

An Evangelical Anomaly: Religious Observance and Intertemporal Choice

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PRELIMINARY – COMMENTS WELCOME

Abstract

Educational achievement is positively correlated with religious devotion. However, those religious sects which are more devoted have, on average, lower levels of education. Evangelical Protestants, for example, have the highest level of religious devotion but the lowest level of educational achievement. Previous research explains this by proposing that education enhances the gains to social interaction while substituting for religious belief. We examine an alternative hypothesis, where religion is a moderator of time preference across potential investments, including: savings, social capital, and human capital. We use the COPPS and wealth supplements of the Panel Study of Income Dynamics (PSID) to observe household investments of time and money for various religious groups. Consistent discounting across a range of investments by the religious would indicate that differences in time preferences, rather than idiosyncratic attitudes toward education, account for differential investments across religious groups. Our results suggest that education is the anomaly, and that Evangelical Protestants do not behave differently than other religious groups in areas of altruism or saving. Instead, we find that differences in the level of devotion to religious activities provides the sharpest differences in investment behavior.

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“Having, First, gained all you can, and, Secondly saved all you can, Then give all you can.”¹

John Wesley, founder of the Methodist movement

1 Introduction

A wide array of interdisciplinary research has established the influence of religious preference on household decision making. The role of religion has stimulated interest among researchers because much is still not known about how religious beliefs are formed, or the paths by which they influence important life decisions. Much of the existing literature on religious preference and economic decisions utilizes surveys or experiments, which emphasize short time horizons. In contrast, this paper contributes to the literature by using observational data to focus on the correlation between religious preference and long-lived economic investments.

Beyond a narrow academic community, the relevance of religious belief to economic decision making is also important to the large number of development practitioners which deliberately integrate religious teachings into various training and development programs. Organizations such as Food for the Hungry, World Vision, or Catholic Relief Services each integrate specific religious teachings into their development programs in hopes of improving outcomes.² Just how meaningful are religious beliefs for household decision making? Though much is known, many gaps remain.

¹ Sermon 50 "The Use of Money" in *The Works of the Reverend John Wesley, A.M.*(1840) edited by John Emory, Vol. I, p. 446

² For examples see: <http://fh.org/about/vision>; <http://www.worldvision.org/our-impact/our-faith-in-action>; or <http://crs.org/about/guiding-principles.cfm>

We motivate this paper with a juxtaposition. In the US, young people who regularly attend religious services tend to complete more years of schooling relative to those who attend less regularly (Muller & Ellison, 2001). Human capital formation, measured in years of schooling, has significant economic consequences over a lifetime (Card, 1999). However, the largest religious group in America, Evangelical Protestants (henceforth simply Evangelicals), have significantly lower levels of education relative to demographically similar peers, even though Evangelicals exhibit higher average levels of church attendance (Massengill, 2008; Woodberry & Smith, 1998).³ While there have been a few efforts to explain this anomaly, we argue that current research has not offered a compelling rationale for relative underinvestment in education by Evangelicals.

In the current literature, education and religiosity are portrayed as substitutes. Researchers often suggest that Evangelicals' fear of exposure to specific ideas such as evolutionary biology, cognitive psychology, or geology limit their investment in education (Darnell & Sherkat, 1997). Alternatively, Sacerdote & Glaeser (2008) note that education levels are positively correlated with religious intensity within all major US religious groups, including Evangelicals.⁴ They argue instead that individuals sort into religious groups for reasons that are only correlated with educational achievement. Within religious groups the gains to social interaction are higher for

³ Social scientists also refer to Evangelical Protestants as fundamentalists, sectarian Protestants, or conservative Protestants. Each term carries a different connotation and is often associated with a different measurement strategy. In this paper, we follow the RELTRAD method of classification (Steensland, et al., 2000) and use their terminology.

⁴ Glaeser & Sacerdote (2008) demonstrate that education and religiosity are positively correlated *within* denominations, but vary dramatically *across* denominations. They interpret this as that education and religiosity are substitutes, but sociability and education are complements. This story is consistent with highly educated people sorting into less demanding religious denominations.

those with more education, which accounts for a positive dosing effect. However, their paper does not offer a rationale for what drives the sorting behavior.

This paper tests an alternative hypothesis: that religious preference is associated with patterns of intertemporal decision making. Choices in human capital formation are often portrayed as long-lived investments, sensitive to individual time preference. There is ample reason, discussed later, to believe that religious preference can influence individuals' time preference in many types of decision making. We use a nationally representative survey to determine if patterns of time preference within religious groups are consistent across different household investment domains. These investments include investments in human capital (measured by years of education), social capital (measured via charitable gifts and volunteering), and savings behavior (measured with household wealth accumulation). Similar patterns within religious groups and across investment types would support the hypothesis that variation in time preference is correlated with religious preference.

2 Motivation

Social researchers dating back to Max Weber have proposed that certain religious beliefs will promote thrift and effort. Psychological studies support this notion, by demonstrating that religion can improve self-control and the ability to delay gratification (Paglieri F., Borghi, Colzato, Hommel, & Scorolli, 2013; McCullough & Willoughby, 2009). Macroeconomic research in this tradition (Guiso, Sapienza, & Zingales, 2003; McCleary & Barro, 2006) notes a modest correlation between religious belief and macroeconomic economic growth. The relationship between religion and wealth formation, however, is not uniform. Older studies of religion and wealth focused on differences among Jewish, Catholic, and Protestant affiliates. More recent studies have emphasized differences among Protestant groups. Evangelicals, in particular, demonstrate significantly lower levels of both educational achievement

and wealth accumulation relative to demographically similar peers (Darnell & Sherkat, 1997; Keister, 2003; Sherkat & Darnell, 1999).

2.1 The Evangelical anomaly: investment in human capital

Prior studies offer various explanations of this underinvestment by Evangelicals. In the mid-1990s, a few studies emerged detailing how Evangelicals' more traditional beliefs about gender roles appeared to suppress the educational attainment and labor market participation of Evangelical women (Keyser & Kosmin, 1995; Lehrer, 1995). Later, scholars found evidence that both Evangelical beliefs and Evangelical affiliation were associated with lower educational attainment, net of important family background controls (Darnell & Sherkat, 1997).

Darnell and Sherkat (1997) discussed a number of elements of Evangelical culture that might be expected to suppress educational attainment and illustrated these using Evangelical insider documents. First, Evangelicals tend to interpret the Bible as the literal word of God, and may be suspicious of sources of information that seem to contradict a literal reading of scripture. Second, Evangelicals generally support more traditional gender and family roles and may prioritize marriage and parenting over higher education, especially for women. Third, many Evangelicals have an anti-materialist orientation that may lead them to devalue avenues of material advancement, like education. Fourth, though it is less important to Darnell and Sherkat's (1997) argument, Evangelicals tend to maintain intensive (and sometimes exclusive) networks, promoting these especially through attendance at religious services and other meetings. This idea is consistent with that discussed in Iannaccone's seminal piece on the economics of religion, in which religious groups impose high membership costs and limit exposure with those outside of the group (Iannaccone, 1998). Fifth, and most important to Darnell and Sherkat's (1997)

argument, many Evangelicals are concerned about secular influences “polluting” the minds and hearts of their youth. As such, Evangelical parents may provide less support for their children to attend public colleges or they may discourage children from attending college altogether.

Subsequent studies have largely supported the idea that Evangelical culture is associated with restricted financial mobility. Lehrer (1999) studied Evangelical educational attainment from an economic perspective and concluded that both supply- (less willingness to invest in education at any given interest rate because of fears of doctrinal or moral “pollution”) and demand-side (lower rates of return for schooling because of relatively poorer early preparation) factors account for lower Evangelical attainment. Massengill (2008) conducted trend analyses to see if Evangelicals have benefited from the nation-wide boom in college going and found that while Evangelicals have largely caught up with other groups in high school completion, they still lag behind in college completion. Keister (2003; 2008) found that Evangelicals acquire less wealth than other groups, partly because of their lower attainment but also because of other sub-culturally supported practices, such as “sacrificial giving” (to religious causes), earlier marriage, and encouraging wives to pursue homemaking instead of remaining in the labor force.

Focusing on gender and race differences, Glass and Jacobs (2005) discovered evidence that both African American and white Evangelical women tend to have lower educational attainment compared with women from other religious groups but found important differences by race in women’s returns to the labor market after childbirth. White Evangelical women were slower to return to work after having a child, while African American Evangelical women actually returned to work sooner than women from other religious traditions (Fitzgerald & Glass, 2008). Switching the attention to Evangelical men, Civettini and Glass (2008) concluded that Evangelical men’s work and family involvement appear unaffected by their religious affiliation.

They do point out, however, that disadvantaged Evangelical men have lower educational attainment compared with disadvantaged men of other religious traditions and that Evangelical men who *rarely* attend religious services earn lower wages on average compared to non-Evangelical men. The role of attendance in Evangelical educational outcomes is significant to note because attendance is usually the best available indicator of how embedded an individual is in the Evangelical subculture.

As mentioned above, Evangelical culture strongly encourages attendance at religious services and Evangelicals attend at higher rates compared to other groups (Woodberry & Smith, 1998). Lehrer (2004) uses nationally representative data to show that high attending Evangelicals have higher educational attainment than low attending Evangelicals. This finding corroborates several studies that higher levels of attendance (sometimes coupled with other measures of religiosity) are associated with a number of positive educational outcomes. Among these studies, Muller and Ellison (2001) find that more highly religious adolescents are also more likely to be prepared for college. Regnerus (2000) and Regnerus and Elder (2003) conclude that higher attendance is especially beneficial for the educational outcomes of at-risk youth, and Stokes (2008) notes that high parental religiosity (more than the youth's own religiosity) is protective against high school drop-out.

In some of the most provocative findings, Sherkat (2009) provides evidence that Evangelical affiliation retards verbal ability (a strong predictor of educational attainment) across the life course and theorizes that Evangelicals' strict Bible beliefs and relatively closed networks shelter them from the ideas and interpersonal contacts that might increase their verbal facility. Curiously, Sherkat (2009) also finds that religious attendance has a positive effect on verbal ability and that this positive effect is *strongest* for Evangelicals. Of course, the problem with all of these attendance findings is that they don't explain why Evangelicals, measured as a group, invest less

in education. While attendance *per se* may (and appears to) facilitate educational progress, it is *prima facie* about attachment to a particular religious institution. As such, if Evangelical culture is indeed the cause of lower Evangelical attainment, we would expect high attenders to be more deeply embedded in the Evangelical subculture and, thus, more adversely affected in their educational attainment. This does not appear to be the case.

In a study almost entirely disconnected from the above literature⁵, Sacerdote and Glaeser (2008) offer a possible explanation for the Evangelical anomaly. Comparing representative data across several nations they note that education and religious attendance are positively correlated at the individual level but there is a strong negative correlation between attendance and education across denominations. The higher the average education level of the denomination, the lower the average level of attendance. Sacerdote and Glaeser (2008) explain this pattern by suggesting that education lowers religious belief (substitutes), and that more educated people sort into denominations that demand less of their adherents. But within each denomination, they suggest that investments in human capital yield greater returns to religious involvement. Thus, having comfortably sorted themselves into religious traditions most compatible with their education level, the most educated households within each denomination are best able to access the social capital associated with higher levels of religious involvement.

By adopting the idea that religiosity and education are substitutes, Sacerdote and Glaeser (2008) gloss over some of the complexities suggested by more recent studies of the Evangelical anomaly. Most notably, the substitution hypothesis fails to recognize the multiplicity of mechanisms linking education and religion and the

⁵ None of the studies in the previous section are cited by Sacerdote and Glaeser.

reciprocal causal relationships inherent in these mechanisms. Simply put, not everything about conservative religiosity substitutes for higher education, and vice versa.

Moreover, the idea of religious sorting by socioeconomic factors (the second part of Sacerdote and Glaeser's (2008) "substitutes and sorting" argument) is not new (Wilson, 1966). Social scientists have also noted the importance of family ties in religious switching; even when upward mobility might "push" a person to sort into a denomination more suited to her socioeconomic station, she instead remains in the denomination of her upbringing, or the one shared with her spouse (Sandomirsky & Wilson, 1990). Individuals also acquire "religious capital," a set of competencies associated with the practice of a specific religion, and evidence suggests that individuals with high levels of religious capital seek to conserve that capital and are less likely to switch into a religious denomination that better fits their socioeconomic profile (on "religious capital" and for a comprehensive economic treatment of religious sorting see chapter 5 of Stark and Finke (2000)). Thus, while Sacerdote and Glaeser (2008) are on solid empirical ground in claiming that education is a likely component of religious sorting, there is certainly more to the story.

To be fair, the strength of Sacerdote and Glaeser's (2008) theory is that it offers a fairly straightforward solution to the Evangelical anomaly that fits well with the data. This is no small contribution. Of course, where there is simplicity there is also (usually) under-specificity. In this paper, we suggest an alternative hypothesis which potentially complements Sacerdote and Glaeser's analysis by examining one mechanism possibly linking religion and education: intertemporal decision making.

