

# Religion, College Grades, and Satisfaction among Students at Elite Colleges and Universities\*

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*Using data from the National Longitudinal Survey of Freshmen, a sample of nearly 3,924 students at 28 of the most selective college and universities in the United States, this paper tests hypotheses about religion, academic performance, and satisfaction at college. Two measures of religiosity—attending religious services every week or more and a 1 to 10 scale of observance of one's religious traditions and customs—increase the amount of hours students report spending on academic work and extracurricular activities, as well as reduce the hours students report going to parties. Even when controlling for time spent partying, studying and in extracurricular activities, regular attendance at religious services increases academic achievement. Finally, students who attend religious services weekly and those who are more observant of their religious traditions also report being more satisfied at college.*

*Key words:* religion; higher education; educational attainment; secularization.

## COLLEGE STUDENTS AND RELIGION

*The Chronicle of Higher Education* has reported that on many college campuses, including selective state universities, small liberal arts colleges and Ivy League universities, organized religion is alive and well (Bartlett 2005; Jaschik 1994). Even the religious group most likely thought to be nearly absent from elite secular higher education—Evangelicals—appear to be present and even to thrive in elite college settings (Lindsay 2008). Despite increasing attention to religion on college campuses, it is difficult to discern whether college students' religiosity is actually a new phenomenon or if religious students have simply become more vocal of late. One possible explanation for the apparent rise of religiosity on college campuses could be that more African Americans, Latinos,

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Asians, and women are attending college than ever before and that members of these groups tend to be more religious than white males (Sherkat 2007).

Growing sociological interest in youth and religion has reignited debates on higher education and secularization. However, contrary to Wuthnow (1988) and Berger's (1967) arguments that higher education sped the transition from traditionalism to secularization in the 1960s, Uecker et al. (2007) found that on all three of their measures of religiosity (personal salience, attendance, and affiliation), youth who attended college in the early years of the twenty-first century saw their religious belief and practice decline *less* than those who did not go to college. In other words, even if young adulthood represents a low point in religious attendance, it may not (or may no longer be) attending college per se that leads to this change. Furthermore, even if youths' religious involvement declines when starting college, Tim Clydesdale found that students who had been religious in high school managed aspects of the transition to college, such as time management, differently from those who had not been religious in high school (Clydesdale 2007).

Numerous recent studies have found that college students' interest in spirituality remains high. The UCLA Higher Education Research Institute National Study of College Students' Search for Meaning and Purpose,<sup>1</sup> a survey of more than 100,000 students at 236 colleges and universities, found that approximately 80 percent of students said they believe in God and a similar percentage said they attended religious services occasionally during the previous year (UCLA Higher Education Research Institute 2005). Bryant et al. (2003) found that college students initially became less religiously active, but a year later were more committed to integrating spirituality into their daily lives.

If religion and spirituality still matter for the daily lives of many college students, the next question becomes: what, if anything, are the consequences of college students' religiosity for their academic achievement, social life, and satisfaction? The UCLA study found that students who engage in religious or spiritual practices report (1) greater satisfaction with their social life on campus, (2) a more positive evaluation of interaction with other students, (3) a higher overall satisfaction rating of their college experience, and (4) higher grade point averages (GPAs). Another large survey—the National Survey of Student Engagement (NSSE)—surveyed nearly 150,000 first-year and senior college students from 461 colleges and universities in the United States and found that students who engage frequently in religious practices report higher levels of engagement in campus life, such as participating in extracurricular activities and doing volunteer work, and spend less time relaxing and socializing. In addition, religious students report higher levels of overall satisfaction with college and specifically with the nonacademic environment on their campuses (Kuh and Gonyea 2006). Several studies with small samples and

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<sup>1</sup>See <http://www.spirituality.ucla.edu/>.

generally limited to one college campus suggest other reasons that religion may be associated with greater satisfaction at college, such as that religiosity is positively associated with leadership (Gehrke 2008), cognitive development (Love 2002), and self-esteem (Knox et al. 1998).

Others have argued, however, that religious students might be less satisfied with their college experiences. In particular, because college faculty are less likely than college students to claim adherence to a religion (Ecklund 2008; Tobin and Weinberg 2007), religious students might find hostility to their beliefs and therefore disengage from academic work or campus life.<sup>2</sup> In addition, some religious groups may clash with university administrators over funding for their activities or the types of social and political activities they bring to campus (McMurtrie 2000; Young 2002). Furthermore, some religious groups may demand a lot of the students' time, thereby possibly decreasing academic performance and creating a subculture that could make students feel socially isolated from the mainstream campus. A few small studies of college students have found that students whose faith is challenged report higher levels of anger and stress (Schafer 1997; Schafer and King 1990; Winterowd et al. 2005). Some religious groups may even feel or act like members of a minority group akin to racial minorities (Hoffman 2002) or form a subculture where they feel more welcome (Magolda and Ebben 2007; Moran 2007; Moran et al. 2007).

