and Impression Management scores on the SAI among first-year students, but is unlikely to account for the magnitude of these consistent differences. The possibility of an ideological shift in spiritual perception, particularly one that occurs during the first year of training, prompted the second study. We expected that perceived social support and/or fatigue may be related to depleted spiritual awareness during the first two years of training.

## Study 2

### Participants and Procedures

Participants were first- and second-year graduate students drawn from four of the same explicitly Christian doctoral training programs involved in Study 1. As with Study 1, faculty collaborators were identified at each of the four programs and after required institutional review procedures these faculty members helped recruit participants for the study during the 2012-2013 academic year. Participants completed a consent form along with a pretest questionnaire packet that included the last four digits of their social security numbers within the first three weeks of the fall, 2012 semester. They then completed a posttest questionnaire at the end of the academic year. The four-digit code allowed pretest data to be matched with posttest data. No incentive was offered for participating.

A total of 175 students completed the pretest at the beginning of the academic year and 140 students who completed the pretest also completed the posttest (80% completion rate). Of these, 47 (34%) were male and 93 (66%) were female. The mean age was 25 ( $SD = 3.9$ ), with a minimum of 20 and maximum age of 47. There were 76 first-year students (54.3%) and 64 second-year students (45.7%). The majority, 96 respondents, reported their ethnicity to be European-American (69.1%). An additional 17 respondents described themselves to be Hispanic/Latino (12.2%), 13 Asian-American/Pacific Islander (9.4%), 5 African-American (3.6%), and 3 Native American (2.2%). Five participants reported themselves as other ethnicity (3.6%).

### Measures

**Spiritual Assessment Inventory.** As with Study 1, Hall and Edwards's (2002) Spiritual Assessment Inventory (SAI) was administered in Study 2.

### Multidimensional Social Support Survey.

The Multidimensional Social Support Survey (Zimet, Dahlem, Zimet, & Farley, 1988) is a 12-item scale measuring the level of perceived support from Family, Friends, Significant Other, and Total Support. The instrument was adapted to include perceived Faculty Support, making it a 16-item scale with four subscales plus a total score. Items are based on a 7-point Likert-type scale ranging from 1 ("Very Strongly Disagree") to 7 ("Very Strongly Agree"). Cronbach's alpha for total support is 0.88. Test-retest reliability coefficients are 0.72 (significant other), 0.85 (family), and 0.75 (friends).

### Multidimensional Fatigue Inventory.

The Multidimensional Fatigue Inventory (Smets, Garssen, Bonke, & Haes, 1995) measures five dimensions of fatigue: General Fatigue, Physical Fatigue, Mental Fatigue, Reduced Activity, and Reduced Motivation. The instrument consists of 20 items and uses a 5-point Likert-type scale where 1 is "No, that is not true" and 5 is "Yes, that is true." Cronbach's alpha for the five subscales are 0.83 (General Fatigue), 0.81 (Physical Fatigue), 0.82 (Reduced Activity), 0.71 (Reduced Motivation), and 0.86 (Mental Fatigue).

**Demographics.** Participants were also asked their sex, year in doctoral training, age, highest degree completed, racial/ethnic identity, frequency of attending church services, and frequency of prayer. Frequency of attending church was rated on 6-point scale ranging from 1 ("Never") to 6 ("More than once a week"). Note that the wording of this item differs from the item used in Study 1, such that Study 1 church attendance scores are inversely related to reported church attendance and in Study 2 church attendance scores are directly related to reported attendance. Frequency of prayer was rated on a 7-point scale ranging from 1 ("Never") to 6 ("More than three times a day"). As with Study 1, participants were asked how important religion is to them with a single item ranging from 1 ("Not at all. I have no religion.") to 5 ("Extremely important. It is the center of my life.").

