THE ABIDER-AVOIDER ACHIEVEMENT GAP: THE ASSOCIATION BETWEEN RELIGIOSITY AND GPA
IN PUBLIC SCHOOLS

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Abstract: Religion is a powerful social force that is typically ignored in sociological studies of academic achievement. Using nationally representative survey data ($N = 2,491$) and semi-structured interviews from the National Study of Youth and Religion ($N = 30$), I test for and explain differences in GPAs of public school students based on different forms of religiosity: Abiders, Adapters, Assenters, Avoiders and Atheists. I find that Abiders report the highest GPAs while Avoiders report the lowest GPAs, even after controlling for a host of background factors and behaviors. Furthermore, middle-class students benefit the most from being religiously engaged. I argue that religious communities socialize adolescents to cultivate two habits highly valued in schools: conscientiousness and cooperation. The achievement gap between Abiders and Avoiders illustrate how public schools are structured to reward the very habits that religious students embody. This study pushes sociologists to consider religiosity as a missing paradigm in educational inequality.

Religion is a powerful social force— it influences how Americans vote, where they choose to live, where they spend their Sunday mornings, who their friends are, how much time they spend with family, and how happy they are (Putnam and Campbell 2010). Adolescents typically do not come by their religion independently. They are born and raised within families, which exert strong forces on both religiosity and academic achievement (Bengtson, Putney, and Harris 2013; Myers 1996). Just as it would be impossible to assess student achievement without exploring other variables such as race and socioeconomic status, it also seems necessary to consider the role of religion as one of the influential forces that shape student academic achievement.

Yet when sociologists explore the role of background characteristics on education, they largely ignore religion. This gap is surprising since the United States is a highly religious nation: half of American teenagers ages 13 through 17 say that religious faith is “very” or “extremely” important in shaping their daily lives while 33 percent pray at least once a day (Smith and Denton 2009). As Chris, a 16-year-old in this study says, “There’s not a day that goes by that I don’t think of God or thank Him.” However, high rates of religious affiliation don’t necessarily mean that religious practices and beliefs are influential or “consequential” (Glock 1962; Regnerus 2003) in other domains of adolescents’ lives.

In this paper, I explore the underlying relationship between religiosity and GPA for public school students in middle and high school. By unpacking this relationship, this study reveals the mechanisms of religion’s influence on a key measure of academic achievement and contributes to the development of theoretical frameworks that enable us to understand how religiosity influences adolescents’ academic lives. My findings on the academic achievement gap between Abiders and Avoiders shed light on how and why religiosity enhances school grades,

and in particular, how public schools are structured to reward the very habits that religious students embody: conscientiousness and cooperation.

Defining Religiosity

Religiosity broadly refers to the cognitive, affective, and behavioral aspects of religious engagement (Cornwall et al. 1986). Previous studies have measured religiosity based on: 1) religious participation, which is a measure of participation in religious services and activities sponsored by religious institutions, and 2) religious salience, which is a measure of how important a person believes religion to be in his life.ⁱ Scholars debate whether participation or salience is more important for academic success. Some studies suggest that religious participation drives positive educational outcomes (Glanville, Sikkink, and Hernández 2008; Regnerus 2000; Regnerus and Elder 2003), while others argue that a combination of religious participation and salience is what matters (Al-fadhli and Kersen 2010; Jeynes 2010; Muller and Ellison 2001; Toldson and Anderson 2010).

Other scholars have criticized measures of religious attendance and salience (or some combination) as proxies of religiosity because they don't accurately reflect the ways individuals uniquely combine varying types and levels of religious practices and beliefs (Storm 2009). To address the shortcomings of previous conceptions and measures of religiosity, Pearce & Denton (2011) and Pearce, Foster, and Hardie (2013) took a person-centered approach to more accurately identify how adolescents engage in religion. They proposed an alternative to the variable-based, low-to-high continuum approach by conducting a latent class analysis using survey data from the National Study of Youth and Religion (NSYR). They find that adolescents fall into five latent classes: "Abiders," "Adapters," "Assenters," "Avoiders," and "Atheists."

Pearce & Denton (2011) and Pearce, Foster, and Hardie (2013) define these five latent classes as follows: **Abiders** display high levels across all measured dimensions of religiosity and “abide” by religion in a classic, institutional sense. Abiders emphasize the role of faith in their daily lives and their felt closeness to God and are the most likely to attend religious services and pray on a regular basis. **Adapters** adapt their beliefs, practices, and salience to a less institutional form. Like Abiders, Adapters find religion important and report being close to God. Unlike Abiders, Adapters are much less likely to hold exclusivist beliefs (i.e., they think many religious forms are okay). Adapters also have inconsistent rates of attending religious services, with some attending often and some attending irregularly. This group thinks most about the meaning of life and is most likely to see themselves as “spiritual but not religious.” In sum, Adapters demonstrate a very personal and individualistic way of being religious and spiritual. **Assenters** assent to religious belief and public practice (especially the same institutionally-based forms exhibited by the Abiders) but are not particularly strong in personal salience or spirituality. They differ from Abiders and Adapters in their religious salience and affect. They are most likely to say religion is just “somewhat” important, they are “somewhat” close to God, and they “sometimes,” “rarely,” or “never” think of the meaning of life. **Avoiders** avoid religious involvement and broader issues of the relevance of religion for their life. They believe in God but a less personal God. Avoiders are especially inactive in terms of practice. They are most likely to respond that they never attend religious services or pray. Although they avoid religious practice and salience, Avoiders differ from atheists by expressing belief in God. **Atheists** have no belief in God and have little doubt in that. On many of the other indicators they look a lot like the Avoiders, but what distinguishes this small group in the population (3%) (Pearce et al. 2013) is their willingness to say that they do not believe in God. Given the strong stigma attached to

atheism in the United States (Edgell, Gerteis, and Hartmann 2006), this group is likely to be very different from the Avoiders in both social and demographic characteristics but possibly outcomes as well (Pearce et al. 2013). In this study, I examine the role of religiosity by using these five categories.