2.2 Religion and Economic Decision Making

For decades, economists have examined how individuals make intertemporal choices, that is, where the timing of the benefits and consequences of the decision influences the decision maker. The earliest theory is the discounted utility model, originally attributed to Samuelson (1937). It assumes that people discount the future such that the value of a future reward decays with time. More recent work suggests a much more complex set of factors involved in intertemporal choices; individuals may apply different discount rates for different domains of choices and discount rates may vary (Berns, Laibson, & Loewenstein, 2007).

Psychologists and neuroscientists have more recently entered the discussion of time preferences with work positing several cognitive mechanisms related to, and perhaps underlying, the processes by which people make intertemporal decisions. Anticipation, self-control, and representation all appear to influence how individuals decide whether a particular reward is worth the wait (Berns, Laibson, & Loewenstein, 2007). Taken together, the recent work on time preference suggests that individual discount rates are neither uniform across populations or domains of choice nor entirely genetically determined. Instead, discount rates are likely to be at least partially influenced by cultural and environmental factors.

Religion is a key cultural force that could influence time preference (Carter, McCullough, Kim-Spoon, Corrales, & Blake, 2012). While explicit discussions of time preference, discounted utility, and intertemporal choice have largely been limited to the economic literature, other social scientists have amassed an impressive literature showing how behavior in important domains of intertemporal choice varies significantly by religious affiliation and practice. Education (discussed at length above), fertility, volunteering, savings, and giving all appear to differ across major US religious traditions and persons who more consistently practice their religion also

differ from the non or nominally religious (Keister, 2008; Massengill, 2008; Ellison & Hummer, 2010; Smith & Emerson, 2008).

How might religion interact with intertemporal choice? The most straightforward explanation involves religious beliefs, which include various admonitions toward delayed gratification, investment in non-economic, altruistic enterprises, and the promise of future super-empirical rewards. Additionally, many religious traditions include beliefs which significantly reframe costs so that suffering, altruistic giving, and hard work become their own rewards or guarantors of future reward (Stark & Finke, 2000). Thus, religious persons' representations of intertemporal choices may be very different from those of non-religious persons.

Religions also provide behavioral templates through various ritual practices. Adherents who consistently practice their religion may experience better self-control and be more easily inclined toward delayed gratification (McCullough & Willoughby, 2009). Religious practice may help adherents develop a set of transferable skills which reduce the costs of investment in human capital (e.g. listening attentively in a pew is like listening attentively in a classroom) (Regnerus, 2003).

Religions typically also structure social networks, especially for those who consistently practice, but in some contexts even nominally religious persons may experience social network influences (Vaisey & Lizardo, 2010). Social networks may reframe intertemporal choices by enhancing the likelihood of reciprocity for altruistic investments; religious persons who do a good turn for or share a gift with (or with the knowledge of) co-religionists may be more likely to be rewarded later, whereas persons with less reliable network ties may prefer investments in more public economic ventures where returns are less directly governed by personal relationships.

While there are a number of reasons to expect religious beliefs and behaviors of any stripe to differentiate adherents from the nonreligious, social scientists have

suggested the practice of a particular kind of religion may have important material consequences (Smith & Faris, 2005). Thus, for all the reasons above, we expect that discount rates may vary across religious types as well as between the religious and nonreligious.

Finally, intertemporal choices may differ across domains of investment and these differential investments may be moderated by religious beliefs and practice. Evangelicals, for example, are more likely than their Catholic or mainline Protestant counterparts to espouse other-worldly beliefs which predict greater investments in certain economically-related behaviors (e.g. giving to religious causes in hopes of eternal reward; “storing up treasure in heaven”) while predicting underinvestment in others (e.g. higher education, which may distract from moral and doctrinal purity). Earlier work finds that responsiveness to changes in the price of charitable giving (measured by marginal tax rates) follows these religions belief patterns. That is, households with expressed religious preferences are less responsive to changes in the price of giving than households which do not exhibit strong religious preferences (Helms & Thornton, 2012).

Moreover, doctrinal differences in beliefs about afterlife rewards for current behavior also predict the level of responsiveness. In particular, the tighter the connection between afterlife reward (and punishment) and charitable behavior, the less responsive households are to changes in economic incentives (Thornton & Helms, 2013). But Evangelicals also exhibit higher average rates of religious service attendance, a practice which may cultivate skills which make it easier to succeed in school. Thus, examinations of religion and time preference should take into account both the variety of mechanisms by which religion may influence intertemporal choice and the beliefs and practices of various religious groups and the various domains of investment.

3 Data Description

We use the Panel Study of Income Dynamics (PSID) and the Center on Philanthropy Panel Study (COPPS) add-on. We use the 2001, 2003, and 2005 waves of the PSID and COPPS data, which report on decisions made in 2000, 2002, and 2004. The PSID is part of the University of Michigan's Institute for Social Research data collection. COPPS is conducted by the Indiana University – Purdue University Indianapolis (Wilhelm M. O., 2006) (Wilhelm, Brown, Rooney, & Steinberg, 2001, 2003, 2005). We merged the COPPS and PSID data for each wave. This process required a re-coding of some variables in order to compare variables across the three waves. In a few instances, we are unable to make meaningful comparisons across all three waves.⁶

We use the PSID instead of the General Social Survey (the most common dataset used for religion-related topics) due to the PSID's set of detailed data on household finances, socioeconomic and demographic characteristics, religious attendance and identification, and with the COPPS, detailed information on charitable behavior. The PSID and COPPS data are considered among the more reliable for surveys on charitable behavior (Wilhelm M. O., 2006) (Wilhelm M. O., 2007). In addition, the attachment to the PSID allows the matching of households across years, and the matching of an extensive set of altruistic behaviors to a rich collection of economic and demographic characteristics and behaviors.

⁶ For example, the religious attendance variables are available only in the 2003 and 2005 waves. Also, the survey methodology in questions on secular giving changed between the 2001 and 2003 administrations of the survey. As such, we use the recommended coding found in the COPPS user manual for 2003 and 2005 (Wilhelm M. , 2005).

3. 1 Classification of Religion in the PSID

In this study, we follow the RELTRAD method of classifying American religious traditions (Steensland, et al., 2000). The chief contribution of the RELTRAD method is the careful division of American Protestants' denominations into Evangelical, mainline, and Black Protestant categories. To avoid conflating race and religion we do not apply the Black Protestant category, but instead group historically Black Protestant denominations into Evangelical or mainline categories according to their stated theological beliefs and historical development.

In addition to the categories described above, we divide households by the intensity of their religious activity. While there are many ways to divide, for analytic simplicity we classify a household as devoted if the most-religious individual in the household attends services at least twice per month in his or her most active year. Thus, nondevoted households attend fewer than two religious services per month. We recognize that this division is arbitrary, but earlier research found little difference between our chosen division and less strict categorizations (Helms & Thornton, 2012).

In Table 1, we show the religious composition of our data by year. From these we see that our data match with the general division of households by religious identification. Evangelicals comprise the largest subgroup, almost one-third of the data, followed by mainline Protestants and Catholics.⁷ More than 15% of households identify as having no religion. Fewer than ten households per year identify as

⁷ Due to changes in the survey instrument, the representation of Evangelicals changes between the 2001 and 2003 administrations of the survey. The 2003 and 2005 surveys better reflect the representation of Evangelicals in US society. We ran our analysis with and without 2001 data, and found similar results.

Orthodox; as such, we do not focus on the results for this group in our analysis below.

The division of households between devoted and nondevoted, within religious group, follows expected patterns. Most households which identify as Catholic, mainline Protestant, and Evangelical attend services at least twice per month, leading to the devoted classification. On the other hand, more than two-thirds of the households identifying with Orthodox, Jewish, or no religion traditions attend services below the threshold, thus warranting the non-devoted categorization.

3.2 Dependent Variables: Domains of Household Investment

The goal of our study is to determine whether the ‘evangelical anomaly’ extends beyond the choice of educational investment. We consider three separate spheres of household decision-making which may be influenced by a household’s approach to intertemporal decision-making. We describe below how we represent each sphere with the data available.

3.2.1 Education

Benchmarking our sample against previous studies, we first consider the relationship between religion and educational attainment. We calculate household educational attainment, using the head of the household’s education, by number of years. Since the value of an additional of year of education varies across accumulated years, we construct an ordered variable. Education is measured as one of five levels: less than high school; completing high school only; completing some

college; completing a college degree; and completing [at least some] postgraduate work. In Table 2, we show that, on average, households in our data have 13.35 years of education. We also show educational attainment according to our categories. High school dropouts comprise about 13% of our data, high school graduates 33%, those with some college 24%, college grads 16%, and those with postgraduate work about 10.5%.

3.2.2 Social Capital

The second area of household investment can be thought of as social capital. Glaeser, Laibson, & Sacerdote (2002) propose the construct that social capital measures those characteristics and investments which allow individuals, and on the aggregate society, to “reap both market and non-market returns”. While social capital includes a variety of actions and beliefs that contribute toward the social workings of society, we narrow in on the measureable altruistic behaviors of charitable giving and volunteering. Table 2 describes these activities for our data. We find that 68% of households in our data give to charity, giving on average \$1,312. Including only households which gave at least \$1, the average gift rises to \$1,928. We separate the extensive (whether or not to give) and intensive (how much to give) margins of decisions on altruism due to earlier studies which find that the decisions should be considered separately (Schokkaert, 2006; Brooks, 2003).

We also consider volunteering, another contributor to social capital and a natural corollary to charitable giving. While some households may contribute to charities with monetary donations, many households give their time. We show in Table 2 that, in our sample, 36% of households report volunteering. On average, households volunteer 75.7 hours per year, though including only those who volunteer raises the

average to 210.9 hours per year. Considered over 12 months, these hours correspond to about 6 hours and 17.5 hours per month, respectively.

3.3.3 Financial Capital

The final major investment domain we consider is financial capital, measures using an approximate estimate of household saving. Prior methodological studies consider how best to measure saving in the PSID (Bosworth & Anders, 2008). We apply a simple methodology by calculating household saving as the change in wealth within household between the waves of data collection. The data are collected every other year, allowing for a two-year gap in observations of household wealth. We proxy for saving using changes in household wealth. While imperfect, the measure (in the aggregate) should represent household decisions on investment and spending over longer periods of time. Table 2 shows the average household wealth (including the equity or debt held in the home). We observe household wealth (including home value) to be on average \$280,622. Average the changes in wealth from 2001 to 2003, and 2003 to 2005, we find that households save on average \$50,005. Note that the calculations reflect the possibility of negative changes in wealth. In addition, the years in our data precede the Great Recession that led to large negative changes in home values across much of the US.

In Table 3, we show the average value for each dependent variable considered, as measured across religious classification. Jewish households have the highest educational attainment, at an average of 15 years, and Orthodox and Evangelical households are lowest with 12.7 and 12.8 years of education, respectively. As discussed above, this is consistent with earlier findings on religion and education (Sacerdote & Glaeser, 2008).

When we consider giving behavior, we find that households identifying with a religious tradition are more generous than those which do not. The most generous households are Jewish (88% give, on average households give \$2,699, and on average givers donate \$3,084), followed by those who are Catholic (74% give, on average households give \$1,136), or mainline Protestant (74% give, on average households give \$1,583). That said, we find that once we include only givers, households identifying as other religion and Evangelical Protestants display more generous behavior (average giving by givers of \$2,451 and \$2,536, respectively).

With volunteering, we find that Jewish and mainline Protestant households are most likely to volunteer (42% and 40%, respectively), while Orthodox households are least likely to volunteer (much lower, at 11%). Again, other religion households volunteer the most hours (95.5 hours on average, and 272.5 average hours for volunteers). As found above, Orthodox and no religion households tend to be least likely to volunteer and even the household might volunteer, the average hours are below the averages for all other categories.

Last, we compare wealth and savings variables across the religious categories in Table 3. Consistent with other work, Jewish households are wealthiest, as are Orthodox households, while other religion, Evangelical Protestants, and no religion households have the lowest wealth. In the same vein, Jewish and Orthodox households have the highest net changes in wealth over the sample years, with average savings upwards of \$150,000 between observations. Evangelical Protestants and no religion households have the lowest average savings, both around \$35,000.

Taken together, the sharp distinctions across religious groups in education, giving, volunteering, and saving behavior lends support to the idea that there are marked differences across belief groups in such behaviors. However, socioeconomic position varies across the religious groups as well. As such, we include the standard set of control variables in our regression analysis to account for these differences

across religious groups, in order to better describe the correlation between religious groups and various investment choices.

3.3 Independent Variables

Table 4 shows summary statistics for the remaining covariates. Eight percent of the households in our data are black, and 33% report Hispanic ethnicity. The average age of respondents is 47 years. Family income averages just over \$70,000, and median income is \$52,500, reflecting the typical skewness of income in the US. Approximately 60% of households are married, 16% never married, 7% are widowed, and 17% are divorced, separated, or annulled. Regarding health, we find that 13% of household heads report fair or poor health. While the full sample reports household wife health as fair or poor at 7%, including only married households leads to a similar value of 10%. To control for the intensity of religious behaviors, we include a measure for devoted which is defined by households that attend religious services at least twice per month. In our sample, 52% of households are devoted.