### Results

Descriptive data for each subscale are reported in Table 2. As with Study 1, a series of mixed-model repeated measures analyses of variance (ANOVAs) were computed. Each of these ANOVAs had a repeated measures factor (the scores at the beginning and ending of the academic year) and a between-groups factor (being



**Table 2**  
*Means (and Standard Deviations) for Pretest and Posttest Subscales in Study 2*

Scale/Subscale	Year 1 (N = 76)		Year 2 (N = 64)	
	Pre	Post	Pre	Post
<b><i>Social Support</i></b>				
Significant Other	6.1 (1.1)	6.0 (1.1)	6.0 (1.4)	5.9 (1.3)
Family	5.9 (1.2)	5.9 (1.1)	5.7 (1.4)	5.5 (1.4)
Faculty	4.6 (1.0)	4.9 (1.1)	4.5 (1.3)	4.9 (1.4)
Friends	5.9 (1.0)	5.8 (.9)	5.9 (1.1)	5.7 (1.1)
<b><i>Fatigue</i></b>				
General	2.8 (.6)	2.9 (.8)	2.8 (.7)	3.1 (.8)
Physical	2.2 (.9)	2.3 (.9)	2.1 (.8)	2.3 (.9)
Reduced Activity	2.1 (.7)	2.0 (.6)	1.9 (.6)	2.0 (.8)
Reduced Motivation	2.0 (.6)	2.1 (.6)	2.0 (.6)	2.4 (.7)
Mental Fatigue	2.6 (.9)	2.6 (.8)	2.4 (.8)	2.7 (.8)
<b><i>SAI</i></b>				
Awareness	3.6 (.7)	3.6 (.7)	3.6 (.9)	3.4 (1.0)
Realistic Accept	4.1 (.8)	4.0 (.9)	4.2 (.8)	4.1 (.9)
Disappointment	2.8 (1.1)	3.0 (1.1)	3.1 (1.2)	3.2 (1.1)
Grandiosity	1.6 (.6)	1.8 (.6)	1.5 (.4)	1.6 (.6)
Instability	2.1 (.7)	2.3 (.8)	2.1 (.6)	2.1 (.7)
Impression Manage	2.7 (.7)	2.5 (.7)	2.5 (.8)	2.3 (.8)
<b><i>Other</i></b>				
Importance of Rel	4.6 (.6)	4.5 (.6)	4.3 (1.0)	4.1 (1.0)
Church Attendance	4.7 (1.2)	4.5 (1.3)	4.6 (1.2)	4.4 (1.3)
Prayer Frequency	5.5 (1.3)	5.3 (1.4)	5.6 (1.3)	5.4 (1.4)

*Notes.* Scores are reported as Means (Standard Deviations). Year 1 and Year 2 refers to the participant's year in doctoral training. SAI = Spiritual Assessment Inventory. Importance of Rel = Importance of Religion. Note that the responses given for church attendance and prayer frequency get higher with more reported activity. In contrast, the church attendance score in Study 1 was inversely related to frequency of church attendance reported.

first- or second-year in the program). Again, an alpha of .05 was used because of the exploratory nature of this research.

No differences were reported for either the between-groups or repeated-measures factor on the MSPSS Significant Other, Family Support, or Friends Support scales. On the Faculty Support scale, students reported greater levels of faculty

support at the end of the academic year than at the beginning,  $F(1,138) = 12.03, p = .001$ . No between-groups or interaction effects were found.

A repeated-measures effect was found for General Fatigue,  $F(1,138) = 15.79, p < .001$ , with fatigue at the end of the academic year being significantly higher than at the beginning. However, this effect appears to be due to the higher end-of-

**Table 3***Significant Differences from Beginning to End of Academic Year*

Finding	Study
Increased Internal Locus of Control	Study 1
Decreased Awareness of God (SAI)	Study 1
Increased Disappointment with God (SAI)	Study 2
Increased Grandiosity (SAI)	Study 2
Decreased Impression Management (SAI)	Studies 1 and 2
Increased Sense of Faculty Support	Study 2
Increased Fatigue (General*, Motivation*, Physical, Mental)	Study 2
Decreased Church Attendance	Studies 1 and 2
Decreased Frequency of Prayer	Study 2
Decreased Importance of Religion	Studies 1 and 2

*Note.* \* In these instances, a significant interaction effect suggests the increased fatigue occurred for second year students, but not for first year students.

the-year fatigue levels experienced by second-year students as evidenced by a significant interaction effect,  $F(1,138) = 7.33$ ,  $p = .008$ . First-year students did not report increased general fatigue from the beginning to the end of the year. A similar pattern was seen with Reduced Motivation. A repeated-measures effect was found,  $F(1,138) = 17.53$ ,  $p < .001$ , but the reduced motivation over time was fully accounted for by changes in second-year students,  $F(1,138) = 5.31$ ,  $p = .023$ . A repeated-measures effect revealed increased levels of Physical Fatigue over time,  $F(1,138) = 5.17$ ,  $p = .024$ , and also increased Mental Fatigue,  $F(1,138) = 8.06$ ,  $p = .005$ . No between-groups or interaction effects were observed. No repeated-measures or between-groups effects were observed on Reduced Activity.