## RELIGIOSITY AND EDUCATIONAL ATTAINMENT

Research done mostly at the high school level indicates that individual religiosity increases educational attainment (Dijkstra and Peschar 1999; Loury 2004; Regnerus 2000; Regnerus and Elder 2003). To explain this positive association between religiosity and academic attainment, some scholars argue that the particular teachings of a religion can create a disciplined life or a general work ethic (Albrecht and Heaton 1984; Jeynes 2003; Regnerus and Elder 2003). According to Loury (2004), for students from disadvantaged backgrounds, religious groups act as external buffers by promoting certain positive norms and providing positive role models that can sway students toward more studious behaviors. According to Jeynes, religious belief and practice produce an "internal locus of control" (2003:119) that gives believers solace in times of trouble, thereby enabling them to deal better than nonbelievers with stressful events that might otherwise negatively impact their academic achievement.

Another way through which religion may exert an influence on education is by improving parent-child interactions or by creating a family-like

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<sup>2</sup>Ecklund (2008) and Lindholm and Astin (2006) find that some faculty are nonetheless interested in spirituality and a few are actively involved in religion. However, even if not all university faculty are completely secularized, they are still less religious than their students and the general public.

atmosphere for students from single-parent homes (Jeynes 2003; Muller and Ellison 2001; Regnerus 2000). For example, Regnerus and Elder (2003) and Jeynes (2003) find that religion has a greater impact on the educational achievement of poor, urban youth than on middle or upper class youth. In the inner-city with many broken families, churches provide youth with authority figures, discipline, and caring relationships with adults, whereas in wealthier areas, parents or secular organizations likely play these roles.

Religion can also influence education through its effect on family life. Brody et al. (1996) argue that religious participation positively influences education mainly because religious practice contributes to creating healthy family relationships and establishing social control, all of which promote positive educational outcomes. For example, religious students are less likely to bear children in high school, which increases their high school completion rates (Evans et al. 1992; Ribar 1994).

Using data from the National Educational Longitudinal Study (NELS), Muller and Ellison (2001) found that religious involvement was associated both with various forms of social capital and individual resources (such as locus of control and attitudes) that positively influence academic outcomes. Nonetheless, when controlling for the ways religious involvement mediates the relationship between social capital, individual attributes, and educational outcomes, they still found a modest independent effect of religious involvement on educational attainment.

## RESEARCH QUESTIONS AND DATA

Using longitudinal data on a nationally random sample of nearly 4,000 students from the four major racial/ethnic groups in the United States (white, African American, Asian, and Latino) enrolled at elite colleges and universities, I ask: are students who are religious more satisfied with college? Do students who regularly attend religious services achieve higher or lower grades than their peers? What are some of the mechanisms through which religiosity influences college satisfaction and grades earned?

The National Longitudinal Survey of Freshmen surveyed nearly 4,000 students at 28 of the most selective colleges and universities in the United States. NLSF employed a probability sample of students who began attending selective U.S. colleges and universities in the fall semester of 1999.<sup>3</sup> At the 28 colleges and universities that participated in the study, the NLSF researchers completed 3,924 completed face-to-face interviews in the first wave, producing an individual response rate of 86 percent and then conducted

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<sup>3</sup>The sample of selective colleges and universities based on institutional mean SAT scores as reported in *US News & World Report*. See Appendix for a full list of schools that participated in NLSF. The schools that declined participation were Duke, Hamilton, Morehouse, Spelman, Vanderbilt, Wellesley, and Xavier.

follow-up interviews in the spring semester of their freshman, sophomore, junior, and senior years (Massey et al. 2003). Because examining the achievement gap between members of different ethnic groups was one of the main motivations behind the survey, NLSF interviewed roughly equal numbers of white (998), Asian (959), Latino (916), and African American (1,051) students.<sup>4</sup>

What do we gain by focusing on religion in this particular set of elite institutions of higher education? First, the liberalizing and secularizing force of higher education might be presumed to be the strongest in the elite schools included in NLSF. Second, students surveyed in NLSF were all high achievers in high school—they earned an average 3.7 high school GPA, scored an average of 1,300 on the SAT and took around three advanced placement classes. As high school achievement has been shown to be associated with religiosity, we might expect that any effect of religion on education might already be picked up in NLSF's three controls for high school achievement. Finally, recent research on religion in college lacks controls for class background and family structure, all of which are predictive of college grades. NLSF allows me to explore the influence of religion on achievement in higher education while controlling for numerous background factors known to influence college satisfaction and achievement such as family structure, race, class, and gender, and also three measures of high school achievement—high school grades, SAT scores, and the number of Advance Placement (AP) classes taken.