We report the mean value of our covariates by religious category in Table 5. Plainly evident is the variation in demographic and socioeconomic variables across categories. Black households comprise 17% of Evangelical Protestants and 13% of other religions, and account for none of the Jewish or Orthodox observations. Hispanic households are 20 to 50% of each religious group, with most falling in mainline Protestant and other religions. Sixty-eight percent of Jewish households are married, as are 65% of Catholic households and 63% of mainline Protestants. No religion and other religion groups are most likely to have never married, while other religion and Evangelical Protestant households have the highest share of divorced, separated, or annulled households (about 20% each). In part, marital status measures

reflect the average age of the individuals in each religious group; no religion and other religion households both have average ages (around 40 years old) much below the rest of the groups.

The health variables are generally similar across groups, though Jewish and Orthodox households have healthier heads of household, but (generally) less healthy wives. Finally, we find that the level of devotion varies across religious groups. Those reporting no religion are more likely to attend services at least twice per month (28%) than are Jewish households (23%). Most devoted are Evangelical Protestants (62%), Catholics (58%), other religions (56%), and mainline Protestants (55%).

4 Empirical Model & Results

We test the influence of religious affiliation and intensity on three separate household investment domains. These domains include education (or human capital), charitable giving and volunteering (social capital), and household savings (financial capital). Using data derived from the 2001, 2003, and 2005 waves of the PSID, we estimate each using the following model:

$$Y_{it} = \alpha + R'_{it}\beta + X'_{it}\gamma + I_{it}\delta + R'_{it} * I_{it}\zeta + D'\eta + \epsilon_{it}$$

Where Y is a household investment domain (eg. education, charitable giving, volunteering, or savings) for household i in year t . R_{it} is a set of religious indicator variables discussed in section 3.1.1. X is a set of demographic covariates (eg. race and income). I is the dummy variable indicated religious intensity. Finally, D is a set of year and state indicator variables. The primary parameters of interest are β , the main

effect of a particular religious group on household investment, and ζ , the interaction of religious preference and religious intensity.⁸

4.1 Regression Estimates

Regressions on educational attainment are estimated using an ordered probit. All other regressions are estimated via ordinary least squares (OLS). In every case, error terms are clustered by household. Table 6 reports regression estimates for all three investment domains.

4.1.1 Education Estimates

Column 1 of Table 6 reports the regression estimates for educational attainment. Recall that the dependent variable contains ordinal categories of education (not years of education). Demographic variables in the model generally follow expectations. Self-identified race indicator variables BLACK and HISPANIC are both associated with lower levels of educational attainment. Households where the head was never married have slightly higher levels of educational attainment, relative to married households (the base case). Being widowed slightly lowers expected educational attainment; getting divorced had no effect. Education is positively associated with associated with age and household income.

⁸ The simple binomial for religious intensity has several advantages relative to a scalar of religious intensity. The binomial variable splits the sample roughly in half and facilitates easy interpretation. We discuss the robustness of this measure in the limitations section.

Recall that the dependent variable, educational outcomes, is broken up into five categories. Our primary coefficients of interest are the main effects of religious groups and their interaction with religious intensity. Interpreting main and interaction effects for this type of model is cumbersome. To facilitate interpretation, we plot the predictive margins of religious category for each education level independently.⁹ Each point on these figures is then interpreted as the probability that a standardized household in that particular religious category will achieve that level of education.

For example, Figure 1 illustrates the probability that a standardized household in a particular religious category will achieve less than a high school degree. The 95% confidence interval of the model prediction is also displayed. The Orthodox adherents, a religious group that includes Greek, Russian, or Eastern Orthodox, have the highest expected probability of not completing high school. However, due to the relatively small number of observations in this category, the confidence interval is very large. The model predicts Evangelical Protestants as the next most likely category of high school dropouts, with an expected probability of seventeen percent. The model predicts that Jewish households have the lowest probability of dropping out of high school.

By applying the interaction term, it is also possible to construct separate predictive margins based on both religious preference and intensity. Figure 2 uses a red dot to indicate that the family attends church more than twice per month (devoted). Otherwise the family is represented as a blue dot (nondevoted). For example, a nondevoted Evangelical Protestant has a twenty-one percent chance of

⁹ STATA has two ways of estimating its predictive margins, which are essentially an average of the fitted values. The default is to calculate the average marginal effect, or the population averaged marginal effect (AME). Alternatively, STATA can calculate the marginal effect of the average (MEA), or the coefficients evaluated at the population average. Our analysis uses the former method.

dropping out of high school, a devoted Evangelical has a fourteen percent chance, after all other factors included in the regression model are held constant. The confidence intervals in Figure 2 make it easy to demonstrate that these magnitudes are both distinguishable from zero and each other. This finding is mirrored for Catholic and “other religion” households. As the discussion progresses, it will be important to note that, for most religious categories, nondevoted households demonstrate a higher probability of low education outcomes relative to more devoted households.

These figures have been generated for each of the five different education categories and are represented in Figures 1-6. However, for our purposes, it is most illustrative to skip ahead to those with a college degree, but less than postgraduate. Figure 7 illustrates the outcome extensively discussed in Section 2. Evangelical Protestants have much lower levels of college completion relative to other religious groups, on average fourteen percent, even after controlling for basic demographic factors. Only the Orthodox group has lower predicted levels of college completion, approximately ten percent. Though, again, the confidence interval for Orthodox is wide due to a small sample. The model estimates Jewish households with the highest college completion rates, roughly twenty five percent of the sample population.

In Figure 8, we split the sample based on religious service attendance. For every religious group (with the exception of Jewish) the more devoted adherents demonstrate higher levels of college completion relative to nondevoted. These results are consistent with the hypotheses and findings in Sacerdote & Glaeser (2008).

4.1.2 Charitable Giving & Volunteering Estimates

The primary purpose of the paper is to determine if similar patterns of investment appear in other domains of behavior. As discussed in section 2, charitable giving and volunteering serve as a useful measure of community connectedness and social investment, otherwise described as social capital. Helms & Thornton (2012) note that charitable giving is best modeled as a two part decision, where the choice to give is modeled separately from the decision of how much to give. Columns (2) and (3) in Table 6 offer regressions for these dimensions of charitable giving.

Regression (2) reports estimates of the model with the dependent variable as a binomial equal to one if the family reported giving a positive amount to charity during that reporting period. The model was estimated using a linear probability model, so the coefficients are simple to interpret. Demographic variables follow expectations. The probability of charitable giving is lower if the household is minority, but increases slightly with age. Income has the most powerful positive influence. Consistent with previous studies, the probability of charitable giving increases with religious intensity.

Again, a plot of the predictive margins is an easy way to visually describe the relative differences in the probability of giving across religious groups, plotted in Figure 11. Jewish households have the highest probability of giving, at seventy-five percent. Mainline Protestants are only slightly less generous, at seventy-one percent. Orthodox households have the lowest predicted margin at fifty percent, though the confidence interval is wide. Evangelical Christians are in the middle of the pack, at sixty-nine percent. Given the variation in the confidence intervals of the predicted values, it is visually difficult to determine whether these differences across religious groups are statistically distinguishable from each other, though all are different than

zero. Fortunately, STATA offers a test to discriminate differences across groups.¹⁰ Relative to Evangelical Protestants, Jewish and mainline Christians have a statistically higher probability of giving. The non-religious are the only group that is statistically lower than Evangelicals. All others are statistically indistinguishable from Evangelicals.

Figure 12 gives reports predictive margins for the probability of giving after separating devoted from non-devoted within religious groups. For every group except Jewish and Orthodox, devoted adherents have a higher probability than nondevoted adherents.¹¹ For these groups, the difference is statistically meaningful. Just as important, if you focus solely on the devoted from each religious group, the probability of giving becomes indistinguishable across religious classifications. This is nearly true for the nondevoted. Only nondevoted Orthodox households lack a statistically different probability of giving from their peer group. The implication is that the primary differences in the probability of giving are generated by the devoted/nondevoted partition. That taken into account, there is very little difference across religious groups.

Column (3) in Table 6 reports the effect of model covariates on the total amount of household charitable donations, conditional on the household giving something to charity.¹² Demographic covariates are in line with the previous regression on the probability of giving. Figure 13 reports the main effects for total giving across religious groups. Evangelical Protestants report the second highest level of giving,

¹⁰ STATA generates the Wald test using the *contrast* command after *margins*. For more detail see: <http://www.stata.com/manuals13/rcontrast.pdf#rcontrastMethodsandformulas>

¹¹ Though it is odd to have devoted adherents within the no religion category, they do appear in the data.

¹² The dependent variable was transformed by adding one dollar and taking a natural logarithm to normalize its distribution.

after Jewish households. Orthodox households have the lowest predicted value for giving, slightly bested by the non-religious group. In terms of significant differences across groups, the non-religious, Catholics, and Mainline Protestants have lower predicted levels of giving relative to Evangelical Protestants. Only the Jewish group has higher predicted values. Orthodox and other religions are not statistically distinguishable from Evangelicals.

Figure 14 separates giving amounts across both religious groups and intensity. As with the probability of giving, devoted adherents are significantly more charitable than their nondevoted counterparts. Figure 14 reveals the surprising result that devoted Evangelical Christians have the highest predicted level of logged charitable giving, after controlling for all other variables. The gap between devoted and nondevoted is large for evangelicals. Examining levels, rather than logs, a devoted Evangelical Christian gives \$1,961 more than non-devoted Evangelicals, after controlling for all factors in the model. The gap is similarly sized for other religious groups, though becomes very large – over \$7,000 – for Jewish households. Importantly, once we separate on level of devotion, the differences across religious categories compresses.

Beyond charitable giving, we also consider gifts of time. Again we separate the choice to volunteer from the actual amount of volunteering, measured in self-reported hours per year. Regression (4) reports the on the probability of volunteering as the dependent variable. Statistical differences across religious groups are small. Figure 15 displays the predicted margins for the probability of giving. Jewish households have a relatively high probability of volunteering, Orthodox households are much lower. All religious groups have indistinguishable differences in the probability of volunteering. Figure 16 separates the probability of volunteering by religious devotion. Similar to charitable giving, devoted adherents are much more likely to volunteer than the non-devoted. Just as importantly, the difference between

devoted and non-devoted households is larger than the difference amongst religious groups, once devotion is taken into account.

The pattern changes significantly when we look at the self-reported hours in regression (5). Figure 17 depicts the predictive margins across religious groups for hours of volunteering per year. There is no statistically significant difference for any religious group other than the Orthodox. All other groups typically volunteer around two hundred hours per year. Being Orthodox, however, had such a powerful negative effect on volunteering, such that it pushes the predictive margins below zero.

Religious intensity is again positively related to pro-social behavior; in this case volunteer hours. See Figure 18. The difference is particularly large for Evangelical Protestants and the other religion group. Orthodox is the only group where religious devotion is associated with less volunteering.

4.1.3 Household Savings Estimates

The PSID does not record personal savings directly. Section 3.3.3 describes how we chose to construct the saving variable. It is also important to keep in mind that, because savings is constructed using a change in a state variable, approximately one-third of the observations are lost.

Figure 19 displays the predictive margins for total savings over religious groups. Because income and other demographic variables are included in the regression model careful interpretation of the predictive margins is required. It is easiest to think of a standardized household based on all the covariates (race, geography, income, etc.) where the model predicts an expected savings. The model then makes a separate prediction of this normalized household just varying its identification with a particular religious group. The story here is mixed. Both Jewish and Orthodox

households have relatively high levels of household savings, a combined average of almost two hundred thousand dollars. However, these are also very wide confidence intervals around those predictions. There is surprisingly little difference in household savings amongst the religious groups. The non-religious, Catholic, mainline Protestants, and Evangelical Protestants all accumulated statistically similar amounts of wealth over the sample horizon, averaging around forty-five thousand dollars.

Further, unlike the other domains, separating the sample based on devotion does not provide new information. Figure 20 demonstrates the predictive margins for savings rates, separated by religious intensity. While the Jewish and Orthodox nondevoted appear to have lower savings, there are no statistically significant effects on savings patterns when comparing the devoted and nondevoted.

5 Conclusions & Analysis

This paper began with an apparent contradiction. Educational achievement is positively correlated with religious devotion. However, those religious groups which are more devoted – on average - have lower levels of education. The clearest example is Evangelical Protestants, which have the some of the highest levels of religious devotion, but the lowest level of educational achievement.

Sacerdote & Glaeser (2008) offer one possible solution to this paradox. They suggest that religious devotion imposes two offsetting effects. They propose that education increases the returns to social capital, presumably making educated households more likely engage the social interaction of religious services. However, they also maintain that (intellectually) religion and education are substitutes, such that more devoted sects will attract less educated adherents.

Their story fits the data. But there are alternative stories. One possible alternative is that variation in educational achievement may be based on the influence of religious belief on time preference. There is evidence from the sociology and psychology literature to substantiate this alternative. Support for this hypothesis would be similar patterns of investment across different domains. If Evangelicals have persistently high discount rates relative to Jewish or Catholic households, then we should see similar patterns of investment for social capital formation or savings rates.

However, we do not observe a similar pattern. Figures 11, 13, 15, and 17 demonstrate that on average, Evangelicals give about as often and about as much as other religious groups. Savings rates are similarly indistinguishable from other sects. Education does appear to be unique as an investment pattern.