On the SAI, no between-groups effects were found for the Awareness, Realistic Acceptance, or Instability scales. On the Disappointment scale a repeated measures effect was found, with participants reporting greater disappointment with God at the end of the year than at the beginning,  $F(1,138) = 6.44$ ,  $p = .012$ . Similarly, scores on the Grandiosity scale were higher at the end of the year than at the beginning,  $F(1,138) = 4.79$ ,  $p = .030$ . Impression Management scores were lower at the end of the year than at the beginning,  $F(1,138) = 7.75$ ,  $p = .006$ . No between-groups or interaction effects were found for any of the SAI scales.

Participants reported less church attendance at the end of the year than at the beginning,  $F(1,138) = 7.88$ ,  $p = .006$ , and they also reported

praying less frequently,  $F(1,137) = 8.31$ ,  $p = .005$ , and finding religion to be less important than at the beginning of the year,  $F(1,110) = 5.67$ ,  $p = .019$ . No between-groups or interaction effects were observed for self-reported church attendance, prayer, or importance of religion.

In designing Study 2, we wondered if fatigue or lack of social support might be mediating variables for changes in religious commitment. This does not appear to be the case as neither year-end Social Support (total) nor year-end General Fatigue was correlated with any of the religious commitment variables (prayer, church attendance, or importance of religion) at the end of the year.

### Summary of Findings

Table 3 offers a summary of the repeated measures findings from Studies 1 and 2, and Table 4 provides a summary of the between-groups findings. All of the between-groups findings in Table 4 are from Study 1, as Study 2 did not reveal any differences between first and second-year students.

### Discussion

Collectively, the findings from Studies 1 and 2 suggest that students gain in internal attributions over the course of an academic year, and retreat from spiritual attributions, religious coping, and religious activities. This is consistent with Edwards' (2006) longitudinal findings that showed decreased faith commitment throughout training in an explicitly Christian doctoral program.



**Table 4**

*Cohort Differences from Study 1*

Finding
Internal Locus of Control higher for 3rd year students than 2nd year
God Control higher for 1st year students than for others
Surrender higher for 1st year students than for others
Awareness of God (SAI) higher for 1st year students than for others
Realistic Acceptance (SAI) higher for 1st year students than for others
Grandiosity (SAI) higher for 1st year students than for others
Impression Management (SAI) higher for 1st year students than for 2nd year students*
Self-directed Problem Solving less for 1st year students than for others
Collaborative Problem Solving higher for 1st year students than for others
Deferring Problem Solving higher for 1st year students than for 4th year students
Importance of Religion higher for 1st year students than for others
Church Attendance higher for 1st year students than for 2nd or 4th year students**

*Notes.*

\* An interaction effect shows that Impression Management decreased more during the training year for first year students than for students in subsequent years.

\*\* An interaction effect a greater reduction over the academic year for students in the first year than for students in subsequent years.

It is tempting to view the findings from Study 1 as longitudinal data and suggest that students come in with stronger faith commitments than they leave graduate school with, but such a conclusion stretches beyond what can be properly inferred because the longitudinal nature of the studies reported here are limited to one academic year. Moreover, the numerous differences between cohorts in Study 1 were not found in Study 2. In part, this may be related to the restricted sampling range in Study 2, where only first- and second-year students were surveyed.

What might account for the changes in faith that occurred over an academic year in both studies? We present several possibilities here, recognizing that all of them call for additional research and conversation.

### **Eroding of Faith**

Underlying assumptions common in professional psychology may contribute to some eroding of faith (Slife & Reber, 2009). Students may experience incongruence in their faith narrative as exposed to the more naturalistic and modernistic perspectives inherent in contemporary psychology. Perhaps even explicitly Christian doctoral programs fail to fully explore the clash of narratives students face in their training, and students

resolve this by becoming more naturalistic in their assumptions and attributions.

Relatedly, students encounter pain and struggles in their clients and patients that may end up affecting their ways of understanding the world. Difficult questions may be raised in students' minds as they attempt to make meaning of the suffering they see in others (Kunst, Bjorck, & Tan, 2000).