### *Dependent Variables*

Table 1 reports means of all the variables in the models. The two dependent variables I constructed are college GPA and overall satisfaction with college. The first dependent variable, college GPA, was assessed using grades earned during all semesters from freshmen to senior year.<sup>5</sup>

The second dependent variable measures students' satisfaction with college. In the fall semester of the students' junior year, they were asked to rate on a scale of 1 to 5 their satisfaction with their intellectual development in college, their social life, and their overall college experience. Factor analysis showed that each of these three measures load equally on one factor. Therefore, rather than look at each measure of satisfaction as a different outcome, I constructed one dependent variable which is a sum of three items.<sup>6</sup>

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<sup>4</sup>Massey et al. (2003) provide a detailed description of the sampling methodology employed in NLSF, including the size and average SAT scores of the 28 institutions in the survey.

<sup>5</sup>Spring semester senior year grades were not included because the final survey was conducted when students were still in their senior year of college. A pilot survey carried out at the University of Pennsylvania that found that self-reported grades and official records were very similar, suggesting that these self-reported grades were likely to be accurate (Massey et al. 2003).

<sup>6</sup>The construction of the satisfaction variable replicates other analyses done with NLSF data (see Charles et al. 2009).

TABLE 1 Descriptive Statistics of All Variables in the Models<sup>a</sup>

	Mean	SD	Min.	Max.
<i>Dependent variables</i>				
Grades reported from freshmen-senior year/number of courses taken	3.27	0.41	0.75	4
Scale of satisfaction with academic life, social life, and overall college experience <sup>a</sup>	11.43	2.10	0	14
<i>Independent variables</i>				
Religiosity				
Attends religious services once a week or more	0.24	—	0	1
Self-rated scale of religious observance	5.55	2.75	0	10
Religious affiliation				
Protestant	0.43	—	0	1
Catholic	0.37	—	0	1
Jewish	0.07	—	0	1
Other religion	0.11	—	0	1
No religion	0.01	—	0	1
Ethnicity				
White	0.28	—	0	1
African American	0.24	—	0	1
Asian	0.24	—	0	1
Latino	0.24	—	0	1
Gender				
Male	0.43	—	0	1
Family				
Two-parent household senior year of high school	0.74	—	0	1
Both parents present in household senior year	0.50	—	0	1
Number of college and graduate degrees earned by both parents	1.76	1.45	0	4
Welfare: family ever received public assistance	0.11	—	0	1
Family income >\$100,000	0.51	—	0	1
High school				
SAT	1,306	151	800	1,600
Number of AP courses	3.21	1.97	0	10
High school GPA	3.73	0.31	2.17	4
Mediating variables				
Total academic hours previous week	42.86	13.60	0	89
Total extracurricular hours previous week	10.71	7.69	0	37
Total partying hours previous week	19.66	8.52	0	50

<sup>a</sup>All variables have  $N = 2,663$ , except for satisfaction for which  $N = 2,623$ .

### *Independent Variables Measuring Religion*

All of the independent variables measuring religion come from the baseline survey conducted in the fall of the students' freshman year. This baseline survey asked students to rate on a scale of 1 to 10 how observant they are of their religion's customs, ceremonies, and traditions. The survey asked students how often they attended religious services during their senior year of high school: never, rarely, often but less than weekly, weekly, or more than weekly. I created a category for regular attendees (once a week or more) and nonregular attendees (less than weekly).<sup>7</sup>

Table 1 indicates that across the entire sample, 24 percent of students, the top quartile, reported attending religious services once a week or more during their last year of high school. The top quartile of religious observance scored 8 on this scale, and the bottom quartile scored 4. The mean on the scale of religious observance is 5.5.<sup>8</sup>

Five categories of religious background are used: Protestant, Catholic, Jewish, other religion, and no religion.<sup>9</sup> The survey did not ask Protestants to name their denominational affiliation, nor did it employ the typical questions used to determine liberal or conservative Evangelical or Fundamentalist theology—such as beliefs regarding biblical inerrancy or stands on particular moral questions.<sup>10</sup>

Students were asked how frequently they attended religious services during their senior year of high school and how observant they are on a scale of 1 to 10 of the traditions and customs of their religion. As Uecker et al. (2007) demonstrate that religious change occurs at roughly the same rate for all youth, a measure of high school religiosity likely captures differences in religiosity among students in this sample. Although I lack information on religious practice change during college, I can nonetheless assess the impact of individual

<sup>7</sup>To verify this decision, I also constructed a dummy variable for each level of the five levels of attendance and, along with the controls described below, ran analyses predicting my dependent variables. These analyses, which are not shown here, confirmed that the magnitude of the effect of religious attendance does not vary greatly between weekly and more than weekly attenders but does vary greatly between those two groups and the rest of the categories.