While John Wesley considered earning, saving, and giving as complementary behaviors, perhaps Evangelicals see them as substitutes. Figure 14 illustrates that, once level of devotion is considered, the influence of religious preference on giving and volunteering changes significantly. When examining only devoted households, Evangelicals give more than any other religious group. Only 'other religion' households volunteer more than Evangelicals

One key point that emerges from the analysis is that merely categorizing households by religious preference without accounting for religious devotion masks important variation in behavior. Indeed, the variation between devoted and nondevoted households tends to be larger than the variation across religious groups. For devoted adherents, both giving and volunteering increase uniformly with religious demands. Religious devotion appears to uniformly increase all the pro-social behaviors examined in this study.

In conclusion, we are unable to offer a viable alternative to the Sacerdote & Glaeser (2008) hypothesis. Variation in time preference based on religious

categorization does not appear to be a consistent moderator in these investment domains. Low academic achievement is not consistently correlated with low giving, volunteering, or savings rates. Furthermore the evidence is weak that these domains are substitutes. Religious preference and religious intensity matter, but in non-uniform ways. The data used here, however, are crude and limited. We are unable to exploit variation in behaviors for very small but intense religious groups such as Mormons or Muslims. Perhaps then, we could hope for revival. It would make a splendid natural experiment.

6 Works Cited

- Berns, G., Laibson, D., & Loewenstein, G. (2007). Intertemporal Choice - Toward an Integrative Framework. *Trends in Cognitive Sciences*, 482-488.
- Bosworth, B., & Anders, S. (2008). *Savings and wealth accumulation in the PSID, 1984-2005*. Chestnut Hill: Center for Retirement Research at Boston College.
- Brooks, A. (2003). Religious faith and charitable giving. *Policy Review*, 121, 39-50.
- Card, D. (1999). The causal effect of education on earnings. *Handbook of labor economics* 3, 1801-1863.
- Carter, E. C., McCullough, M. E., Kim-Spoon, J., Corrales, C., & Blake, A. (2012). Religious people discount the future less. *Evolution and Human Behavior*, 224-231.
- Civettini, N., & Glass, J. (2008). Civettini, NiThe Impact of Religious Conservatism on Men's Work and Family Involvement. *Gender and Society*, 172-193.
- Darnell, A., & Sherkat, D. (1997). The Impact of Protestant Fundamentalism on Educational Attainment. *American Sociological Review*, 306-315.
- Ellison, C., & Hummer, R. (2010). *Religion, Families, and Health: Population-Based Research in the United States*. New Brunswick, NJ: Rutgers University Press.
- Fitzgerald, S., & Glass, J. (2008). Can Early Family Formation Explain the Lower Educational Attainment of Conservative Protestants? *Sociological Spectrum*.
- Glaeser, E., Laibson, D., & Sacerdote, B. (2002). An Economic Approach to Social Capital. *The Economic Journal*, 112(483), F437-F458.
- Glass, J., & Jacobs, J. (2005). Childhood Religious Conservatism and Adult Attainment among Black and White Women. *Social Forces*.

- Gruber, J. H. (2005). Religious market structure, religious participation, and outcomes: Is religion good for you? *Advances in Economic Analysis & Policy*, 5(1).
- Guiso, L., Sapienza, P., & Zingales, L. (2003). People's Opium? Religion and Economic Attitudes. *Journal of Monetary Economics*, 225-282.
- Helms, S. E., & Thornton, J. P. (2012). The Influence of Religiosity on Charitable Behavior: A COPPS Investigation. *Journal of Socio-Economics*, 373-383.
- Hommel, B., Colzato, L. S., Scorolli, C., Borghi, A. M., & van den Wildenberg, W. P. (2011). Religion and action control: faith-specific modulation of the Simon effect but not stop-signal performance. *Cognition*, 120(2), 177-185.
- Iannaccone, L. (1998). Introduction to the Economics of Religion. *Journal of Economic Literature*, 1465-1495.
- Keister, L. (2003). Religion and Wealth: The Role of Religious Affiliation and Participation in Early Adult Asset Accumulation. *Social Forces*, 175-207.
- Keister, L. (2008). Conservative Protestants and Wealth: How Religion Perpetuates Asset Poverty. *American Journal of Sociology*, 1237-1271.
- Keyser, A., & Kosmin, B. (1995). The Impact of Religious Identification on Differences in Educational Attainment Among American Women in 1990. *Journal of Psychology and Christianity*, 312-328.
- Lehrer, E. (1995). The Effects of Religion on the Labor Supply of Married Women. *Social Science Research*, 281-301.
- Lehrer, E. (1999). Religion as a Determinant of Educational Attainment: An Economic Perspective. *Social Science Research*, 358-379.

- Lehrer, E. (2004). Religion as a Determinant of Economic and Demographic Behavior in the United States. *Population and Development Review*, 707-726.
- Massengill, R. (2008). Educational Attainment and Cohort Change among Conservative Protestants, 1972-2004. *Journal for the Scientific Study of Religion*, 545-562.
- McCleary, R., & Barro, R. (2006). Religion and Economy. *Journal of Economic Perspectives*, 29-72.
- McCullough, M. E., & Willoughby, B. L. (2009). Religion, self-regulation, and self-control: Associations, explanations, and implications. *Psychological Bulletin*, 135(1), 69-93.
- Muller, C., & Ellison, C. (2001). Religious Involvement, Social Capital, and Adolescents' Academic Progress: Evidence from the National Education Longitudinal Study of 1988. *Sociological Focus*, 261-289.
- Paglieri, F., Borghi, A. M., Colzato, L. S., Hommel, B., & Scorolli, C. (2013). Heaven can wait: How religion modulates temporal discounting. *Psychological Research*, 1-10.
- Regnerus, M. (2000). Shaping School Success: A Multi-level Study of Religious Socialization and Educational Outcomes in Urban Public Schools. *Journal for the Scientific Study of Religion*, 363-370.
- Regnerus, M. (2003). Religion and Positive Adolescent Outcomes: A Review of Research and Theory. *Review of Religious Research*, 394-413.
- Regnerus, M., & Elder, G. (2003). Staying on Track in School: Religious Influences in High and Low-Risk Settings. *Journal for the Scientific Study of Religion*, 633-658.
- Renneboog, L., & Spaenjers, C. (2012). Religion, economic attitudes, and household finance. *Oxford Economic Papers*, 64(1), 103-127.

- Sacerdote, B., & Glaeser, E. L. (2008). Education and Religion. *Journal of Human Capital*, 2(2), 188-215.
- Samuelson, P. (1937). A Note on Measurement of Utility. *Review of Economic Studies*, 40, 1-33.
- Sandomirsky, S., & Wilson, J. (1990). Processes of Disaffiliation: Religious Mobility among Men and Women. *Social Forces*, 1211-1229.
- Schokkaert, E. (2006). The empirical analysis of transfer motives. (S.-C. Kolm, & J. M. Ythierpp, Eds.) *Handbook of the Economics of Giving, Altruism, and Reciprocity*, pp. 128-171.
- Sherkat, D. (2009). Religion and Verbal Ability. *Social Science Research*.
- Sherkat, D., & Darnell, A. (1999). The Effect of Parents' Fundamentalism on Children's Educational Attainment: Examining Differences by Gender and Children's Fundamentalism. *Journal for the Scientific Study of Religion*, 23-38.
- Smith, C., & Emerson, M. (2008). *Passing the Plate: Why American Christians Don't Give Away More Money*. New York: Oxford University Press.
- Smith, C., & Faris, R. (2005). Socioeconomic Inequality in the American Religious System: An Update and Assessment. *Journal for the Scientific Study of Religion*, 95-104.
- Stark, R., & Finke, R. (2000). *Acts of Faith*. Berkeley: University of California.
- Steensland, B., Robinson, D., L., Wilcox, W. B., Park, J. Z., Regnerus, M. D., & Woodberry, R. D. (2000). The measure of American religion: Toward improving the state of the art. *Social Forces*, 79(1), 291-318.
- Stokes, C. (2008). The Role of Parental Religiosity in High School Completion. *Sociological Spectrum*, 531-555.

- Thornton, J., & Helms, S. (2013). Afterlife Incentives in Charitable Giving. *Applied Economics*, 45(19), 2779-2791.
- Vaisey, S., & Lizardo, O. (2010). Can Cultural Worldviews Influence Network Composition. *Social Forces*, 75-101.
- Wilhelm, M. (2005). *Volunteering Data in the 2003 Center on Philanthropy Panel Study: A Supplement to the User's Guide*. IUPUI.
- Wilhelm, M. O. (2006). New Data on Charitable Giving in the PSID. *Economic Letters*, 92, 26-31.
- Wilhelm, M. O. (2007). The Quality and Comparability of Survey Data on Charitable Giving. *Nonprofit and Voluntary Sector Quarterly*, 36(1), 65-84.
- Wilhelm, M., Brown, E., Rooney, P., & Steinberg, R. (2001, 2003, 2005). *The Center on Philanthropy Panel Study (COPPS) In the Panel Study of Income Dynamics*. Ann Arbor: Atlantic Philanthropies.
- Wilson, B. (1966). *Religion in Secular Society*. C.A. Watts.
- Woodberry, R., & Smith, C. (1998). Fundamentalism et al.: Conservative Protestants in America. *Annual Review of Sociology*, 25-57.

Table 2: Dependent Variables Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Yrs of Education, nonmissing	13313.00	13.35	2.38	0	17
By Category:					
Missing	557.00	-	-	-	-
High School Dropout	1798.00	9.62	1.62	1	11
High School Grad	4531.00	12.00	0.00	12	12
Some College	3337.00	13.47	0.73	13	15
College Grad	2200.00	16.00	0.00	16	16
Postgraduate	1447.00	17.00	0.00	17	17
Prob(give)	13870.00	0.68	0.47	0	1
Total Giving, \$ per year	\$13,870	\$1,312	\$3,183	\$0	\$65,000
Total Giving, \$ if >\$0	\$9,436	\$1,928	\$3,702	\$0	\$65,000
Prob(volunteer)	13870	0.36	0.48	0	1
Total Volunteering, hours per year	13870	75.69	214.05	0	2000
Total Vol., hours if > 0	4979	210.85	314.88	1	2000
Wealth (w/ home)	13870	\$280,622	\$1,053,639	-\$306,000	\$43,000,000
savings*	8800	\$50,005	\$885,630	-\$25,000,000	\$34,800,000

Notes:

* savings caclulated as change in total wealth (with home) between panels

Table 3: Dependent Variables Across Religious Preference

religion	education	Prob(Give)	Total Giving - All	Total Giving - Givers only	Prob(Volun)	Volunteer Hours - All	Vol. Hours - Volunteers	Wealth (w/ home)	*Savings
no religion	13.2	0.53	\$621	\$1,172	0.30	52.70	174.40	\$191,912	\$37,794
catholic	13.7	0.74	\$1,136	\$1,542	0.38	77.78	203.47	\$392,101	\$72,161
jewish	15.2	0.88	\$2,699	\$3,084	0.42	83.50	200.92	\$840,586	\$151,603
mainline	13.7	0.74	\$1,410	\$1,900	0.40	82.38	203.52	\$290,896	\$44,499
other	13.2	0.65	\$1,583	\$2,451	0.35	95.47	272.53	\$145,789	\$74,502
orthodox	12.7	0.64	\$482	\$750	0.11	2.93	27.33	\$601,479	\$159,156
evangelical	12.8	0.66	\$1,553	\$2,536	0.33	78.26	233.84	\$209,657	\$35,722

Notes:

* savings calculated as change in total wealth (with home) between panels

Table 4: Summary Statistics for Covariates

Variable	Obs	Mean	Std. Dev.	Median	Min	Max
Race: Black	13870	0.08	0.27		0	1
Ethnicity: Hispanic	13870	0.33	0.47		0	1
Married	13870	0.60	-		0	1
Never Married	13870	0.16	-			
Widowed	13870	0.07	-			
Divorced/Separated/Annull	13870	0.17				
age	13867	47	16	45	17	99
family income	13870	\$70,842	\$104,759	\$52,500	\$0	\$5,500,000
Head health fair or poor	13870	0.13	0.33		0	1
Wife health fair or poor	13870	0.07	0.25		0	1
Fervent*	13870	0.52	0.50		0	1

Notes:

* fervent defined as the household reporting religious service attendance ≥ 2 x per month

Table 5: Covariates by Religion

	Black	Hispanic	Married	Never Married	Widowed	Div/Sep /Annul	Age	Family Income	Head-Health Fair/Poor	Wife- Health Fair/Poor	Devoted
norelig	0.059	0.284	0.534	0.266	0.028	0.172	40	\$ 64,932	0.113	0.073	0.279
catholic	0.017	0.365	0.646	0.144	0.065	0.145	47	\$ 85,359	0.109	0.055	0.575
jewish	0.000	0.325	0.678	0.130	0.065	0.127	52	\$ 132,507	0.083	0.075	0.226
mainline	0.035	0.442	0.628	0.119	0.087	0.166	50	\$ 72,282	0.114	0.060	0.546
otherrelig	0.127	0.507	0.507	0.200	0.090	0.204	41	\$ 55,295	0.115	0.063	0.564
orthodox	0.000	0.321	0.571	0.107	0.214	0.107	64	\$ 57,274	0.071	0.143	0.321
evangprot	0.172	0.219	0.591	0.138	0.081	0.191	47	\$ 59,766	0.165	0.084	0.616