### **Enhanced Self-Efficacy**

We would expect students to gain increasing confidence in their own abilities throughout an academic year. Increases in internal locus of control bring a greater sense of mastery and intrinsic affective reward (Leotti & Delgado, 2011). Students' ability to self-direct also becomes apparent as they feel they can problem-solve and handle situations. Students may feel a lesser need for God as a result, or perhaps they developed a more nuanced view of attributions that enhances their sense of self-efficacy.

This calls for more research. As students gain an internal sense of control, and greater self-efficacy, to what extent does it affect the way they understand and experience God? In one sense, greater self-efficacy could lend itself well to a collaborative understanding of faith. For those who come into graduate school with a more deferential understanding of faith, this shift may be disconcerting,



and perhaps healthy. Again, this needs further investigation before any conclusions can be drawn.

### **Rearranging Faith**

Students may rearrange their faith throughout an academic year. This rearrangement could be as simple as how faith is reported, or as complicated as developing an increasingly complex understanding of God.

With regard to reporting faith experiences, students report more socially acceptable answers in the beginning of the school year than at the end—especially first-year students. As students become less concerned about impression management, this may allow for greater transparency regarding their authentic relationship with God. Given the explicitly Christian nature of the graduate programs studied, students may feel internal pressure to appear more spiritual than they actually believe themselves to be (Mullis, 2008). The changes observed in these studies may actually be changes in how spiritual and religious experiences are reported more than changes in religious and spiritual beliefs and activities.

In further exploring the concept of rearrangement of faith, researchers may choose to examine spiritual impression management closely. This may mirror other pressures in doctoral training where students also feel a need to impress. The discoveries regarding impression management in the current study may lead future researchers to determine the schemas developed in impressing professors, supervisors or cohort members. A qualitative study might be helpful in exploring students' transition to graduate school, as well as exploring the spiritual experience students have throughout an academic year.

At a more complex level, students may also be reconstructing an understanding of self and God in the process of studying psychology from a Christian perspective. If faith is rearranged during graduate training in explicitly Christian programs, this may bode well for the future spiritual formation of students in these programs. Pearce (1996) found many students had moved toward a more relational, intimate, and interactive relationship with God during graduate school, and in a 9-year follow-up on Pearce's study Hofer (2004) found participants had an even deeper, stronger, and more important relationship with God after completing the program. Again this calls for more research, perhaps especially narrative research on students' experiences of faith. What helps particular graduate students move toward more

relational, intimate, and interactive ways of knowing God, and how can this be fostered in our training programs?

### **Fatigue**

A fourth possible explanation relates to limited physical stamina and overall self-care of students. A rigorous academic schedule can be demanding, with some level of renewal occurring in summer months. Time demands may also squeeze out behaviors that promote spiritual development, such as church attendance and private devotional reflection. Edwards (2006) reported a decrease in church attendance over the course of training, and both studies reported here showed less church attendance at the end of an academic year than at the beginning. In Study 1, we found an interaction effect with first year students declining over the academic year more than other students. This could suggest that students who are inclined to stop attending church do so right away in training, which results in smaller declines from the beginning to the end of an academic year among more advanced cohorts.

The ubiquity of fatigue among students will not surprise training directors, faculty members, or students. The demands of graduate school can require sacrificing in other areas of life in order to manage responsibilities. Many students have families, part-time jobs, and other demands outside of the program. Initiating one's own spiritual support during the four years may be a challenge for some students. This fatigue hypothesis was our default explanation after seeing the results of Study 1, but the lack of relationship between fatigue and religious behavior variables in Study 2 argues against it.

### **Conclusion**

From the studies reported here it is clear that students report changes in religious coping, attributions, understandings of God, and religious behaviors over the course of an academic year. There may also be changes over the years of training, perhaps especially between the first and second year of training, though four- or five-years longitudinal designs will be essential to determine the nature of these changes.

Graduate school is often experienced as a complex blend of adventure, exciting new growth, stress, challenge, and even depletion. Amidst all the changes that occur throughout an academic year, and throughout five years or more of doctoral training, it seems reasonable that spiritual



changes will occur. We are just beginning to learn the nature of these changes. As continued research allows us to understand them better, we may be able to craft training programs to better meet the spiritual formation needs of students.

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