<sup>8</sup>Religious observance likely means different things depending on one's religious denomination. Because the other religions category includes faiths as diverse as Islam, Hinduism, and Buddhism, the results for this category do not lend themselves to meaningful interpretation.

<sup>9</sup>As shown in Table 1, 43 percent of the sample reported a Protestant background, 37 percent Catholic, and 7 percent Jewish. Those who named another religion constitute 11 percent of the sample and 1 percent of respondents claimed no religious background.

<sup>10</sup>Darnell and Sherkat (1999) argue that conservative Protestants exhibit lower levels of educational attainment, but Beyerlein (2004) points out that this finding only holds for Fundamentalists but not for Evangelical Protestants. Until the 1960s, Protestants consistently demonstrated higher levels of educational attainment than Catholics, but this difference gradually disappeared as the descendants of millions of Catholic immigrants worked and studied their way into the middle class (Homola et al. 1987). Numerous studies find that Jews consistently exhibit higher levels of educational attainment than members of all other religious groups (Homola et al. 1987; Lehrer 1999; Sander 1992; Stryker 1981).

TABLE 2 Religious Attendance and Observance by Race/Ethnicity at Elite Colleges

	Religious attendance (percent)	Religious observance
White ( <i>N</i> = 998)	18.3	5.08 (SD = 2.82)
African American ( <i>N</i> = 1,051)	28.4	6.21 (SD = 2.61)
Latino ( <i>N</i> = 916)	22.3	5.38 (SD = 2.65)
Asian ( <i>N</i> = 959)	28.8	5.62 (SD = 2.79)

TABLE 3 Religious Attendance and Observance by Religious Affiliation at Elite Colleges<sup>a</sup>

	Religious attendance (percent)	Religious observance
Protestant ( <i>N</i> = 1,520)	30.7	6.09 (SD = 2.67)
Catholic ( <i>N</i> = 1,262)	25.7	5.46 (SD = 2.75)
Jewish ( <i>N</i> = 249)	6.8	4.25 (SD = 2.45)
Other religion ( <i>N</i> = 35)	9.9	5.47 (SD = 2.49)
No religion ( <i>N</i> = 453)	0.0	1.83 (SD = 0.39)

<sup>a</sup>Information on religious affiliation was not provided by 142 students.

differences in religiosity on college grades and satisfaction while controlling for other known predictors of these outcomes, such as class, race, and previous academic achievement.

Tables 2 and 3 present descriptive statistics of these two variables by religious affiliation and by race/ethnicity. These descriptive tables suggest that ethnic diversity has likely brought higher levels of religiosity to America's college campuses, as African American and Asian students reported the highest levels of religious attendance and religious observance.<sup>11</sup>

To test the hypothesis that particular behaviors mediate the relationship between religion and college grades and satisfaction, I constructed three independent variables measuring activities that we might expect to be influenced by religious attendance and observance—the total amount of time students reported studying, partying, and doing extracurricular activities—and which in turn would likely have an independent effect on grades.

<sup>11</sup>Although Table 3 shows that Protestants reported more weekly church attendance than Catholics, in a separate descriptive analysis not shown, this order is reversed if we only look at white students: White Catholics are more religious than white Protestants. However, because of the large numbers of minorities sampled in NLSF, these data are not easily comparable to national samples of Catholics, Protestants, or even Jews.

On Waves 2, 3, and 4, which correspond to the spring semesters of students' freshman, sophomore, and junior years, the survey asked students to recall the total number of hours they spent the previous week doing a variety of 13 activities. If religion promotes social norms that favor educational attainment, we would expect religious students to study more, so I averaged the amount of time spent attending class and studying from the three waves. Second, religious students have been found to be more involved in college extracurricular activities at college such as clubs and volunteering. This particular form of social integration also may positively influence college performance, so I also averaged the time spent on those activities across three waves. Third, one might expect religious students to engage less frequently in behaviors that would distract them from academic work and harm their grades, so I averaged the amount of time students spent attending parties across the three waves. One might expect religion to have the strongest effect on moderating binge drinking or drug abuse, behaviors that have been shown to have a deleterious effect on academic performance. Although the survey instrument did not ask specific questions about these behaviors, the studies cited previously (Loury 2004; Regnerus 2000; Regnerus and Elder 2003) indicate that religious involvement protects students from behaviors that negatively impact educational performance, so we can reasonably expect that students who have been accepted at elite schools are not likely to engage in such behaviors. Moreover, any effects of binge drinking or drug use are probably correlated with time spent partying and are thus included in my models.