Table 6: Regression Results

	1	2	3	4	5	6
	Education Level	Prob. Of Giving	Log Total Giving	Prob. Of Volunteer	Total Volunteer	Savings
black	-0.252*** (-4.44)	-0.0794*** (-4.15)	-0.153 (-1.93)	-0.116*** (-6.75)	-1.395 (-0.05)	609.5 -0.03
hispanic	-0.443*** (-3.85)	-0.0109 (-0.34)	-0.255* (-2.14)	-0.0743* (-2.12)	-15.87 (-0.48)	26324.7 -0.46
Never Married	0.236*** (4.85)	-0.103*** (-6.35)	-0.406*** (-6.63)	-0.111*** (-7.21)	-30.18 (-1.58)	11123.3 -0.67
Widowed	-0.460*** (-6.14)	-0.0780*** (-3.70)	-0.358*** (-4.12)	-0.145*** (-6.49)	-79.36** (-2.65)	-13079.2 (-0.57)
Divorced or Separated	0.00537 (0.13)	-0.0932*** (-6.85)	-0.357*** (-6.98)	-0.128*** (-9.42)	-68.85*** (-4.75)	2957 -0.2
age	0.00582*** (4.66)	0.00517*** (15.20)	0.0190*** (14.46)	-0.000176 (-0.45)	2.930*** (5.70)	659.7 -1.41
2003.year	-0.384*** (-3.39)	0.00389 (0.12)	-0.292* (-2.45)	-0.0757* (-2.17)	47.28 (1.40)	0 (.)
2005.year	-0.390*** (-3.44)	-0.00828 (-0.26)	-0.216 (-1.81)	-0.0528 (-1.50)	23.45 (0.71)	38959.5 -1.6
log of Family Income	0.309*** (13.44)	0.0996*** (15.83)	0.450*** (12.61)	0.0461*** (8.88)	-8.037 (-1.32)	50235.1*** (4.78)
hlthdfrpr	-0.435*** (-10.03)	-0.101*** (-7.58)	-0.223*** (-4.18)	-0.0754*** (-5.62)	-10.80 (-0.52)	-5177.3 (-0.32)
hlthwfrpr	-0.411*** (-6.87)	-0.0461** (-2.83)	-0.147* (-2.36)	-0.0589** (-3.20)	-0.0588 (-0.00)	-25672.1 (-0.50)
Religious Intensity*	0.0293 (0.33)	0.200*** (7.86)	0.735*** (7.39)	0.109*** (3.79)	32.13 (1.03)	-17354.3 (-0.92)
catholic	-0.0169 (-0.26)	0.0274 (1.22)	0.0398 (0.47)	-0.0272 (-1.23)	-15.64 (-0.62)	-8954.5 (-0.35)
jewish	0.770*** (7.11)	0.232*** (8.11)	0.745*** (5.99)	0.0520 (1.34)	-24.04 (-0.57)	3045.3 (0.03)
mainline	0.189** (3.04)	0.0683*** (3.30)	-0.0951 (-1.27)	0.0106 (0.51)	-3.940 (-0.18)	3791.0 (0.18)
other	-0.189 (-1.84)	0.0666 (1.85)	0.00548 (0.03)	-0.0524 (-1.55)	-20.25 (-0.68)	163969.5 (1.33)
orthodox	-0.443 (-0.69)	0.0519 (0.58)	-0.315 (-0.79)	-0.238*** (-4.24)	-132.1 (-1.78)	-102765.6* (-2.41)
evangelical protestant	-0.285*** (-4.71)	0.00250 (0.12)	-0.0716 (-0.90)	-0.0213 (-1.14)	-4.185 (-0.19)	1255.6 (0.07)
1.relint2#1.religion	0.267* (2.49)	0.0402 (1.27)	0.0299 (0.25)	0.0774* (2.12)	30.53 (0.79)	47300.8 (1.58)
1.relint2#2.religion	-0.0762 (-0.32)	-0.211*** (-4.58)	-0.304 (-1.17)	0.0935 (1.28)	2.432 (0.03)	237796.7 (1.29)
1.relint2#3.religion	0.0640 (0.62)	0.0169 (0.55)	0.469*** (4.05)	0.0972** (2.80)	19.98 (0.55)	7050.4 (0.25)
1.relint2#4.religion	0.429** (2.84)	-0.0132 (-0.27)	0.520* (2.29)	0.127* (2.39)	139.3* (2.22)	-174674.4 (-1.45)
1.relint2#5.religion	0.0992 (0.13)	-0.352 (-1.68)	0.161 (0.19)	0.0603 (0.29)	-140.7 (-1.60)	563263.1 (1.43)
1.relint2#6.religion	0.272** (2.69)	0.0748* (2.48)	0.648*** (5.48)	0.0851** (2.59)	39.71 (1.08)	12024.2 (0.53)
_cons	1.189*** (3.49)	-0.726*** (-6.92)	0.122 (0.26)	-0.0238 (-0.22)	253.6** (2.58)	-541538.1*** (-4.15)
N	13313	13867	9436	13867	4978	8800

t statistics in parentheses

="* p<0.05

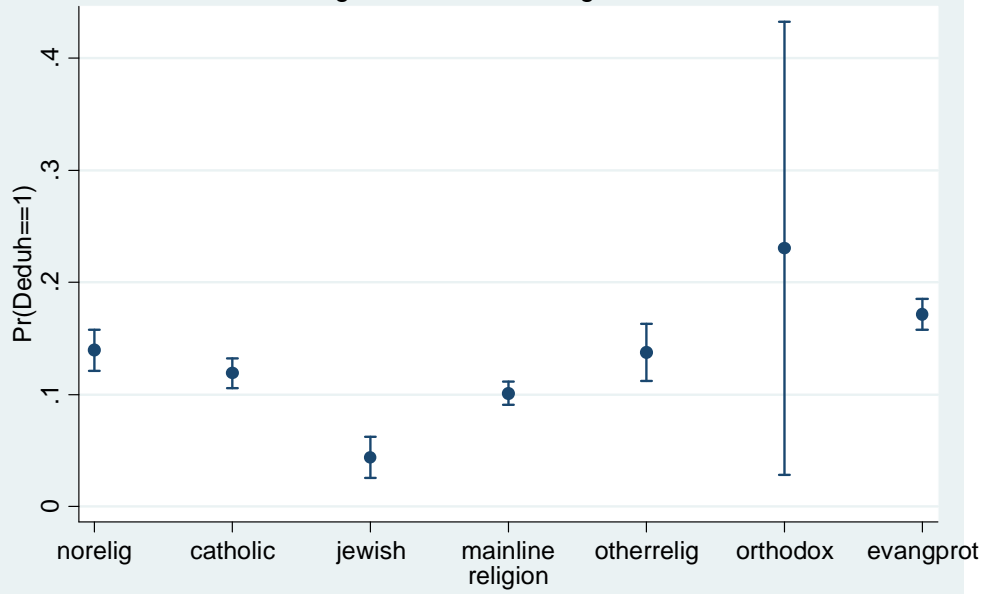
** p<0.01

** p<0.01

*** p<0.001"

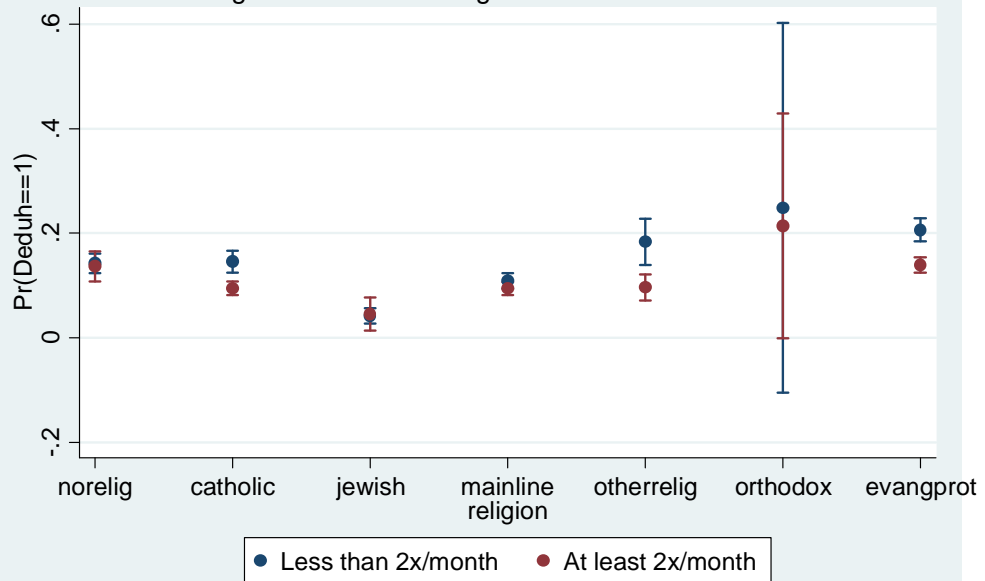
Predictive Margins of religion with 95% CIs

Figure 1: Less than High School

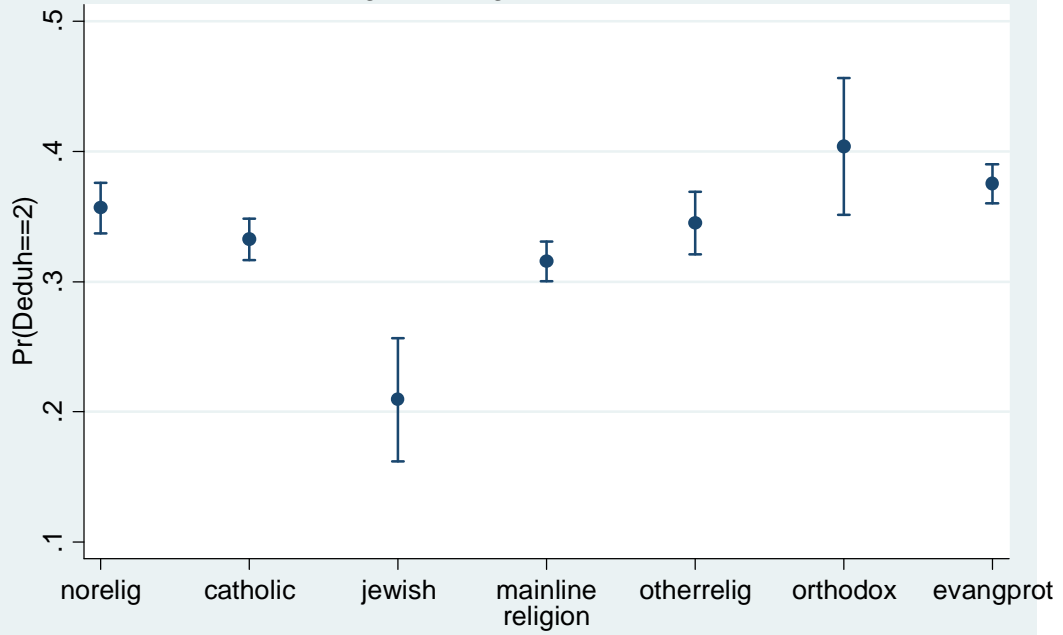


Predictive Margins of religion#relint2 with 95% CIs

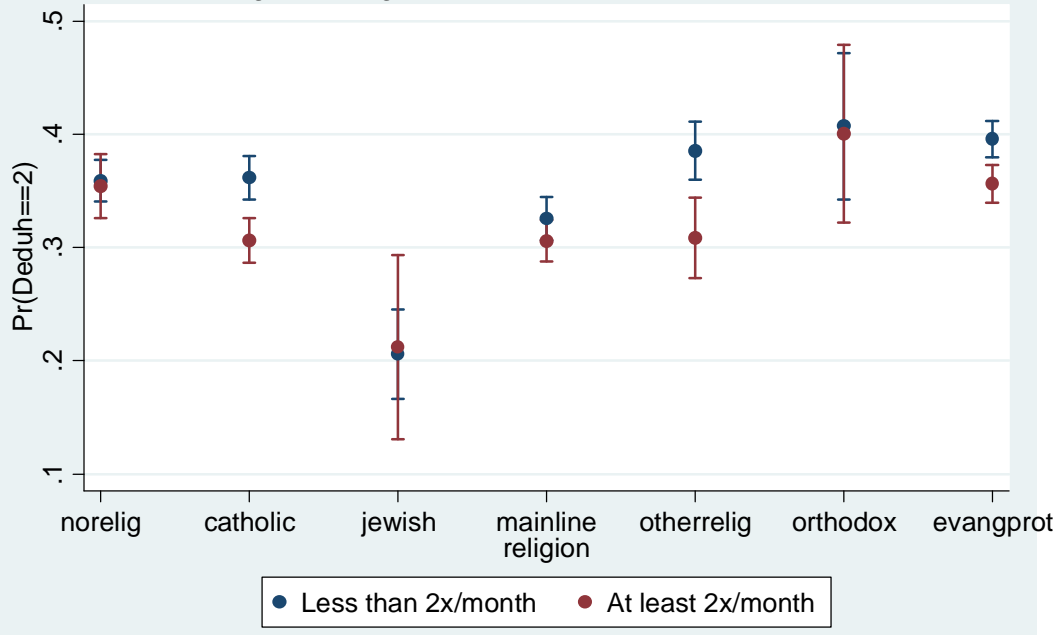
Figure 2: Less than High School with Interactions