Theoretical Framework

To understand the underlying relationship between religiosity and GPA, I build from Putnam's (1993) theory of social capital, which “refers to features of social organization, such as networks, norms, and trust, that facilitate coordination and cooperation for mutual benefit” (1993:1-2). In Putnam’s view, social capital is developed when individuals learn and accept social norms and transport them from one social context to another. As individuals move between contexts, their learned social norms shape their subsequent attitudes and behaviors. A key element of social capital is its capacity to promote cooperative social action. Smidt (2003) summarizes social capital in the following way:

“Social capital serves to transform self-interested individuals exhibiting little social conscience and weak feelings of mutual obligation into members of a community expressing shared interests and a sense of the common good... The social capital framework of analysis stresses the socialization of individuals that occurs through associational groups and how this socialization instills shared norms and encourages cooperative societal action (Smidt 2003:5-7).”

Furthermore, Putnam, argues that greater social capital is associated with a host of positive outcomes, including better educational performance, higher welfare of children, and reduced crime (Putnam 2001).

In the case of religious social capital, the key site for socialization is within religious communities. Participation in religious life tends to promote certain beliefs, values, and norms that could contribute to the formation of social capital (Smidt, 2003). The social capital generated in American society through religious means far exceeds the level of social capital produced through other means: nearly half of all associational membership in America are church related and roughly half of all Americans are members of church associations. According to Putnam, “faith communities in which people worship together are arguably the single most important repository of social capital in America... Churches provide an important incubator for civic skills, civic norms, community interests, and civic recruitment” (2000:66). Religiously endowed social capital may thus provide a stronger basis for group cooperation than social capital generated from more secular sources. Thus, in this paper, I theorize and investigate how religious engagement drives students to act in ways that are particularly conducive to academic achievement.

Literature Review

Scholars have consistently found a positive association between religiosity (measured in terms of practice or involvement) and academic achievement. Although the findings are consistent between studies, some studies are limited by methodological issues, such as small sample sizes or specific populations (Al-fadhli and Kersen 2010; Brown and Gary 1991). I highlight four studies that have large and broad sample sizes and use well-established datasets, such as the National Study of Adolescent Health, the National Educational Longitudinal Study, and the High School Effectiveness Study.

Regnerus (2000) found that greater church involvement was related to greater educational expectations among 10th grade public school students, and that more intensely religious students scored better on a standardized math and reading test. He also found that the effect of religious involvement is consistent across different income levels. He suggests that churches serve as networks that operate as agents of socialization into traditional means of achievement: "The interpersonal processes of building relationships and routinizing practices, independent of differences in beliefs and attitudes promulgated, work to reinforce conventional (as opposed to alternate and illegal) orientations toward success and are themselves conducive to achievement" (2000:370).

Muller & Ellison (2001) found that religiously engaged teens spent more time homework, were less truant, had higher math scores, were more likely to take advanced mathematics courses, and were more likely to receive a high school diploma. They argue that religious involvement appears to modestly benefit two distinct groups of students, the best and worst performers— stimulating the brightest and shielding those most at risk of failure. In theorizing the association between religiosity and academic achievement, they suggest that "religious involvement may bridge family life and a wider set of intergenerational ties, providing a broader base of community structure and access to resources for some youth" (2001:175). Positive role models can be found in churches and may serve to steer youth in prosocial directions.

Regnerus and Elder (2003) found that church attendance is associated with academic on-track progress, which they measure based on GPA, getting along with teachers, ease of completing homework, rates of suspension/expulsion, and truancy. Furthermore, they found that religious attendance is more likely to contribute to academic achievement for youth in low-income neighborhoods rather than youth in higher-income neighborhoods. In theorizing the

association between religion and academic progress, Regnerus and Elder (2003) suggest that religious attendance (more than religious salience) may help students when it comes to school because schoolwork and religious commitments require similar attitudes and practices:

“Both practices—church attendance and doing well in school— require commitment, diligence, and routine. The ritual practice of rising and going to church or mass, and so forth— whether compelled by one's own faith or one's parents' demands— commits a youth to a practice and routine, a skill that translates into tools needed for academic success” (2003:646).

They also suggest that church attendance matters more for youth in high-risk neighborhoods because churches provide “functional communities amid dysfunction.”

Glanville, Sikkink, and Hernández (2008) examine the role of social ties and social capital by focusing on intergenerational and peer-to-peer relationships. They find that religiosity is associated with a lower chance of dropping out, stronger sense of attachment to school, and increased GPA. Specifically, a student who attends religious most frequently would have a GPA that is .144 higher than a student who never attends. They argue that a portion of the effect of teenage religious participation on positive educational outcomes is due to social capital differences: “Religious participation alters teen social networks, putting teens in greater contact with educational resources and pro-school values from peers” (2008:128)

The most common view among scholars is that religion indirectly affects behaviors and beliefs through the mechanisms of social control and social support.ⁱⁱ Because they have been socialized into the norms of their religious communities, religious adolescents are motivated to abstain from risky behaviors that are associated with poor educational outcomes. Specifically, children in religiously active families are less likely to engage in risky behaviors such as

drinking alcohol (Bahr, Hawks, and Wang 1993; Borynski 2003), using drugs, and having sex (Rostosky et al. 2004; Sinha, Cnaan, and Gelles 2007). Despite these studies showing that religiously engaged students have better school outcomes at the K-12 level, sociologists of education have disregarded the role of religion in studies and explanations of academic achievement gaps and educational inequality. Part of the challenge is that the mechanisms by which religiosity is associated with academic achievement is murky. Furthermore, there is little evidence thus far that religiosity explains unique variance in GPA above and beyond race, class and gender.

The Current Study

This study applies the social capital perspective to examine the association between GPA and religiosity among students in public middle schools and high schools using national survey and interview data. In doing so, I expand on previous research by measuring religiosity in a more nuanced way, and by looking at interview data along with survey data to understand mechanisms. This study is novel in four ways. In the literature on education and religiosity, it is the first study to 1) take a mixed methods approach, 2) use the National Study of Youth and Religion, 3) examine the unique ways in which adolescents engage in religiosity rather than simply looking at religious attendance and salience, and 4) consider how students' religious tendencies are particularly aligned with the public school system in the United States.

I first examine whether religiosity explains unique variance in GPA above and beyond race, social class, and gender. I then test for differences in school grades among five profiles of adolescents based on their patterns of religious engagement. These classifications emerge from a latent class analysis of the NSYR that identified five types of religiosity among adolescents in

the United States: Abiders, Adapters, Assenters, Avoiders and atheists (Pearce and Denton 2011; Pearce et al. 2013). I then test whether the associations between religiosity and GPA vary by family income level. Finally, I examine the mechanisms by which religiosity is associated with GPA by using in-depth interview data with students from the survey.

