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Exploring the Relationship between Religious Identity and Cultural Belief in the US

I. Introduction

Religion in the United States is changing at a historically unprecedented rate. Along with it, certain social beliefs are changing rapidly leaving traditional religions, built to maintain continuity in belief and practice, without an clear way to proceed. Take for example the issue of gay marriage. According to Pew Research Center public opinion polling, the percent of Americans who support gay marriage nearly doubled from 31% in 2004 to 61% in 2019 (the most recent poll) [1]. Even support for gay marriage within religious institutions who discourage homosexuality is increasing, in many instances. All these changing social dynamics within and about religion influencing one another and are hard to piece apart. The purpose of this research is to study the relationships between the change in religious belief in the United States, social beliefs, and the extent to which these religious institutions can influence public opinion on both social and theological issues.

Opinions on how to define a religion and who to consider an adherent of said religion differs significantly both within and outside of these social groups. For example, the United States Catholic Conference of Bishops, or the USCCB, (a group often in conflict with Pope Francis for their conservative approach to governing the faith) has been implicitly suggesting that they do not view President Biden as a 'true' Catholic primarily because of his pro-choice stance on abortion. In November of 2021, these Bishops agreed to write a statement emphasizing

that only those in complete agreement with the Catholic Church on issues like abortion should be receiving the Eucharist as a jab at Biden's disagreement with the Church, despite his frequent mass attendance [2]. Additionally, upon his inauguration, the USCCB avoided directly naming him a Catholic in their official statement by instead writing that he "profess[es] the Catholic faith" [3]. It is important to note that there is dispute within religious communities as it pertains to defining religious belonging. Still, common convention (especially within polling) suggests that self-identification is the best and most straightforward approach to this problem. For the purposes of this study, self-identification will define what religion a person belongs to.

II. Research Questions

The most comprehensive look into the religious, cultural, and social views in the U.S. is Pew's *Religious Landscape Study* conducted in 2007 and 2014 [4]. While this data alone will not measure any long-term changes in belief, they serve as invaluable snapshots into the beliefs of Americans at these two points in time. Over the entire study, more than 35,000 people were surveyed, getting reliable samples of the general population at large and, what is unique about this study, a sufficiently large sample size to have confidence in information regarding questions within many different slices of religious and demographic background. The study covers wide range of questions ranging from religious affiliation and demographic information to social and theological beliefs. The data is sorted by an identification number of the person who was surveyed in one column and that person's responses to each of the questions asked in the following columns. Most of the responses are categorical, with the exception of some demographic questions like age. There are a few questions that will be focused on in greater detail.

One question that this research sets out to answer is the influence that religious institutions have on their members beliefs about social issues, or even basic theological questions in general. It is impossible to strictly test the influence of religion as that relies on an assumption that the religion one is a part of is causing some change in belief about something, when this is statistically indistinguishable from someone's beliefs being the reason that they affiliate with a particular religion. Still, it is useful to investigate to what extent, a person's religious identity can predict or describe their social or theological views (it can to be noted that in this paper, I will be using the phrase "theological views" simply to mean any personal opinions that one holds surrounding topics like God, religion, spirituality and how important these topics are to them). It would be interesting to see, after accounting for how a person's demographic information can predict their social or theological views, whether their affiliated religion would have any predictive strength at all. Additionally, since public opinion on gay marriage changed so rapidly in the US over the course of the two years that were surveyed in the religious landscape survey (2007 and 2014), it may be useful to study if these change in beliefs were less rapid for individuals who belonged to religious groups whose institutions held that gay marriage should not be legal or encouraged.

Another theory that may be able to be validated by the data is whether a religion whose followers tend to frequently disagree with the institutions teachings are losing followers at greater rates than religions whose followers agree more consistently with the institutions teachings. To truly evaluate this relationship, data will be gathered from various source that gives the change in proportion of adherents to various religions over time [8].

In all these cases, it is important to have some measure of what it means to agree or disagree with a religious institution's teachings. Obviously, this opens a lot of difficulty and

subjective disagreement in terms of what teachings of religious institutions get used, how this is applied across multiple religious institutions who may or may not put more or less emphasis on certain teachings. For the purposes of this research, the questions readily at hand can develop two, what I will define as *agreement percentages*. One of which is a cultural agreement percentage which will take into account both a respondent's opinion on abortion and their opinion on gay marriage and whether each of those responses agree with their religious institution's teaching on the subject. The other agreement percentage can be created that deals with how much a person agrees with their institution's basic religious beliefs. Questions that the Religious Landscape Study includes belief in God, belief in heaven/hell, interpretation of scripture, and belief in evolution, all of which are categorical.