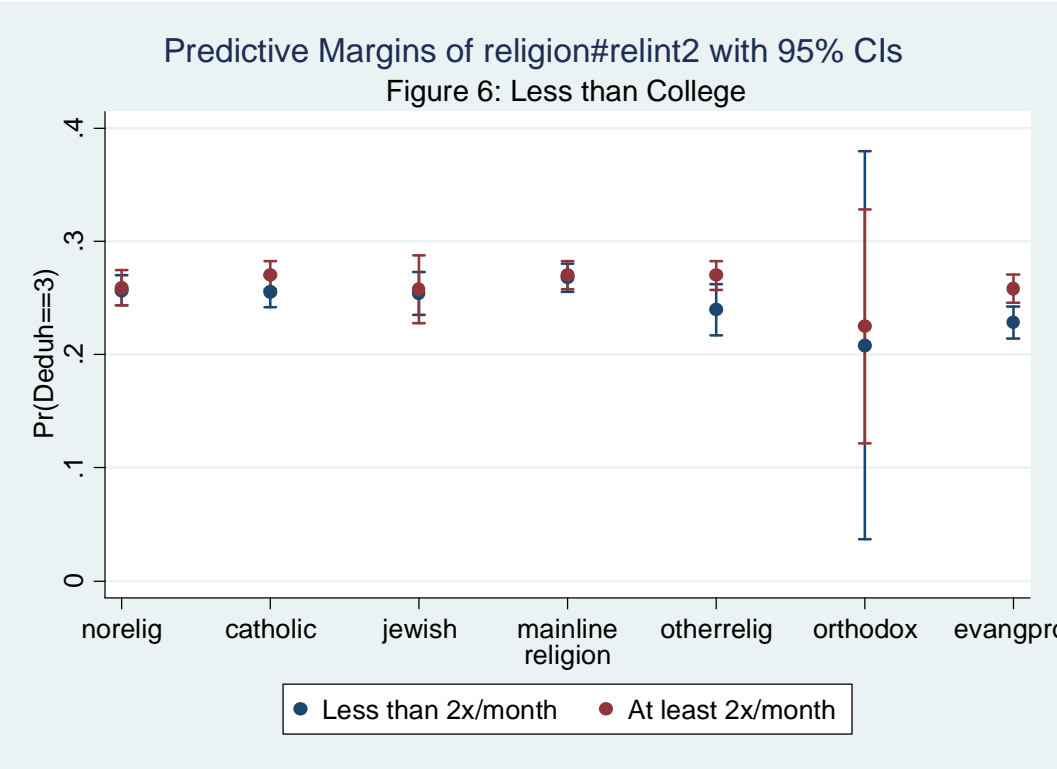
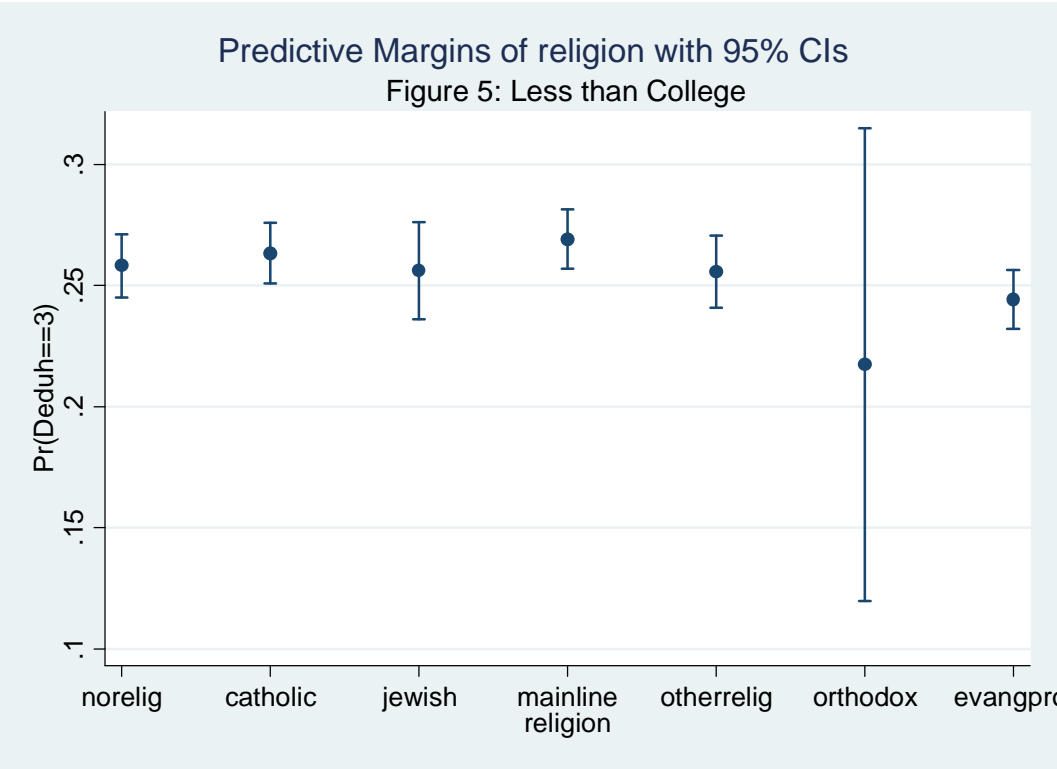


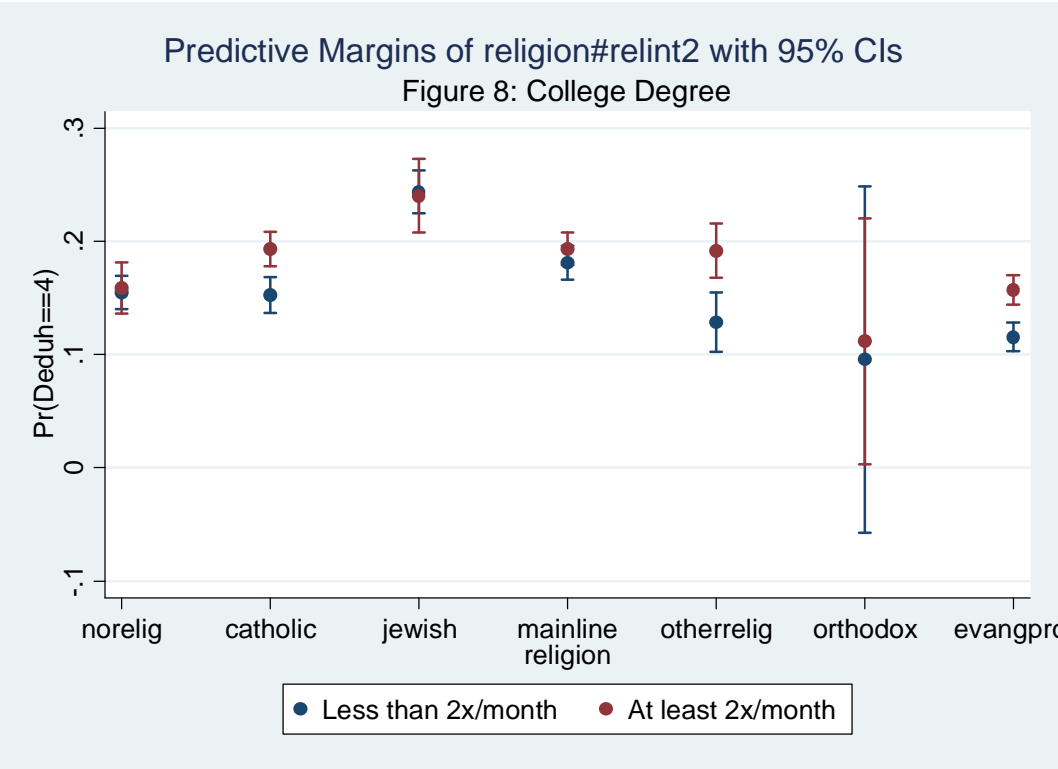
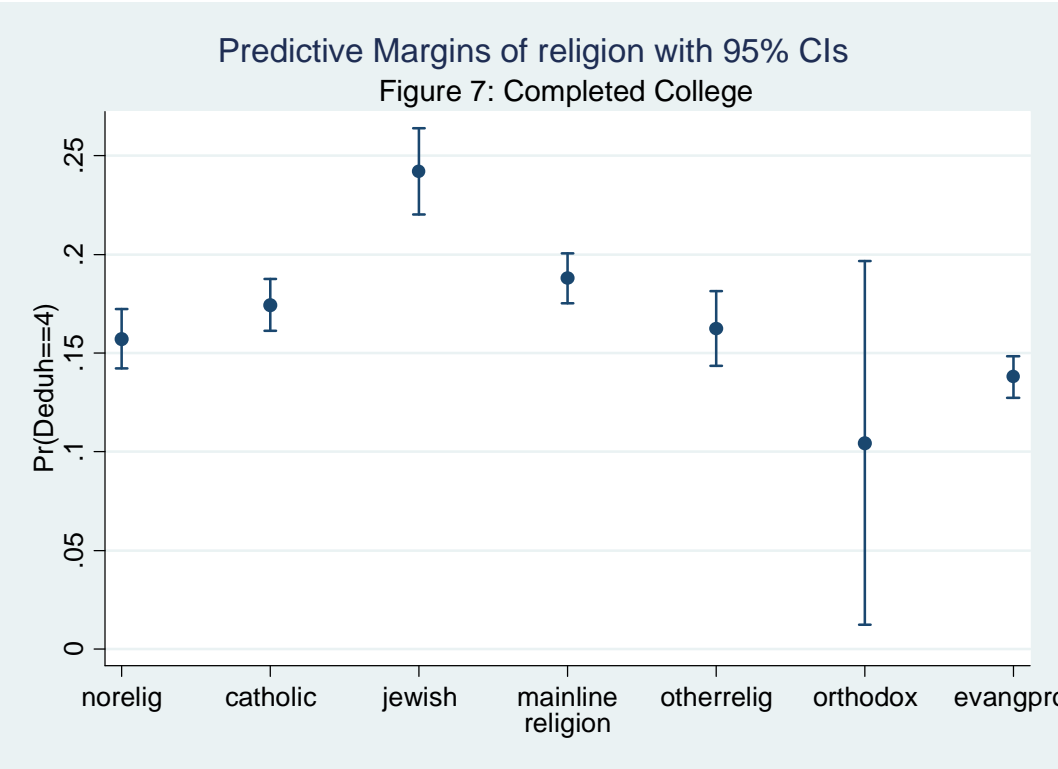
Predictive Margins of religion with 95% CIs
Figure 3: High School Graduate