As seen in Table 1, students spent more time attending class and studying—42.9 h a week—than doing extracurricular activities—10.7 h a week—and partying—19.66 h a week. Regression analyses (not shown here) confirm that religious students report studying more, partying less, and spending more time at extracurricular activities than nonreligious students. Both religious attendance and the scale of religious observance increased time spent on extracurricular activities, suggesting that religious practice can inspire one to do more extracurricular activities and that religious groups can provide connections to such activities. Only religious observance increased time spent on academic activities, perhaps because those who give more value to observing religious traditions also see a purpose or meaning in their academic work. Finally, weekly attendance at religious services decreases time spent partying, possibly because regular religious attendance provides an alternative social activity to partying, but religious observance does not influence the amount of partying students reported.

### ***Control Variables***

Race, gender, and family structure are all important predictors of college achievement, even in elite colleges and universities (Massey et al. 2003), and hence my models control for all these variables. Because this sample had high

parental educational levels, I measured parents' college and post-college education. Parental education received a value of one for each parent if that parent completed college and two if the parent holds a post-college degree. Because we know that the children of immigrants often outpace natives of their same ethnic group in educational attainment, I measure whether the student has at least one parent born outside the United States.<sup>12</sup> To measure the students' socioeconomic background, I use two measures of family income—a dichotomous variable measuring whether the student's family ever received welfare and another dichotomous variable measuring whether the total family income during the student's senior year was greater than \$100,000.<sup>13</sup> Finally, I measure the student's high school achievement using self-reported SAT scores, high school GPA, and number of AP classes taken in high school.

## RESULTS

Tables 4 and 5 show the results of the models run on the two dependent variables, college GPA and school satisfaction. As both dependent variables are continuous, I fit an OLS regression model with robust standard errors. In Table 4, Model 1 is the baseline model and Model 2 includes the mediating variables of time spent studying, partying, and on extracurricular activities. The models reported in Tables 4 and 5 demonstrate that, even when controlling for other background factors known to influence college educational outcomes, such as race/ethnicity, sex, family structure, family income, parents' education, and high school achievement, religious attendance has a significant and positive influence on college GPA. Both religious attendance and religious observance improve satisfaction with one's college experience.

In the first column of Table 4, we see that attending religious services once a week or more has a statistically significant and positive effect on GPA. However, students' self-reported level of religious observance does not have a statistically significant effect on GPA. With regard to religious affiliation, Catholics and those who reported no religious background did not have statistically significant differences in grades compared with Protestants (the reference category), but being Jewish had a positive and significant effect on GPA. Therefore, on average Catholics and Protestants and those with no religious affiliation earn roughly the same grades, and Jews earn higher grades than all other religious affiliations and

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<sup>12</sup>In order to exclude foreign students from the sample, NLSF only surveyed students who were U.S. Citizens or Legal Permanent Aliens at the time of the survey. However, as seen in Table 1, nearly 50 percent of the students reported that either they or at least one of their parents were foreign born.

<sup>13</sup>NLSF asked about family income in categories in intervals of \$10,000 from \$0–100,000 and then higher than \$100,000. As seen in Table 1, half the sample reported family incomes of greater than \$100,000.

TABLE 4 Religion and College GPA (SE in Parentheses)

	Model 1	Model 2
<i>Religiosity</i>		
Religious attendance	0.042 (0.02)*	0.035 (0.02)*
Religious observance	-0.001 (0.00)	-0.002 (0.00)
<i>Religious affiliation</i>		
Protestant (omitted)	n/a	n/a
Catholic	-0.010 (0.02)	-0.005 (0.02)
Jewish	0.097 (0.03)***	0.105 (0.03)***
Other religion	0.046 (0.07)	0.044 (0.07)
No religion	0.039 (0.03)	0.036 (0.03)
<i>Ethnicity</i>		
White (omitted)	n/a	n/a
African American	-0.136 (0.02)***	-0.147 (0.02)***
Asian	-0.030 (0.03)	-0.033 (0.03)
Latino	-0.080 (0.02)***	-0.083 (0.02)***
<i>Gender</i>		
Male	-0.115 (0.01)***	-0.113 (0.01)***
<i>Family</i>		
Two-parent household	0.007 (0.02)	0.006 (0.02)
Foreign-born parent	0.005 (0.02)	-0.001 (0.02)
Parents' higher education	0.026 (0.01)***	0.026 (0.01)***
Welfare	-0.025 (0.02)	-0.028 (0.02)
Family income	0.023 (0.02)	0.025 (0.02)
<i>High school</i>		
SAT	0.001 (0.00)***	0.001 (0.00)***
Number of AP courses	0.004 (0.00)	0.003 (0.00)
High school GPA	0.357 (0.02)***	0.337 (0.02)***
<i>Mediating variables</i>		
Total academic hours		0.002 (0.00)**
Total extracurricular hours		0.002 (0.00)*
Total partying hours		-0.002 (0.00)**
Constant	0.96 (-0.099)***	1.006 (0.10)***
<i>N</i>	2,663	2,658
<i>R</i> <sup>2</sup>	0.354	0.358