To approach the question related to influence of a religious institution on belief, it is important to also see how particular demographic characteristics are related to these beliefs. It would be interesting to see if a relationship between religious affiliation and certain social/theological beliefs still exists after controlling for demographic factors. The demographic factors that will be used to describe cultural beliefs include:

- Age
- Sex
- Race
- Income
- Education
- State/territory
- And religious identity

In the following section of the report, these research questions are explored and statistical models describing these relationships are built.

III. Results and Analysis

3.1 Difficulties in Analyzing Religious Identification Relationship with Views on Homosexuality

The first research question considered in detail is: to what extent is a person's religious identification related to their social views on issues such as homosexuality and abortion? The first topic tackled will be the topic of homosexuality and the responses of members of various religious backgrounds are studied. The religion categorization includes those who identify with the following religious identities:

- Protestant
- Roman Catholic
- Mormon (Church of Jesus Christ of Latter-day Saints/LDS)
- Orthodox (Greek, Russian or some other orthodox church)
- Jewish (Judaism)
- Muslim (Islam)
- Buddhist
- Hindu
- Three identities bucketed together: Atheist (do not believe in God)/Agnostic (not sure if there is a God)/Nothing in particular

This does not cover the whole range of religious identifies chosen by respondents (Humanist, Scientology, or Satanism to give some examples) nor does it include those who refused to answer the question.

The Religious Landscape Study's most relevant question to the topic of the moral view homosexuality asks the respondent to consider the pair of statements and choose which statement more closely aligns with their views: "Homosexuality is a way of life that should be accepted by

society," or "Homosexuality is a way of life that should be discouraged by society." While it is a useful proxy, this is a fundamentally different question than "Do you agree with your religious institution's teaching on non-heterosexual sexual acts"—what this study is really trying to get at. This discrepancy introduces a bit of theological speculation into the analysis. What does a religious institution's teaching on queerness imply about the question that is asked by Pew. Take Catholicism, for example. The Catechism of the Catholic Church [5] (a sort of rule book for all Catholics to follow) states that "homosexual acts are fundamentally disordered," saying that all "…[h]omosexual persons are called to chastity." In the light of these teachings and the Catholic church's institutional belief that their moral code should be considered objective moral law to all people, regardless of religious identity, it is easy to see how their teaching would imply that the institution believes that "…[h]omosexuality is a way of life that should be discouraged by a society." Some other religious institutions are not so simple. While the Human Rights Campaign [6] correctly points out that "The Church considers Mormons who act on feelings of same-sex attraction to have disobeyed church teachings on morality," recent news from the LDS Church might call into question its applicability to the question presented in the Religious Landscape Study: "The Mormon Church said Tuesday [November 15th] that it supported federal legislation seeking to protect same-sex marriage rights" [7]. This seemingly contradictory move by the Mormon Church makes it impossible to objectively apply the teaching of the institution to the question of whether homosexuality should be encouraged or discouraged by society. Either categorization is contradictory to some part of current LDS teaching. Given that the study was conducted from 2007 to 2014, well before this decision to support legal protections for gay marriage occurred, Mormons will still be considered in the "discourage" camp for the purposes of this study. The following table gives the rest of the categorizations:

Catholic: discourage
Protestant *: discourage
Mormon: discourage
Orthodox: discourage
Jewish: NA
Muslim: discourage
Buddhist: NA
Hindu: NA
Atheist/agnostic/none: NA

Table 1: Each religious identity cluster and their associated institutional opinion on homosexuality.

The response "discourage" claims that that religious institution's teaching suggests that society should "discourage" homosexuality, while NA claims that that religion has no position on sexual orientation and relative to the other religious identities named should in theory be more supportive of non-heterosexual sexual identities. Note that Protestants have very varied positions of homosexuality depending on the Protestant denominations, but considering what an outsized impact white-evangelical Christians have on the group, it is worthwhile to place Protestants into the "discourage" category.

There is a simple way to answer the research question at hand: to what extent is a person's religious identification related to their social views on issues such as homosexuality and abortion? Just observing the proportion of respondents who answered the question each way within the religious identities will give insight into this relationship. I created Figure 1 to begin to answer this question at a basic level.