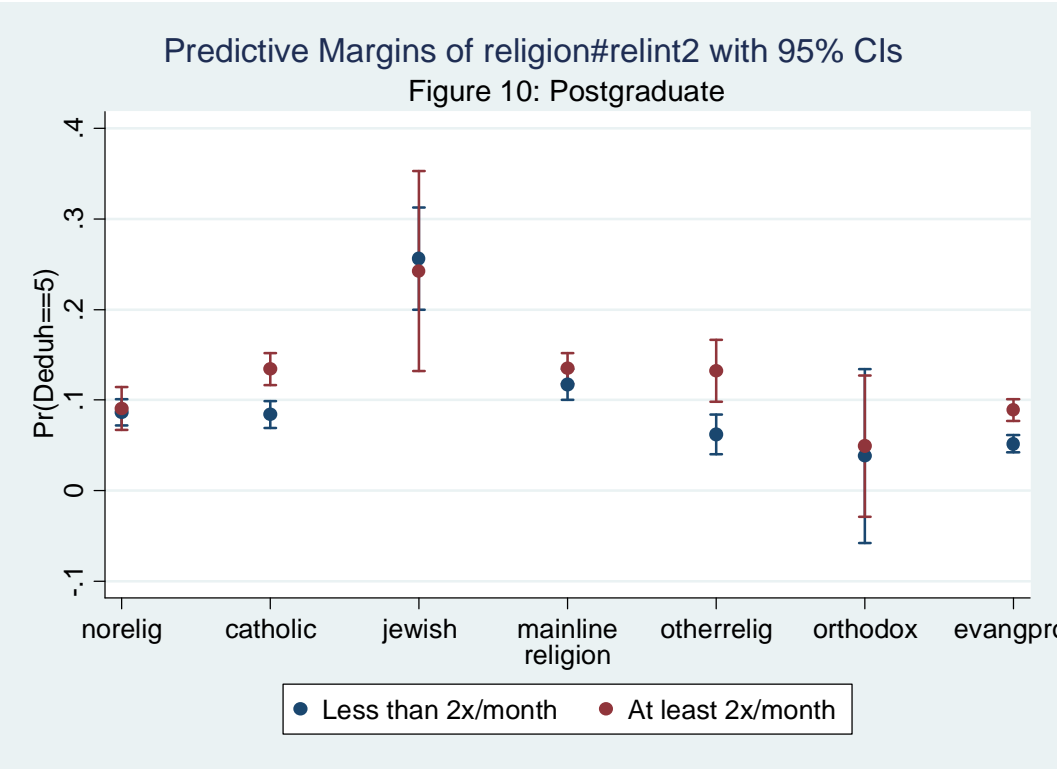
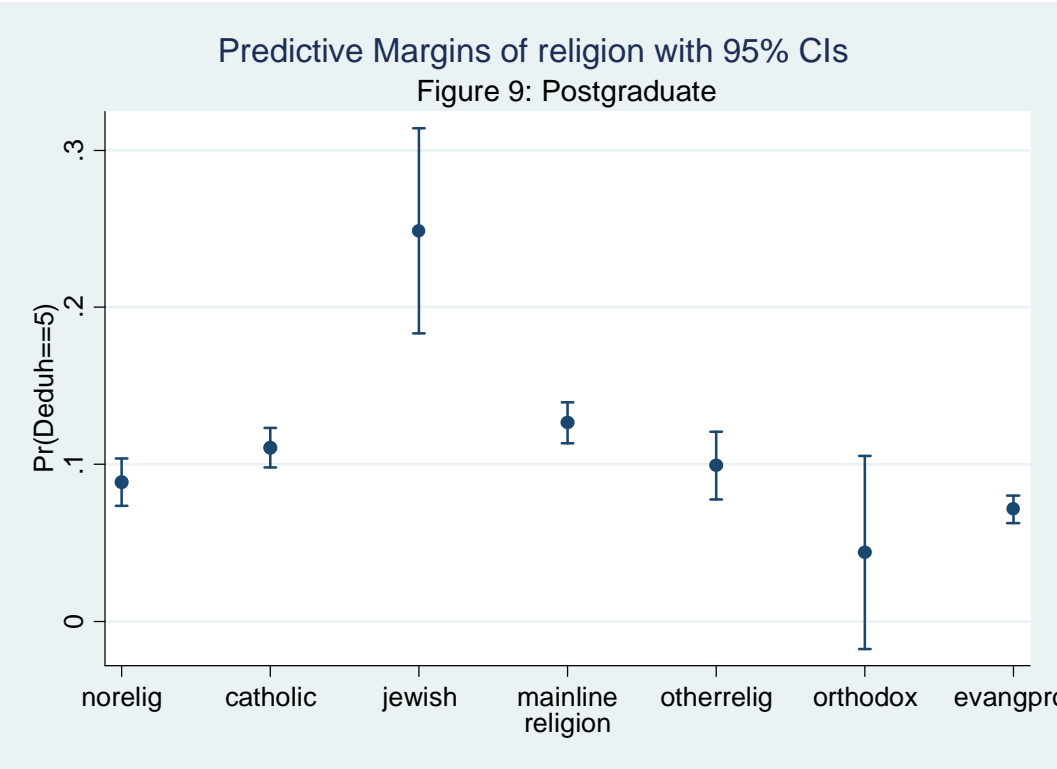


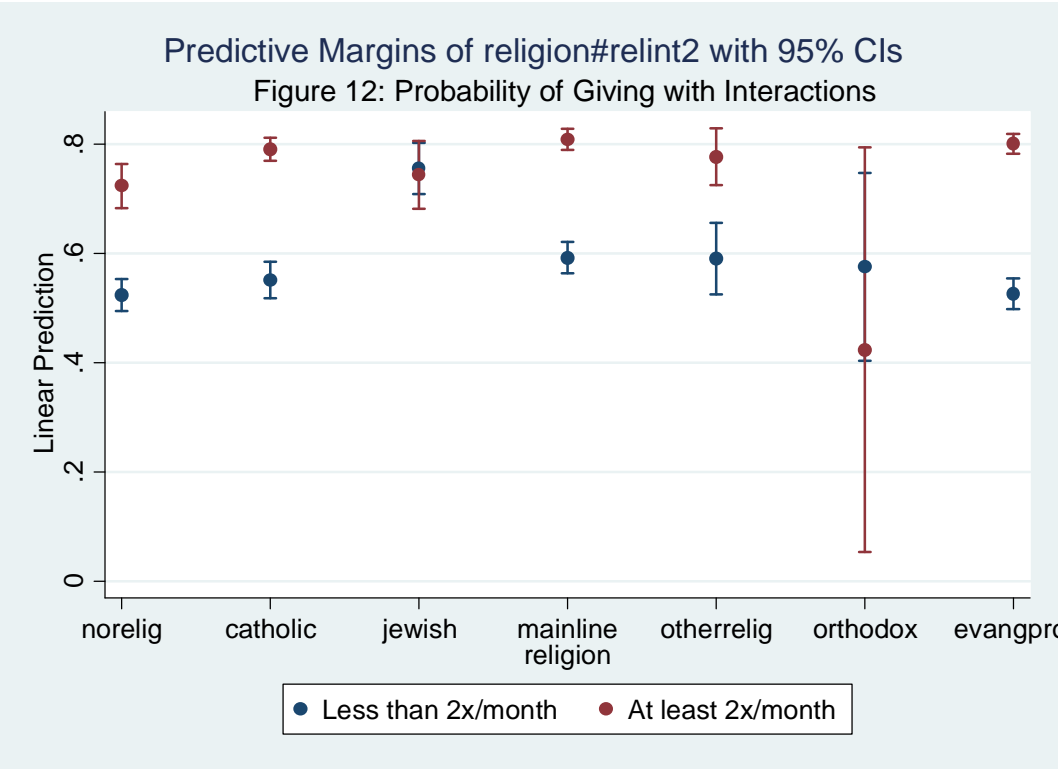
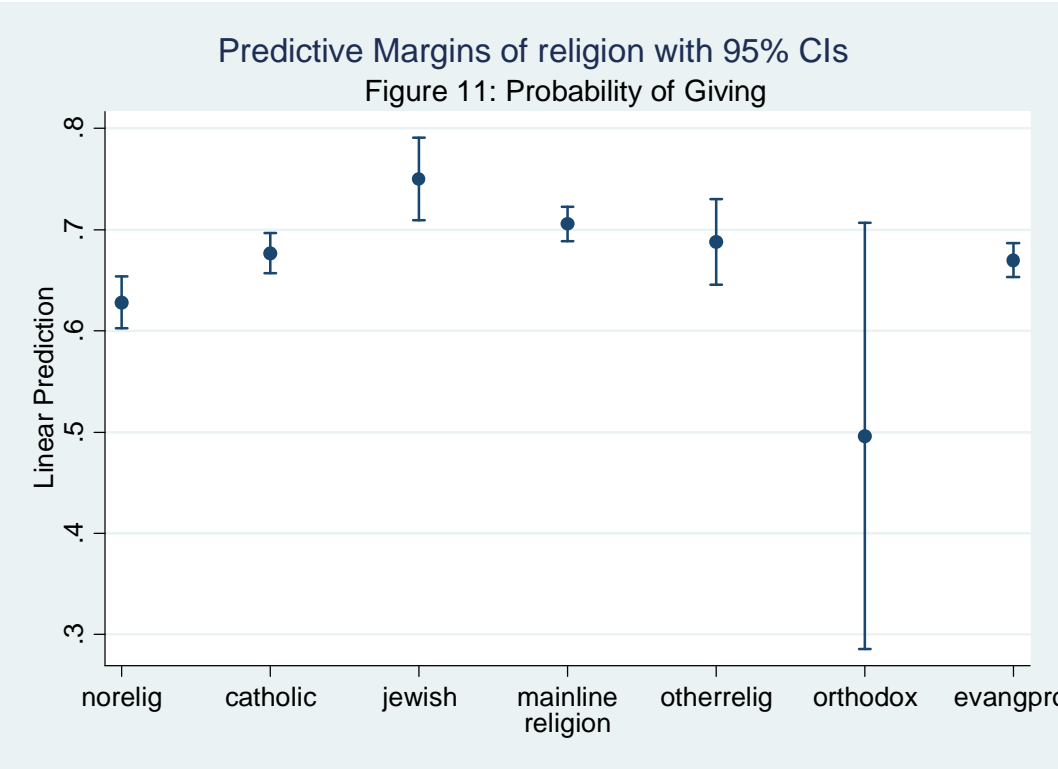
Predictive Margins of religion with 95% CIs
Figure 4: High School Graduate with Interactions

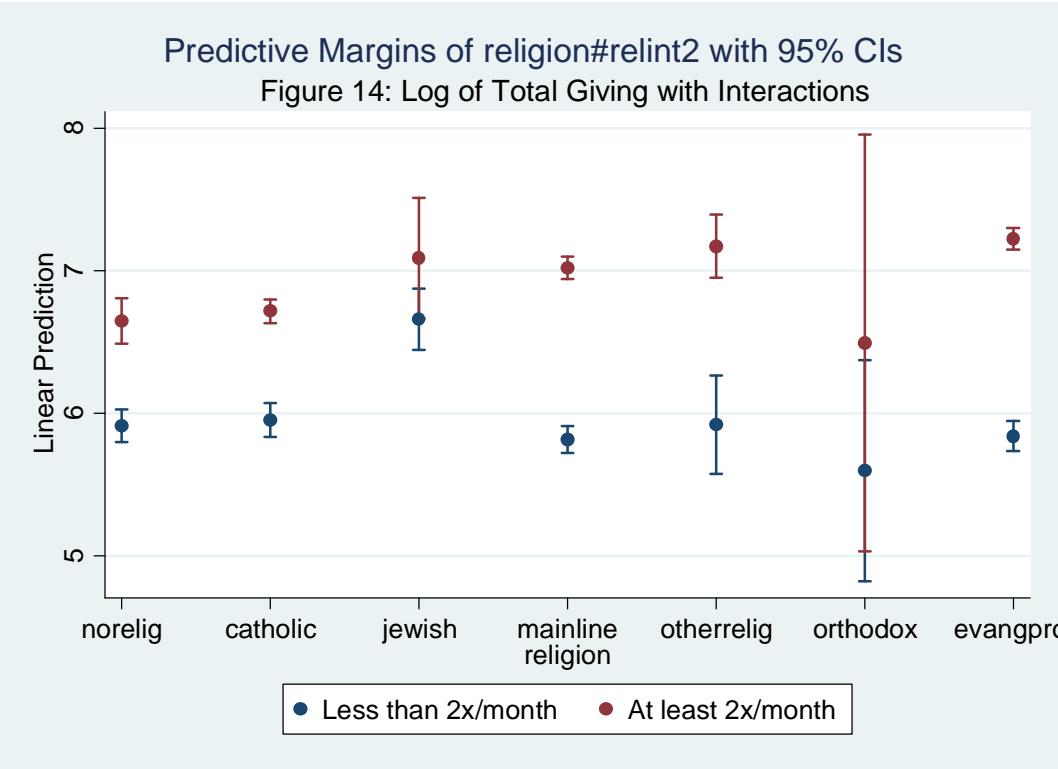
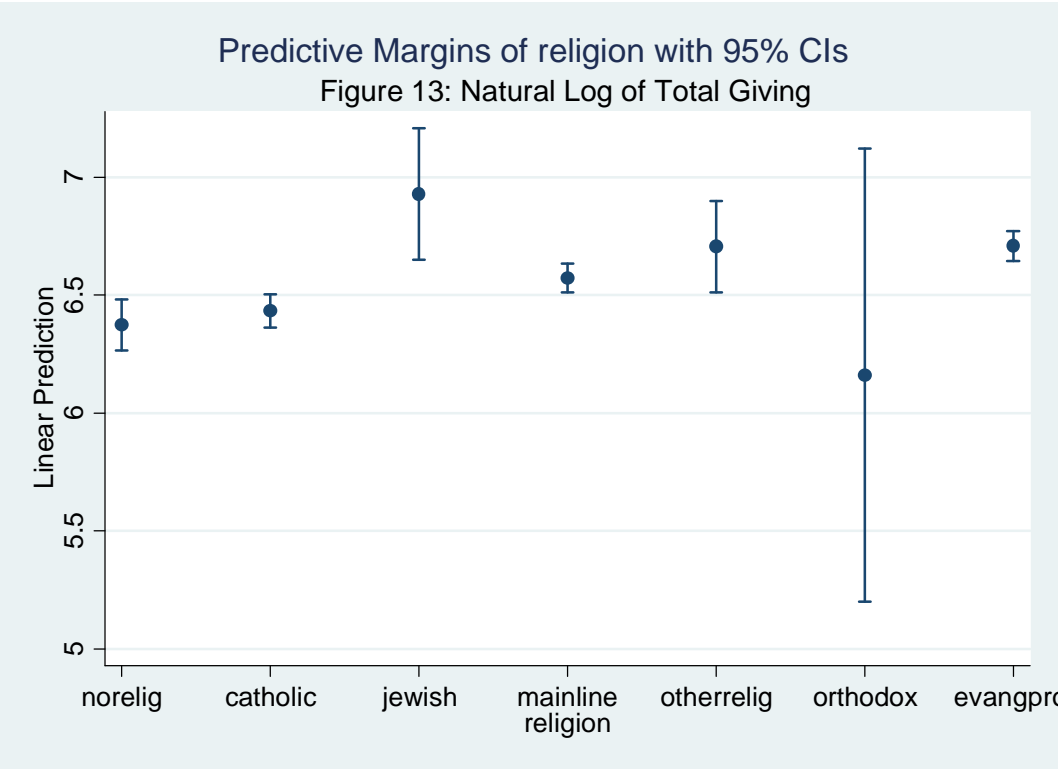