Methods

This is a mixed-methods study that follows an explanatory sequential design in which I analyze quantitative survey data and qualitative interview data in two consecutive phases within one study (Ivankova, Creswell, and Stick 2006). The purpose of this design is to identify the association between religiosity and GPA among public middle school and high school students in the United States by obtaining quantitative results from a survey of 3,290 adolescents and then exploring the results by analyzing interviews with 30 purposefully selected individuals. This mixed-method study consisted of two parts: (a) quantitative surveys for adolescents and their parents and (b) qualitative interviews of adolescents.

Data

Procedures & Participants

The quantitative data for this study come from the first wave of the National Study of Youth and Religion (NSYR), a longitudinal and nationally representative study. The first wave of the study was conducted between July 2002 and April 2003 (Time 1) using a random-digit-dial (RDD) method, and researchers conducted interviews with 3,290ⁱⁱⁱ English- and Spanish-speaking teenagers aged 13 to 17, as well as one parent of each respondent. Diagnostic analyses comparing the NSYR with U.S. Census data and other comparable adolescent surveys confirm

that it provides a nationally representative sample when constructed raw weights are used (see Smith and Denton 2005:292).

Following the telephone survey, a quota sample of survey respondents ($n = 267$) participated in in-person, semi-structured interviews lasting an average of two hours. These interviews were much more in-depth than the phone surveys and were conducted by trained members of the NSYR research team. All interviews were audio recorded and later transcribed verbatim. The in-person interview subsample is not nationally representative, but it is designed to provide enough variance in gender, race/ethnicity, age, region of the country, urban/suburban/rural residence, religious affiliation (including none), and religiousness to allow for reliable comparisons.

Analytic Sample

I limit my sample to adolescents who attend public school. I exclude those in secular private school (2% of the sample), religious private school (8% of the sample), or who are home schooled (2% of the sample), as families choosing these educational routes may differ from those choosing public school. I also exclude 1.3% of cases in which the adolescent had already dropped out of school. I do not limit my sample based on adolescents' religious affiliation or denomination because in this analysis, I am not focused on differences between religious groups. I control for religious denomination so that systematic differences in income and educational attainment between religious groups (Lehrer 2004) don't confound the effect of religiosity.

I also include adolescents even if they don't identify with any religious denomination (16% of the sample).^{iv} Keeping this unaffiliated group ensures that my data are not skewed by those who identify with a religious tradition. Unlike other national studies^v, all NSYR respondents were asked questions about religiosity even if they didn't affiliate with an official

religious denomination. After accounting for missing cases, my analysis includes 2,491 adolescents.

Measures

Dependent variable

The dependent variable for this study is the respondents' grades as measured by their answer to the following question: "what types of grades do you generally get?" Respondents could choose "All As," "Mostly As," "As & Bs," "Mostly Bs," "Bs & Cs," "Mostly Cs," "Cs & Ds," "Below Ds," or "Mixed."^{vi} I convert "mixed" grades to "mostly Bs" because that was the average reported.^{vii} I then convert the grades into a GPA scale.

Primary Independent Variables

Religiosity class

The key independent variable for this study is the respondents' religiosity type: "Abiders," "Adapters," "Assenters," "Avoiders," and "Atheists." These five profiles of religiosity among adolescents in the United States emerged from a latent class analysis conducted by Pearce and Denton (2011) and Pearce, Foster and Harding (2013). Using the posterior probabilities (the probability that each respondent would belong to each class), Pearce, Foster and Harding (2013) assigned everyone to a class to which they were most likely to belong (i.e., highest of the posterior probabilities).^{viii} Figure 1 illustrates how the various religious traditions broke down by religiosity class (i.e. type). Thirty-nine percent of Conservative Protestants and 64% of Mormons are classified as Abiders. About 75% of Jews and those who didn't provide a religious denomination are classified as atheists and Avoiders. Other groups are spread out across the five religiosity types. Figure 2 illustrates the same data but focuses on how

different religious traditions make up each of the five religiosity classes. Most notably, about 50% of Abiders are Conservative Protestants, while the remainder are split between Mainline Protestants, Black Protestants, Catholics and Mormons. It is also noteworthy that among Avoiders, about one-third are those with no religious tradition, while a quarter are Catholic.

Figure 1: Breakdown of religious traditions by religiosity type.

Figure 2: Breakdown of religiosity type by religious tradition.

Control Variables

Gender, race/ethnicity, family socioeconomic status, religious affiliation, and region of the country are related to the probabilities of falling into the five different classes of religiosity (Jones et al. 2011; Pearce et al 2013). Given the association between religious type and background characteristics, it's important to control for these factors when trying to understand any influence of religiosity on school grades. Therefore, I include measures for respondents' gender (1=female, 0=male), self-reported race^{ix} (White, Black, Latino/a, Asian, Islander, other), age in years (13-17), religious affiliation (Protestant, Catholic, Mormon, Jewish, Muslim, Religious None), census region (Northeast, South, West, Midwest), parental income as reported by parents (11 categories in \$10,000 increments with the lowest category of \$10,000 or less and highest category of \$100,000 or more; standardized), and mother's education level as reported by parents (1 = bachelor's degree or more; 0 = else). Finally, I include three other variables to account for other mechanisms that might explain an association between religiousness and academic achievement: number of nights supervised by an adult (0-7 nights), alcohol consumption (1=almost every day, 7=never), and sexual activity (1=many times, 5=never). Descriptive statistics for study variables can be found in table 1.