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ ; two-tailed.

the nonaffiliated. In addition, particularly committed religious people earn better grades on average than those who are not religiously committed.

The size of the effect of religious attendance, .042, is modest compared with the size of the coefficient for being Jewish, .097. Compared with white students, African American and Latino students reported lower college grades, and the magnitude of the coefficient is greater for African Americans (.136) than

TABLE 5 Religion and College Satisfaction (SE in Parentheses)

	Model 1
<i>Religiosity</i>	
Religious attendance	0.243 (0.11)*
Religious observance	0.061 (0.02)***
<i>Religious affiliation</i>	
Protestant (omitted)	n/a
Catholic	-0.170 (0.10)
Jewish	0.233 (0.17)
Other religion	-0.323 (0.40)
No religion	0.259 (0.16)
<i>Ethnicity</i>	
White (omitted)	n/a
African American	-0.675 (0.13)***
Asian	-0.397 (0.15)**
Latino	0.020 (0.14)
<i>Gender</i>	
Male	-0.014 (0.08)
<i>Family</i>	
Two-parent household	-0.077 (0.10)
Foreign-born parent	-0.239 (0.11)*
Parents' higher education	0.065 (0.03)*
Welfare	-0.048 (0.13)
Family income	0.117 (0.09)
<i>High school</i>	
SAT	0.001 (0.00)
Number of AP courses	-0.038 (0.02)
High school GPA	0.580 (0.14)***
Constant	8.434 (0.62)***
N	2,623
R <sup>2</sup>	0.054

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ ; two-tailed.

Hispanics (.080). The coefficients for African American and Latino are roughly three and two times the size of the religious attendance coefficient, respectively. Male students report lower GPAs, and the size of this coefficient is slightly smaller than that of being African American and nearly three times bigger than the coefficient for attending religious services weekly. Finally, Model 4 also shows that parents' education increases GPA, and high school academic success is associated with higher college GPAs.

NLSF has large enough subsamples to test the hypotheses that the effect of religiosity on college grades varies across subsets of the sample, such as race, class, and immigration status. Thus, I constructed dummy variables that

interact religious attendance with each of the following independent variables: race/ethnicity, class, gender and immigrant origins. In order to test for further effects of religion on subsamples of the data, I created three-way interactions of religious attendance, race, and class—such as low-income African American students who attend church weekly—and religion, race, and immigrant origins—such as African American immigrants who attend church weekly. None of these two-way or three-way interactions was significant, indicating that the positive effect of religious attendance on college grades does not differ between subgroups of the data according to race, class, gender, or immigration status. Therefore, the large numbers of African Americans and Latinos in the sample as well as the large number of students who are of immigrant origins, unique elements of NLSF, are not driving the positive relationship between religiosity and college grades earned.

Model 2 of Table 4 includes the three mediating variables of time spent studying, partying, and on extracurricular activities. As seen at the bottom of Model 2, these three variables are significant and have the expected direction of their effect on grades: total academic hours and total hours spent on extracurricular activities both increase GPA, while hours partying decreases GPA. When comparing the effect of religious attendance on grades in Models 1 and 2, we see that including these three mediating variables decreases the size of the coefficient for regular religious attendance by about 16 percent—from .042 to .035—and the religious attendance variable is significant at the .05 level in both models. Including the mediating variables does not change the significance of any other variables across the two models.