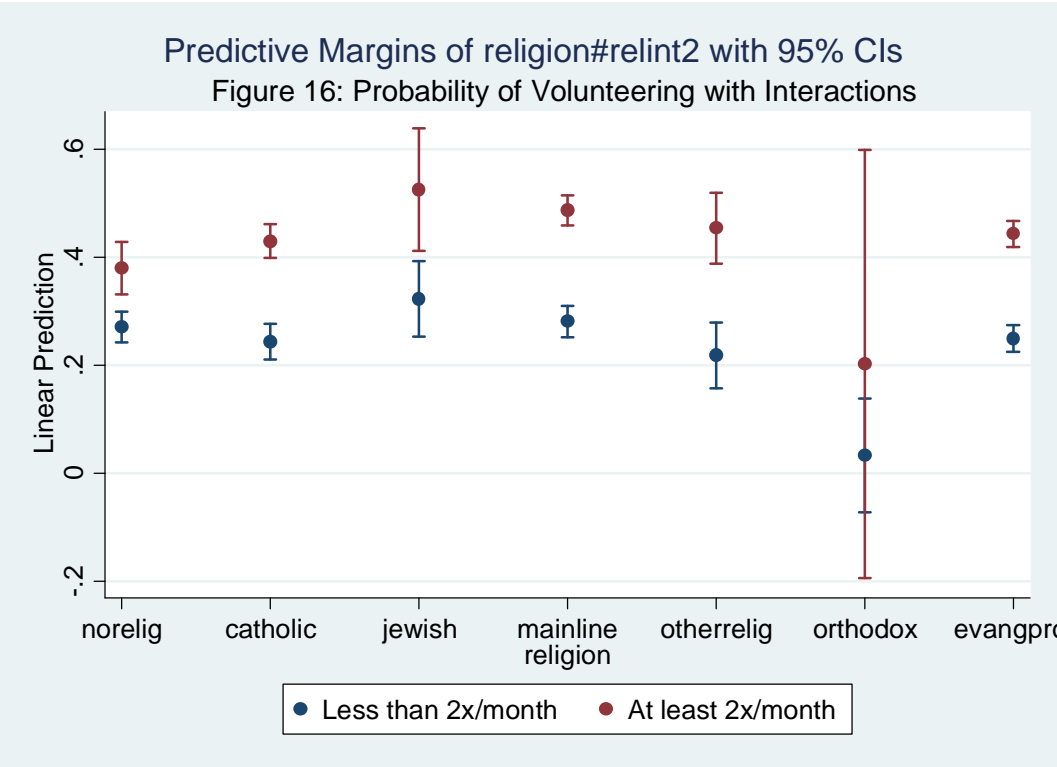
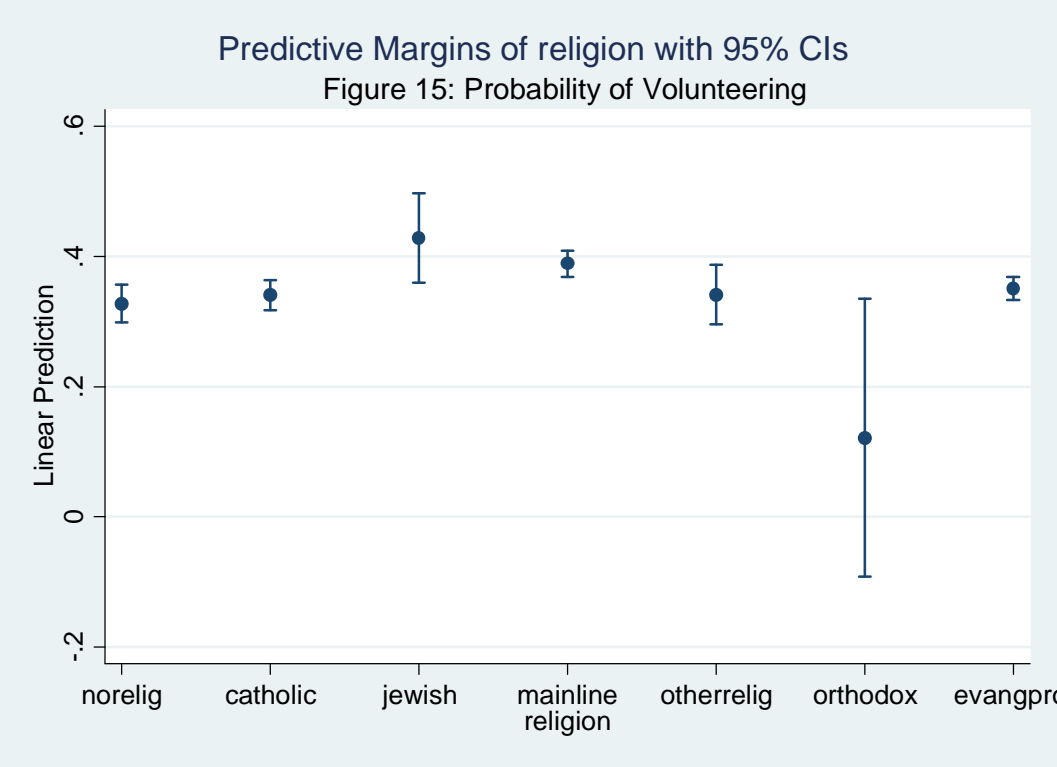




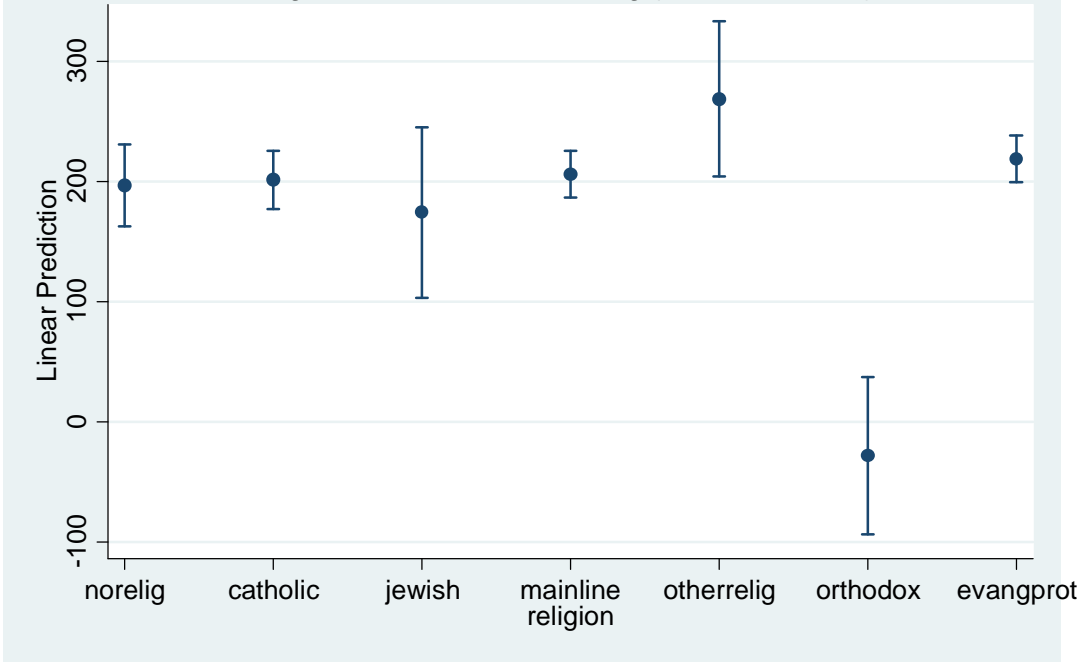




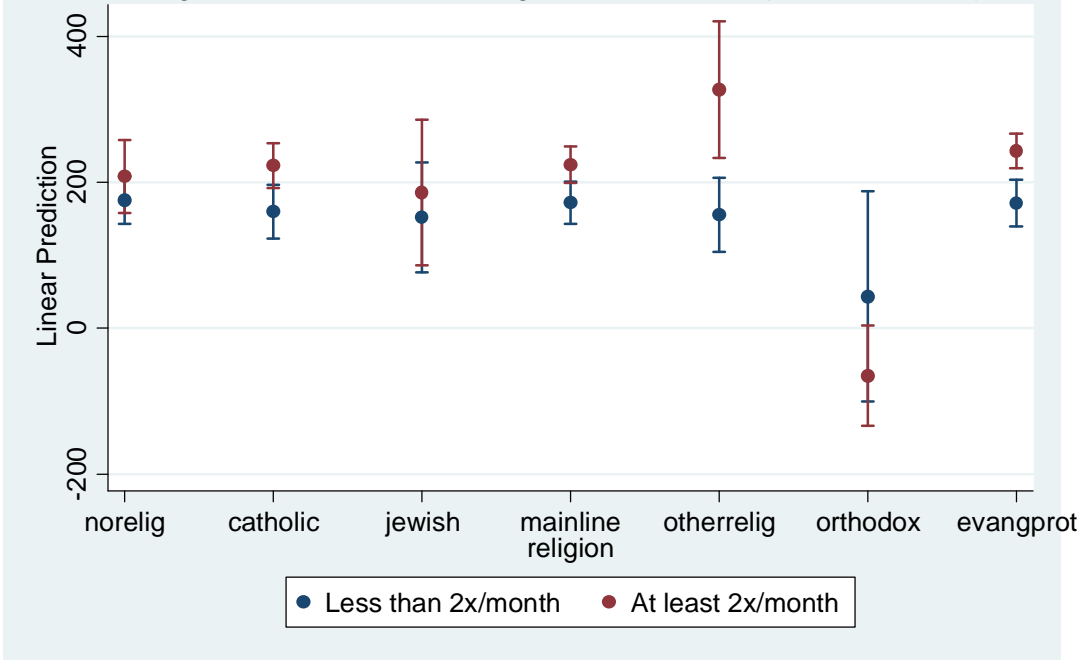




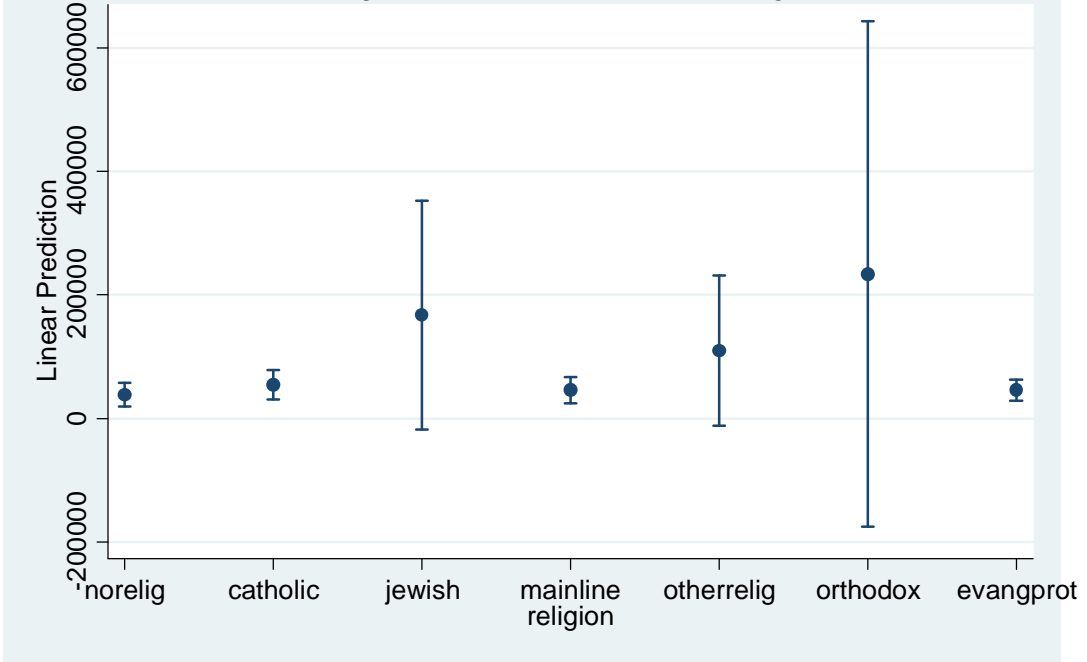
Predictive Margins of religion with 95% CIs
 Figure 17: Total Volunteering (Hours Per Year)



Predictive Margins of religion#relint2 with 95% CIs
 Figure 18: Total Volunteering with Interactions (Hours Per Year)



Predictive Margins of religion with 95% CIs
 Figure 19: Total Household Savings



Predictive Margins of religion#relint2 with 95% CIs
 Figure 20: Total Household Saving with Interactions