Table 1: Descriptive Statistics for Study Measures

	<u>Overall (N=2,491)</u>		
	Mean	SD	Range
<i>Grades</i>	3.04	.61	0 - 4
<i>Religiosity Class</i>			
(Abiders)	.25		0,1
Assenters	.32		0,1
Adapters	.17		0,1
Avoiders	.23		0,1
Atheists	.03		0,1
<i>Female</i>	0.50		0,1
<i>Mom has a bachelor's degree</i>	0.27		0,1
<i>Age</i>	14.98	1.39	13-17
<i>Race</i>			
(White)	0.64		0,1
Black	0.18		0,1
Latino/a	0.12		0,1
Asian	0.01		0,1
Other	0.05		0,1
<i>Religious Denomination</i>			
(Protestant)	0.54		0,1
Catholic	0.21		0,1
Jewish	0.01		0,1
Mormon	0.02		0,1
Other	0.04		0,1
No Religion	0.17		0,1
<i>Census Region</i>			
Northeast	.15		0,1
South	.42		0,1
Midwest	.23		0,1
West	.20		0,1
<i>Frequency of drinking alcohol</i>	0.75	1.22	0-6
<i>Frequency of sexual intercourse</i>	0.58	1.21	0-4
<i>Nights spent with adults</i>	6.06	1.94	1-8
<i>Household income</i>	5.86	2.89	1-11

Adolescent Interviews

To flesh out the link between religiousness and academic achievement and build a theory about what explains the achievement gap between Abiders and Avoiders, I analyze qualitative data obtained through in-depth semi-structured interviews with adolescents. I purposefully selected interviews with adolescents for whom religiosity played the most significant role: Abiders and Avoiders. My criteria for selecting the participants for the qualitative phase included: 1) the student was identified as an Avoider or Abider in the survey based on the latent class analysis, and 2) the student's parent reported an income between \$40,000-\$90,000 (because this is the income range where the religiosity effect is significant). I identified 15 Abiders and 17 Avoiders who met the criteria in the dataset. To keep the groups consistent, I used all 15 cases of Abiders and chose 15 Avoiders who had the most complete data.

Table 4 summarizes the demographic characteristics of these 30 adolescents. The Abiders and Avoiders look similar in terms of age, income, and race, but they differ on gender, geographic location, and religious denomination. Compared with Abiders, Avoiders are more likely to be male, more likely to identify as having "no religion," and more concentrated in the South.

I coded my data using a team-based approach, which is optimal for assessing the reliability and validity of the codes (Namey et al. 2007). My coding team includes three {University Name} doctoral students and one undergraduate student. I use an iterative process to develop a codebook. First, I read transcripts and wrote memos based on differences we noticed in how Abiders spoke about their social, academic and religious lives, their relationships with their parents, their views on morality, their attitudes and usage of alcohol and drugs, their dating and sexual activity, and their life goals. I devised a set of inductive codes and coded four

interviews to develop version 1 of my codebook. After adjudicating with my coding team, I realized that my codes needed significant revision because they weren't capturing key differences that I noticed in my initial reading of the transcripts in adolescents' demeanor towards authority, how they treated people around them, and their engagement in risky activity. After reviewing the literature on religion and personality, I found that religiosity is associated with two traits: conscientiousness and agreeableness (Saroglou 2010). I reread whole transcripts, paying close attention to the way in which their discourses revealed elements of conscientiousness and agreeableness, as well as similar concepts such as rebelliousness and obedience. I then created a codebook of concepts that allowed for the systematic tagging of transcripts for a more objective assessment of evidence for the processes we perceived.

My primary co-coder used the second version of my codebook to code one interview. We adjudicated, and I refined the codebook to develop version 3. I then trained three new coders by providing them with detailed instructions regarding reading of the transcripts (Saldaña 2016). My coding team read two transcripts and applied their coding, and we adjudicated to identify differences. I refined my codebook to create version 4, which was the final version of my codebook. Subsequent to coding, I conducted analyses to generate themes that represent my participant population (Vaismoradi, Turunen, and Bondas 2013). The coding and analysis were conducted using Dedoose.com, an online platform for qualitative data analysis.

Table 4: Characteristics of Abiders and Avoiders

	<i>Abiders (n=15)</i>	<i>Avoiders (n=15)</i>
<i>Sex</i>		
Male	53%	73%
Female	47%	27%
<i>Race/Ethnicity</i>		
White	73%	60%
Black	13%	0%
Latino/a	0%	13%
Other/Mixed Race	13%	27%
<i>Religious Denomination</i>		
Mainline Protestant	7%	0%
Black Protestant	13%	0%
Conservative Protestant	13%	7%
Catholic	33%	47%
Mormon	27%	0%
Jewish	0%	7%
Other	7%	0%
No religion (religious “none”)	0%	40%
<i>Geographic Region</i>		
West	47%	27%
South	20%	40%
Northeast	13%	13%
Midwest	20%	20%
Mean Family Income	\$78,600	\$74,000
Mean Age	14.8	15.2
Mean GPA	3.57	3.05

Quantitative Results

I consider Ordinary Least Squares (OLS) Regression models predicting GPA. I begin with a baseline model that examines the association between GPA and demographic factors that are known to predict grades, including race, class and gender (Reardon, Duncan, and Murnane

2011). In model 2, I add variables for religiosity, with Abiders as my reference category. I choose Abiders as my reference category because I want to see how all other students compare to the group that is most religiously engaged. Finally, in model 3, I add three variables to account for factors that are known to be associated with increased religiosity. By strategically adding sets of variables, I evaluate not only their effects on the dependent variables, but also how they alter or suppress the influence of the other independent variables on academic achievement.

Model 1 of table 2 confirms that race, class, and gender are all significantly associated with grades; together these variables account for 9.7% of the variance in grades. In model 2, I add the religiosity variables (Abiders, Adapters, Avoiders, and atheists) and find that they explain an additional 2.3% of variance in the model, above and beyond race, class, and gender (the r-squared increased from .097 to .120 between model 1 and model 2). I also conduct a likelihood ratio test and confirm that model 2 is a better fit than model 1. In addition to explaining unique variance, model 2 shows a strong bivariate association between religiousness and school grades. On average, we see that all religious profiles, except for atheists, score well below religious Abiders. Holding everything else constant, Assenters, Adapters, and Avoiders score between .12 and .27 GPA points lower than Abiders. The coefficients for race, class, and gender change only slightly between models. In model 3, I add three variables that allow me to test whether the positive association between religiousness and academic achievement is a function of abstaining from risky behaviors and increased parental supervision. Not surprisingly, the variables related to parental supervision and risky behaviors are statistically significant and explain additional variance in the model (as evidenced by the increase in the r-squared from .120 to .136 between model 2 and model 3). However, even with the addition of these controls, the coefficients for Abiders and Avoiders stay significant and decrease only slightly from model 2.