Table 5 presents the results of an OLS regression showing that both religious observance and religious attendance have significant and positive effects on satisfaction with college, even when controlling for other known factors that influence college satisfaction, such as class, race, and gender. Because the measurement scale of the variables for religious attendance and religious observance are different, one way to compare the size of the effects is to compare students who fell in the top quartile of values for each of those variables. As we see in Table 1, 24 percent of students went to religious services once a week or more, so that variable is coded to compare the top quartile on religious attendance from the bottom three quartiles. Table 4 shows that compared with nonattenders, religious attenders earned GPAs that were .24 higher. The coefficient for religious observance in Table 4 indicates that for each one point change in the scale of 1–10 on religious observance, GPA increases by .06. Students in the top quartile of the religious observance variable scored an 8, so the students in the top quartile of religious observance would see their GPA increase by eight times .06, or .48. Comparing the coefficients for religious attendance and observance in this way allows us to see that the most religiously observant students had a larger boost in their GPA (.48) than the most frequent religious attenders (.24).

Many of the same control variables that had a significant effect in the first two models also are significant in the model on satisfaction. I find strong racial/ethnic effects on college satisfaction, as African Americans and Asians reported lower school satisfaction compared with whites. Neither of the two religiosity coefficients is larger than the coefficient for being African American or being Asian. Several measures of parents' background and high school academic preparation influence college satisfaction. Those who are children of immigrants are less satisfied with college, whereas the higher levels of parents' education are associated with greater levels of satisfaction. Higher SAT scores and higher high school GPA also increase school satisfaction. This may be because measures of high school achievement increase college GPA and students who earn higher grades may be more satisfied with their college experience.

## DISCUSSION

Prior studies have identified that race, class, gender, and family background all influence college grades and satisfaction, yet I find that, even when controlling for these factors, religiosity influences achievement and satisfaction among students at the most selective colleges and universities in the United States. Students who attended religious services once a week or more during their last year of high school reported higher grades at college than nonregular religious attendees. Religious students reported studying more, partying less, and dedicating more time to extracurricular activities. Importantly, controlling for how students spent their time mediated but did not erase the effect of regular religious attendance on college grades earned. In addition, two separate measures of religiosity—one measuring the degree to which students observe the customs and traditions of their religion and another measuring whether students attended religious services once a week or more—have significant and positive effects on students' satisfaction at college. Because of data limitations, I cannot test the impact of conservative religiosity on education—specifically being an Evangelical or Fundamentalist Protestant—but I do confirm findings of previous studies that Jewish students earn higher grades in college than students from other religious traditions and that Protestants and Catholics, whose educational attainment differed from each other in previous generations, no longer differ in grades earned or satisfaction at college.

Previous work on religion and high school achievement, such as that of Loury (2004), Regnerus and Elder (2003), and Jeynes (2003), argues that regularly attending a church, synagogue, or other religious services in high school provides students with structure and guidance which then improves their academic dedication and performance during their college careers. Moving on to college, my findings also suggest that religion has important subjective effects on college students' satisfaction at college and how they choose to spend their time. Importantly, even when controlling for students' socioeconomic backgrounds

and high school achievement, I still find that religious attendance increases GPA and both religious observance and religious attendance increase satisfaction with college. Furthermore, although we might have expected only certain subgroups of college students to show significant effects of religiosity—such as African American students, male students, or poor students—I did not find that the effects of religious attendance interacts significantly with race/ethnicity, gender, or class.

Even if religious practice may reach something of a low point during young adulthood, spirituality in general remains of interest to many youth, and many youth who enter college participate in organized religion. Unlike previous studies of religion and college attainment, NLSF data allowed me to control for numerous background factors known to highly predict achievement—such as family structure, income, and parents' level of education, as well as race, class, gender, and three measures of high school academic achievement—and I find that religiosity still matters for grades earned and overall satisfaction with college. Thus, although the current findings are modest in size and clearly do not explain everything about either college achievement or satisfaction, the findings that religiosity increases the satisfaction and grades earned of students at elite colleges and universities nonetheless represent an important contribution to the literature on religion and young adulthood.

Future work may examine ways that religion may influence college students' social lives at college, such as peer networks, dating, and participation in other types of campus groups, like fraternities and sororities. By influencing other social activities, religiosity could then influence their educational attainment, satisfaction at college, or other outcomes such as interactions with professors. Researchers could also test whether religion moderates the negative effects of difficult experiences that may occur in college, such as death of a close relative, parental divorce, or dramatic changes in parental income. Greater work on college campuses also could explore whether religious services help bring together ethnic minorities, such as African Americans or Asians, who are more religious than average white students or if minority students attend more religious services as a response to a lack of broader social integration on college campuses. We also know little about how religious diversity impacts how students experience ethnic diversity on college campuses, such as whether religious college students are more or less likely to cross boundaries of race/ethnicity in their peer networks and dating behavior.