Figure 3 shows the fitted regression line predicting GPA by family income for all Abiders, Assenters, Adapters, and Avoiders.^x As we can see, grades are correlated with income, although Abiders consistently outperform Adapters, Assenters, and Avoiders even within the same income brackets. The GPA gap between Abiders and Avoiders is most striking. Figure 4 shows a box plot with predicted GPAs from model 3. Net of all other factors, Abiders have an average GPA of 3.21, compared with 2.92 for Avoiders.

After finding that Abiders report significantly better grades in high school, I test whether the effect of religiosity varies by income level. In Table 3, I present results stratified by three annual income levels: 1) less than \$40,000, 2) \$40,000-\$90,000, and 3) more than \$90,000. In contrast to previous research, I find that the effect of religiosity has the greatest effect on middle class^{xi} adolescents whose families earn between \$40,000 and \$90,000. This pattern holds even after controlling for race, gender, age, mother's education level, and religious denomination.

Table 2: Ordinary Least Squares Regression Results Predicting GPA (N = 2,491)

	Model 1	Model 2	Model 3
Female	0.219***	0.201***	0.192***
Mom has a bachelor's degree	0.178***	0.171***	0.162***
Household Income	0.030***	0.029***	0.028***
Age	-0.002	-0.001	0.022*
(South)			
West	-0.070*	-0.025	-0.035
Midwest	0.024	0.055	0.05
Northeast	-0.069*	-0.045	-0.053
(White)			
Black	-0.099**	-0.123***	-0.132***
Latino/a	-0.043	-0.034	-0.03
Asian	0.129	0.141	0.129
(Abiders)			
Assenter		-0.162***	-0.135***
Adapters		-0.128***	-0.100**
Avoiders		-0.272***	-0.241***
Atheists		-0.082	-0.044
(Protestant)			
Catholic			-0.011
Jewish			0.304**
Other			-0.04
Mormon			-0.052
No Religion			0.005
Frequency of drinking alcohol			-0.037***
Frequency of sexual intercourse			-0.026*
Nights spent with adults			0.015*
Constant	2.782***	2.907***	2.514***
R-squared	0.097	0.12	0.136
Adj. R2	0.093	0.115	0.128

*** p<0.001 ** p<0.01 *p<.05 (two tailed tests), **Note:** Reference groups in parentheses

Table 3: Coefficients from Ordinary Least Squares Regression Models Predicting Effect of Religiosity on GPA for Low, Middle and Upper Income Students (N = 2,491)

	<i>Model 1</i> ($\leq \$40K$)	<i>Model 2</i> (\$40K-90K)	<i>Model 3</i> ($\geq \$90K$)
Abiders	0.098	0.136***	0.085
Avoiders	-0.128*	-0.197***	0.055
Female	0.196***	0.205***	0.160**
Mom has a bachelor's degree	0.105	0.154***	0.233***
Household Income	0.081***	0.028*	0.107
Age	0.025	0.025	0.029
(South)			
West	-0.130*	0.007	0.053
Midwest	-0.052	0.110*	0.087
Northeast	-0.168**	0.025	0.029
(White)			
Black	-0.051	-0.223***	-0.09
Latino/a	-0.010	-0.044	-0.007
Asian	0.255	0.141	0.021
(Protestant)			
Catholic	0.035	-0.017	-0.113
Jewish	0.476	0.534**	0.050
Other	-0.337	-0.049	-0.003
Mormon	0.109	-0.160	0.142
No Religion	0.086	0.005	-0.14
Frequency of drinking alcohol	-0.013	-0.060***	-0.02
Frequency of sexual intercourse	-0.021	-0.035*	-0.024
Nights spent with adults	-0.003	0.017	0.056***
Constant	2.290***	2.362***	1.072
N	928	1167	396
R-squared	0.087	0.168	0.16
Adj. R2	0.066	0.154	0.116

*** p<0.001 ** p<0.01 *p<.05 (two tailed tests)

Note: Reference groups in parentheses

Figure 3: Fitted regression line predicting GPA, by religiosity type.

Figure 4: Box plot illustrating mean GPA by religiosity type.

Qualitative Results

Although the quantitative data allow me to see patterns about how religiousness and academic achievement are associated, I am unable to understand how and why these patterns exist. Therefore, I turn to interview data from wave 1. With respect to the way adolescents spoke about their social, academic and religious lives, I noticed that virtually all Abiders were highly conscientious and cooperative—two habits linked with academic success (Chowdhury and Amin 2006; Conard 2006; Dollinger and Orf 1991; Hogan and Ones 1997; Paunonen and Ashton 2001). Conscientiousness refers to a tendency to be organized and dependable, show self-discipline, act dutifully, aim for achievement, and prefer planned rather than spontaneous behavior. Agreeableness, or cooperation, refers to being kind, sympathetic, cooperative, warm, and considerate. Specifically, interviewees expressed a strong respect for authority, were dependable, showed self-discipline, acted dutifully, and were compassionate and cooperative towards others.

Although they weren't specifically asked to provide examples of these habits in their interviews, evidence came through in the stories they shared about a range of topics. Many examples emerged from a section in the interview when all respondents were asked to reflect on how they know whether something was right or wrong. Abiders shared numerous stories about situations that they deemed as wrong that demonstrated their conscientiousness. Jack, for example, described a time when he went to a fast-food restaurant where his friends asked for water cups but filled them with soda instead. Jack felt so guilty that he stopped going out with his friends so that he wouldn't get exposed to behaviors that he deemed as unethical based on his religiously-learned principles. Abiders often expressed guilt, which seemed to correlate with their reduced rebelliousness. For example, while Abiders shared stories of avoiding R-rated

movies and feeling years of remorse after knocking over a cup of pens at a church bookstore, Avoiders either didn't tell any stories of conscientiousness and cooperation, or they shared stories of rebelliousness, such as stealing clothes from the mall or making fun of their teachers even though they knew it was wrong.

Importantly, Abiders acknowledged that their religious duty shaped the way they made decisions and acted. As Betsy, a Mormon girl who exuded self-discipline, explained, her religion's rules even took precedence over the school rules:

Interviewer: What do you think it means to be a good Mormon at school? Does it require doing anything in particular or not doing anything in particular?

Betsy: Just to do what the rules say to do, I guess.

Interviewer: Like what, what rules?

Betsy: Well there's all kinds of rules.

Interviewer: You mean, like school rules or?

Betsy: Ah, the um, ah, religion's rules, I don't care about the school rules, I just care about my religion's rules.

Another boy, Alex, described how religion kept him from engaging bad behaviors. When asked how he might be different if he weren't religious, Alex laughed and replied, "I'd be a trouble maker. I like to have fun, and I'd get out of hand." For Abiders like Alex, their heightened conscientiousness and agreeableness correlate strongly with the way they engage with school. Thus, data from these semi-structured interviews reveal ways in which Abiders' sense of morals and religious duty shapes their general disposition and actions. Abiders have developed religiously endowed social capital, which they productively transfer into the schooling context.

A Case Study of Two Catholic Teenage Boys

In this section, I highlight two boys whose attitudes and behaviors were illustrative of the larger trends among Abiders and Avoiders. Throughout their interviews, Chris and Mark shared many similarities. Approximately the same age at the time of their interview (16 and 17, respectively), both men self-identified as White and Catholic and both live with their parents, brother and sister. Mark lived in a suburb of Chicago, while Chris lived outside of State College, Pennsylvania. Both attended public school where they each played for their school's football team. Both even described their circle of friends as "jocks." They both came from middle class backgrounds, although Mark's family earned slightly more and had more college education. Specifically, Chris's parents earned about \$65K per year while Mark's parents earned about \$85K. Chris's parents each reported having "some college," but no degrees. Mark's mom had a bachelor's degree, while his dad had an associate's degree.

Chris and Mark had similar religious upbringings in which they attended Catholic church with their families on a weekly basis— an act that they both described as incredibly boring. In first through eighth grade, Mark attended a religious education program weekly and both Chris and Mark had their communion and confirmation. However, in their late adolescence, Mark and Chris diverged significantly in their religious views. Mark, an "Avoider," believed in a higher power (e.g., he is not an atheist), but he was completely disengaged from religion. He believed that everything in the bible is "crap" and that Jesus was likely a regular person who was able to convince people to follow him, like a cult leader. He didn't think there is anything valuable or important about religion, and he didn't believe that "going and telling some guy all your problems is going to wash away all your sins." Mark's family had stopped attending church a

few years earlier because the kids complained too much, although he described his mom as highly religious and “believing in all that bull crap.”

In contrast, Chris, an “Abider,” believed that God is an “all-knowing, all person being” who “influences everything you do in life.” In fact, Chris took a creationist view of life rather than an evolutionary view: “I believe in God for sure. How else would we be here? That big bang theory, screw that, someone had to do that.” While he didn’t believe everything that the Catholic church espoused, Chris was steadfast in his belief in God, and he said that faith was central to his conception of religion. Chris felt close to God and said he talked to him all the time. It was clear that Chris’s religious upbringing had taught him certain norms that he now transferred between contexts. Chris looked to the Bible to inform his behaviors, including his views of right and wrong “[My views of what’s right and wrong come] from the Bible actually, like what Jesus did. I mean how can you argue with God? There’s no arguing right there.” Chris acknowledged that religion affected his day to day decisions: “There’s not a day that goes by when I don’t think of God or thank him... [making decisions] is more of a morality thing, you know, the Bible and all that. You’ve got to make decisions about what God would like you to be of course.” When asked why religion was important, Chris explained that it guided his life: “It gives you everything that you could use, I mean you could learn so much from it.” In school, Chris said he tried to be a good Catholic by doing “what Jesus would do pretty much, be a good person.” When it comes to social problems, Chris again took cues from religious moral beliefs: “Of course you always think of what the Bible says, you’re always like well it should have been done this way or you know, you should have been doing this, so.”

A key distinction between Mark and Chris, and Abiders and Avoiders more generally, was their level of conscientiousness and cooperation. In interviews, conscientiousness often

manifested self-discipline around alcohol and drug use. For example, Chris refrained from drinking and partying even though his friends party regularly and he had easy access to alcohol and drugs: “I could get drunk every day of my life. That’s how easy it is to get beer. And to get weed.” he explained. In addition to easy access, Chris experienced a fair amount of peer pressure and occasional ridicule for not partying more—his friends tried to entice him by saying he wasn’t enjoying life:

Chris: “Like I’m not a big partier at all. I’m like, I’ll go out and party with my friends but I’m not one of those kids that are like every day and every night, every week or whatever. Even every week. I’m like, I’m not a big like beer drinker or anything at all. But some of my friends I’m like wow, I’ll be impressed if you make it out of high school man. Like I’ll just tell them straight out, you shouldn’t be doing that you know?”

Interviewer: You tell them if they’re doing something wrong?

Chris: Oh yeah, I’ll tell them, like I said I wouldn’t be doing that, and they’re like, oh it’s not your life, and I said whatever, I’m just telling you, you know?”

Interviewer: Have they ever opposed you?

Chris: Not really, they pretty much told me well you’re not enjoying high school. And I said whatever, I mean it doesn’t bother me, I mean like I always think, like I’ve been called worse by better people and I mean what are you going to say?”

Chris’s decisions about alcohol and drugs were informed by what he learned from his religious community: “You don’t do drugs. They’re sins and they hurt your body,” he said. Given that Chris thought that the biggest problems facing teens was “peer pressure to do immoral things, like drugs and drinking,” his self-control was notable. His ability and courage to restrain himself

reflected strong impulse control and calculated decision making. Chris's conscientiousness also manifested itself in terms of aiming for achievement:

"I hate, I hate to do bad in class, like period. Like I figure if I'm going to sit through class for 8 hours I might as well make the best of it, so. Like last year I was 7th in the class and this year was frickin hell on earth, classes like horrible and I don't know how bad I dropped, but I just don't like accepting that C or that B. You know I just try to get that A as hard as I can. I mean I accept them [bad grades], but I don't enjoy them that's for sure."

Chris also recounted many stories that demonstrated obedience and a strong respect for authority. He said he has never lied to his parents and condemned lying: "I hate liars, liars and cheaters. I hate them. That's like my biggest pet-peeve, I hate people that lie." Chris also appeared quite dependable. When asked how adults viewed him, Chris said he thought adults hold him in high regard because he always obliged their requests: "[They perceive me as] hopefully good. I can't say no to things... I always get asked to play violin for like church, for weddings, for organizations, and sometimes I just get over packed and it's hard to say no." This story, like the one that follows, exemplify cooperation. When asked if he took care of the world around him, Chris shared a story about littering:

"I hate litter bugs. I really hate that. Because I'm a really big hunter and all that. And fisherman and trapper, so, like seeing trash in the outdoors, frickin hate it. That really bugs me... There's a garbage can 10 feet away from you so get off your lazy butt and throw it in the garbage can instead of dropping it in the ground."