Measuring hours spent on academic activities, partying, and on extracurricular activities, as I did here, moves us closer to seeing why and how religion matters to college grades. However, one might also expect that people who party more are less focused when studying than those who sit down to study after a night of volunteering. Similarly, in addition to religious students spending more hours studying, something about religious practice may improve the quality of time spent studying, such as concentration, self-esteem, or simply a sense of purpose. Students who sit down to take an exam after receiving

positive reinforcement when attending religious services may do better not just because they studied more hours the night before but because they concentrate more and feel more confident about their intellectual abilities. At this point, such assertions remain speculation, but the larger point is that religion not only influences *what* people do but also *how* and *why* they do it.

As NLSF only surveyed students at highly selective colleges and universities, future work on religion and higher education would be necessary to know if these findings hold for all college students or just students in particular settings. Although NLSF results generalize only to the most selective schools of higher education, in combination with findings from NSSE and the UCLA Higher Education Research Institute, these findings suggest that we need greater research on how religion influences college students' lives.

More studies of religion and higher education would continue to help sociologists of religion refine the much-debated relationship between secularization and higher education. If we look back a bit in history, it is not difficult to recall the religious roots of liberal education espoused by universities (cf., John Henry Cardinal Newman's *The Idea of a University*, Newman [1891] 1996). In fact, many of America's finest universities were originally founded to train future clergy in theology, humanities, and even science. Further evidence questioning the causal link between secularization and science comes from Ecklund's finding that most university scientists who do not have religious faith grew up in households without religious faith, whereas those professors who grew up with faith and then became scientists did not lose their faith (Ecklund 2008). These facts should remind us that, apart from some fundamentalist sects who view intellectual life with skepticism, scholarly life, scientific investigation, and religious life do not generally contradict each other. Moreover, for students attending selective colleges, and who therefore are already highly motivated toward academic success, their religion might help them find a sense of purpose or meaning in their work that could ultimately make the time they spend at it both more personally fulfilling and more productive.

Numerous scholars, such as Astin (2004) and Kuh and Gonyea (2006), have attempted to move forward our theoretical framework of religion and higher education by presenting a broad conceptualization of students' religiosity. For example, Kuh and Gonyea state that spirituality and religion, both of which focus on a search for meaning, can often uphold the tradition and values of a liberal arts education. The conceptualization of college students' spirituality in both the UCLA study and Kuh and Gonyea suggest that studies of religion and higher education need to go beyond simply measuring hours spent on various activities but look to how religion might influence styles of learning. It also could be the case that religious students are more likely to major in heavily creative, speculative, and humanistic disciplines like philosophy and literature rather than sciences, but it also might be that, regardless of their chosen field of study, religious students find in their academic work a way of serving their fellow men and women.

Regardless of whether they take classes in the humanities, social sciences, or engineering, religious students at elite secular colleges and universities are quite likely to find their beliefs about the world being challenged. Some students may indeed decrease their religious practice or strength of belief while at college, but other religious students may respond to challenges to their worldview by learning more about their faith and attempting to excel in their field of study in order to show their peers and professors that religious belief and academic excellence are not mutually exclusive.

In summary, my findings demonstrate a robust positive effect of religious attendance on grades earned at college and a positive effect of both religious attendance and a scale of religious observance on satisfaction at college. Given the higher percentage of Americans attending college today compared with previous generations, the persistent religiosity of young Americans (albeit lived in different ways than earlier generations), and the increasing ethnic and religious diversity of students at America's most selective colleges and universities, the research avenues outlined here would contribute greatly to a better understanding of the influence of religion on higher education in America.

#### APPENDIX: COLLEGES AND UNIVERSITIES SURVEYED IN NLSF

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Barnard College, New York City, NY	Smith College, Northampton, MA
Bryn Mawr College, Bryn Mawr, PA	Stanford University, Palo Alto, CA
Columbia University, New York City, NY	Swarthmore College, Swarthmore, PA
Denison College, Granville, OH	Tufts University, Somerville, MA
Emory University, Atlanta, GA	Tulane University, New Orleans, LA
Georgetown University, Washington, DC	University of California-Berkeley, Berkeley, CA
Howard University, Washington, DC	University of Michigan, Ann Arbor, Ann Arbor, MI
Kenyon College, Gambier, OH	University of North Carolina, Chapel Hill, NC
Miami University, Oxford, OH	University of Notre Dame, South Bend, IN
Northwestern University, Evanston, IL	University of Pennsylvania, Philadelphia, PA
Oberlin College, Oberlin, OH	Washington University, St. Louis, MO
Penn State University, State College, PA	Wesleyan University, Middletown, CT
Princeton University, Princeton, NJ	Williams College, Williamstown, MA
Rice University, Houston, TX	Yale University, New Haven, CT

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