Although he and Chris are asked similar questions throughout their interviews, Mark shared very few examples that demonstrate conscientiousness. Rather, Mark described multiple instances of breaking the law, including possession of marijuana and selling steroids. He took \$3000 from his parent's college savings account to buy and sell steroids (a class 1 felony). He drank regularly and smoked d almost every day. When asked how other adults perceived him, he said "probably a quitter because I have trouble finishing what I start." He cited wrestling and baseball as examples. Mark also didn't exude a strong level of cooperation like Chris. For example, when asked if he took care of the world around him, Mark says he doesn't because he "doesn't see a reason why" since he will "only be alive for another 60 or 70 years."

Given Chris's acute conscientiousness and cooperation, it is not surprising that his report card was filled with As, while Mark's report card was filled with Cs. Thus, data from these semi-structured interviews reveal the ways that religious communities have taught Abiders like Chris to be conscientious and cooperative. Abiders transfer this religiously-endowed social capital into their classrooms and demonstrate obedience, respectfulness, self-discipline, and cooperation—dispositions that teachers highly value and reward.

Discussion

In this study, I examined how religious engagement drives students to act in ways that are particularly conducive to academic achievement. I found that accounting for religiosity explains unique variance in explaining school grades, beyond race, class and gender. I also found that Abiders—students who emphasized the role of faith in their daily lives, felt closest to God, and were the most likely to attend religious services and pray on a regular basis— reported significantly higher GPAs than other types of religiosity. This pattern holds after controlling for

race, religious denomination, sex, mother's education level, and income. The effect of religiosity was most evident among middle-class students. More importantly, the association between religiosity and GPA holds even after accounting for other possible explanations, including increased parental supervision and reduced likelihood of drinking and having sex. My qualitative evidence suggests that this is a function of greater conscientiousness and cooperation among Abiders, which are habits most frequently found to be significantly (and positively) related to course grades and grade point average.

One possible explanation for increased conscientiousness and cooperation among abiders is that such adolescents are more likely to abide by religious norms because they are rule-followers. Perhaps religious life is particularly appealing and satisfactory for adolescents who are obedient, disciplined, and cooperative. However, based on prior work, this is unlikely because adolescents can't easily opt into or out of religious life—it is highly regulated by parents who socialize their children into their own religious systems. Religious engagement becomes much more volitional once adolescents leave their parents' home. Therefore, it is unlikely that students choose to be religiously engaged simply because they are more conscientious and cooperative.

Conscientiousness and cooperation are noncognitive habits (behavioral patterns) that are important for academic success (Farkas 2003; Lleras 2008). Such habits can be innate and learned over time (Farkas 2003). Durkheim and Weber argued early on that habits play an essential role in determining social and stratification outcomes (Camic 1986). In laying out a paradigm for understanding the microprocesses underlying stratification outcomes, Farkas (2003) posits that certain types of noncognitive behaviors are central to academic achievement: "Patterns of habitual behavior, particularly the extent of conscientiousness or good work habits, developed from birth through adolescence, in conjunction with the cognitive skills developed

alongside these behaviors, determine school success and schooling and occupational attainment” (2003:556). As Farkas points out, noncognitive skills and behaviors “are essentially the same as those which sociologists and economists in the human and cultural capital traditions recognize as the ones most desired and rewarded by teachers, parents, and employers” (2003:547).

In this study, I extend the prior literature by showing how religiously engaged students develop a certain type of social capital through socialization in their religious communities that aids them tremendously when it comes to school. Being religious helps adolescents at the middle and high school level because they have learned the very habits that public schools are structured to reward: conscientiousness and cooperation. The Abider-Avoider achievement gap documented in this study reflects the synergy that exists between religiously engaged students and the greater schooling system— a synergy that makes sense given that public schools are rooted in Protestantism (Glenn 1988).

This is the first study to document a significant and consistent GPA gap between different types of religiosity, particularly religious Abiders and Avoiders. Because of the mixed-methods approach, combined with a new nationally representative dataset and the innovative way to categorize religiosity, I was able to detect novel patterns and mechanisms. Second, while previous work has shown that religious engagement is associated with increased conscientiousness and cooperation, this is the first study to identify these habits as the mechanisms by which religiosity predicts better grades.

Among this study’s unique contributions, I find that the effect of religiosity is not consistent across all income groups—religiosity has the greatest effect on middle class¹ adolescents whose families earn between \$40,000 and \$90,000. This may reflect the fact that when students are living in poverty and lack basic resources, little else will help them in terms of

academic achievement. On the other end of the continuum, it may be that students of high socioeconomic status will thrive in school regardless of religious engagement because they develop social and cultural capital in other ways (Lareau 2011). Therefore, the students who benefit most from religious social capital are those who have the basic resources to function in school, but lack the advantages of affluent families.

My findings run counter to the hypothesis that Conservative Protestants fare worse in terms of academic achievement (Darnell and Sherkat 1997). Although I did not focus my analysis on differences between religious traditions, Conservative Protestants make up 50% of the Abider group, which is the highest achieving group in this study. It is, however, quite conceivable that despite their strong GPAs, Conservative Protestants will have lower educational attainment in the long-run given their prioritization of family values (Uecker and Pearce 2017).

Study Limitations and Future Research

The implications of this study are potentially constrained by certain limitations. The secondary data analyzed here come with the typical limitations inherent to research in which one uses an existing dataset. First, this study is limited by the NSYR's conceptualization of religiosity, which reflects a Christian religious bias, even though it is not intended as measure of Christian religion (Hill and Hood 1999). Even within Christianity, many measures are more apt for Protestantism. For example, questions about "readings scriptures," "talking with God," or "having faith" are more conducive to a protestant and Mormon conception of religion than to a Catholic or Jewish conception. The challenge with creating religion measures that are translatable across religious traditions stems from the basic conception of religion as a social institution. Survey research assumes that if standardized questions are put to a given class of

respondents, the questions can be understood in a common framework and be meaningful to them; the respondents' diverse answers can then be interpreted as signifying their different positions. Cross-cultural survey research remains problematic because common frameworks and understandings may vary across cultures even if the issue of translation from one language to another is put aside (Kadushin 2011). Currently, surveys aren't designed for more robust or diverse conceptions of religiosity that are translatable across religions. Even a person-centered latent class approach (Pearce et al. 2013) can't completely overcome the fact that NSYR questions make Christian forms of religious engagement more visible than non-Christian forms. As such, this study's findings are generalizable to Christian adolescents, but not others.

Second, because of data limitations, I relied on self-reported school grades. Although literature has found that self-reporting accurately reflects transcript data (Cole, Rocconi, and Gonyea 2012; Kuncel, Credé, and Thomas 2005; Sanchez and Buddin 2015), there is still concern about misreporting. However, given that grades that students reported on their surveys were consistent with what they reported in their interviews, I am confident that their GPAs are accurate. In addition, grades alone aren't necessarily representative of adolescents' achievement in school. Ideally, we would like to have multiple measures of academic achievement. Future research might use a dataset that has more reliable and comprehensive measures of academic achievement. In addition, data regarding school characteristics was not available, and thus I couldn't control for school effects.

A third limitation is a concern about social desirability bias, particularly among religious adolescents. However, prior research has found that religious youth are not systematically at risk of providing unintentionally invalid or intentionally inaccurate self-reports of behaviors that are of a sensitive nature (Regnerus and Uecker 2007). Given that I was able to triangulate attitudes

and behaviors between the surveys and interviews, I am confident that there are no systematic differences between how different types of religiously engaged students reply.

A key strength of my study is that I deliberately used both qualitative and quantitative methods together to reap the complementary benefits of these approaches in illuminating complex social phenomena; the survey component of the study allows greater generalizability but less opportunity to appreciate the rich and textured nuances of the participants' lived experiences, whereas the interview component offers the opposite (Patton 1999).

In terms of future research, we would benefit from a follow up study that uses another dataset with more robust measures of academic achievement to test for the Abider-Avoider achievement gap I have documented here. Future research should explore my central theory that schools reward dispositions and behaviors that favor highly religious students, and what implications that has as far as the goals of schooling. Are schools striving to promote obedience, and if so, does that get in the way of cultivating creativity and critical thinking? In addition, further research might examine how the very factors that aid Abiders transfer into later stages of their lives, including college. Does higher education reward conscientiousness and cooperation in the same way as the middle and high school system?

Conclusion

I have presented quantitative evidence that Abiders outperform all their peers, even after controlling for socioeconomic factors. I have also provided evidence that Avoiders underperform compared with their peers. Using a nationally representative sample and measuring many different dimensions of religiosity—while controlling for the effects of other theoretically and empirically salient dimensions of religious influence—I was able to build on the work of prior

researchers, expanding our understanding of why more deeply engaged religious students outperform their less religious counterparts. My findings support religious social capital theory, with results indicating that religiously engaged adolescents, particularly those who are middle class, learn certain habits in their religious communities—conscientiousness and cooperation—that they successfully transfer into the school environment. These habits are highly valued in the public-school system, which translates into an achievement gap between those who are most deeply engaged in religious communities and those who aren't. To date, this research is the most comprehensive examination of the relationship between religiosity and GPA.

Although it is well known that academic performance is correlated with income, my study suggests that good academic performance is also driven by habits learned through religious adherence. By accounting for variation in religiousness, my research yields a richer understanding of stratification in the educational system. Given the Abider-Avoider achievement gap presented here, this study pushes scholars to consider religion as a missing paradigm in the study of educational inequality.

Research ethics

I affirm that all research on human subjects has been approved by an appropriate ethics committee (e.g., an IRB) and has therefore been performed in a way that is consistent with the ethical standards articulated in the 1964 Declaration of Helsinki and its subsequent amendments and Section 12 (“Informed Consent”) of the ASA’s Code of Ethics. All human subjects gave their informed consent prior to their participation in the research and adequate steps were taken to protect participants’ confidentiality.

Endnotes

ⁱ A few studies have also examined the differences in educational outcomes among religious traditions/denominations (Keysar and Kosmin 1995; Lehrer 2004). In this study, I focus on differences based on religiosity rather than religious tradition.

ⁱⁱ Smith (2003) offers a more causal explanation by suggesting that religious experience and belief itself prompt people to act in productive ways. However, there is little empirical evidence at the moment to suggest a causal link between religious beliefs and subsequent behaviors in school, although there are a few causal studies that find that religion leads to better labor outcomes and additional years of schooling (Gruber 2005; Gruber and Hungerman 2008; Loury 2004).

ⁱⁱⁱ An additional oversample of 80 Jewish households was also interviewed, but these cases were excluded from our analysis as recommended by Smith and Denton (2005:292) because they could distort proper proportions when generalizing descriptive results to the national population, as well as introduce potential sampling bias net of other independent variables controlled in multivariate analyses.

^{iv} Unlike other national surveys, such as the National Study of Adolescent Health (Add Health), all respondents in the NSYR were asked the full battery of questions about religiosity even if they didn't affiliate with a religious denomination. In Add Health, respondents who didn't choose a religious denomination weren't asked any questions about religiosity.

^v For example, respondents in the National Study for Adolescent Health were not asked any follow up questions about religiosity if they reported no religious denomination. Studies using

Add Health thus categorize the respondents with no religious denomination as having the lowest level of religious engagement (Cook, Schwadel, and Cheadle 2017; Pearce and Haynie 2004).

^{vi} Previous research suggest that self-report data are fairly accurate (Cole et al. 2012; Sanchez and Buddin 2015).

^{vii} I conduct a sensitivity analysis in which I drop these cases altogether. The results do not change so I keep these cases.

^{viii} Table 3 in Pearce et al. (2013) presents the latent class probability estimates and the conditional probability estimates for the five-class model.

^{ix} Respondents could self-identify and were not required to use existing categories. I combined the following categories: 1) “White” and “Caucasian” are referred to as “White,” 2) “Black” and “African-American” are referred to as “Black,” 3) “Hispanic” and “Latino/a” are referred to as “Latino/a,” and 4) “Asian” and “Asian-American” are referred to as “Asian”.

^x I do not graph the GPA for Atheists because they do not perform differently than abiders (based on their coefficients in table 2)

^{xi} According to the 2002 census data, the middle 20% of the country earns about \$40,000 to \$95,000 annually.

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