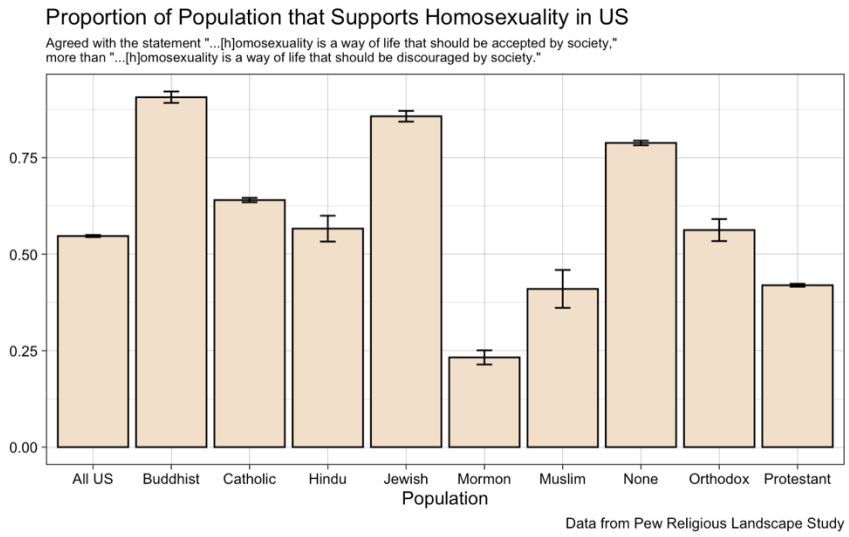

Figure 1: The proportion of each religious identity that is supportive of homosexuality. The error bars show 1 standard deviation in confidence, calculated using the sample proportion formula using the sample size of each population and its proportion.

This plot demonstrates the relationship sufficiently. Catholics are more likely to approve of homosexuality than the average US citizen, and Mormons are significantly less likely to name a couple of observations. These results are not simply depicting the impact of religion but also the other demographic factors that are associated with those who identify with different religious identities. Consider the fact that New Jersey and California, two liberal states, also have the highest proportion of Catholics of any states. It is possible that religion in this chart is acting as a sort of proxy for other disparities in background that exist across religions. Therefore, in order to study the relationship, one's social views have with just religion, it is important to control for all of these demographic factors before making far-reaching conclusions. A binary logistic model is developed around the demographic factors listed in bullets on page 6 without religion, then each religion is added to the model individually to see the effect of that religion on the model.

3.2 Building a Model to Describe Opinion on Homosexuality Based on Demographic Factors aside from Religion

The explanatory variables used to model the response can be found on pages 4-5, with the exception of religious identity (for now). All of which are categorical and treated as factors, except for age which is numeric. The income variable is categorized in the following buckets: [$0, $10k), [$10k, $20k), [$20k, $30k), [$30k, $40k), [$40k, $50k), [$50k, $75k), [$75k, $100k), [$100k, $150k), and ≥ $150k. This was proven to be too many buckets to be considered significant in the model, so it was consolidated into the following three buckets: [$0k, $50k), [$50k, $100k), and ≥ $100k. Putting these variables into the model, every variable seems to be significant. The results can be seen in the appendix (Console 1). Since these are categorical variables, sometimes not every indicator is found to be significant because some fall close to the mean, but the vast majority of indicator variables are highly significant within each explanatory variable. This model also had an AIC = 40089.

Now each religion can be input into the model individually. Each religion has been given a column in the dataset in which the response is either a zero or a one indicating whether or not a person identifies with that religion. For example, Catholicism is a variable that results in 1 if the respondent is Catholic, and 0 if not. When Catholicism is added to the previous model and the results are reran, the R output can be found in the appendix (Console 2). It is found to be highly significant with a negative coefficient. Note here that the response variable is also a binary variable where zero represents approval of homosexuality, and one represents disapproval. To begin to interpret this result, one sees that even when controlling for other demographic factors, being Catholic is associated with the tendency to support homosexuality more than someone who does not identify as Catholic.

It is worth knowing though, that in a model where Catholicism was the only predictor, the coefficient was much more negative (compare -0.4950 to -0.3193), so the addition of the

demographic factors did decrease this association. This process was repeated for every religion in the dataset and the following table was determined:

Religion	Coefficient	p-value	Intercept	AIC
Catholic	-0.319	<2e-16	0.8774	39979
Protestant *	0.933	<2e-16	0.3687	38782
Mormon	1.693	<2e-16	0.7917	39863
Orthodox	0.361	0.00321	0.7855	40083
Jewish	-1.256	<2e-16	0.7803	39948
Muslim	0.831	0.000125	0.7847	40076
Buddhist	-1.850	<2e-16	0.7875	39936
Hindu	0.335	**0.04174**	0.7873	40087
Atheist/agnostic/none	-1.247	<2e-16	1.0667	39005

Table 2: The results of each independent model build of demographic factors with each individual religious identity.

Every AIC decreases, suggesting all of these models are improved with the addition of the religion. Hinduism only decreased the AIC from 40089 to 40087, and has a very close p-value at the 0.05 significance level. For this reason, Hinduism can be considered an insignificant variable as a predictor of view on homosexuality. The estimate coefficient points in the opposite direction of the institutional view only for Catholicism and Hinduism.

It is worth identifying that apart from Hinduism, each religious group has a significant relationship with views on homosexuality, and this seems to potentially suggest that a person's religious identity is somehow related to their view on homosexuality. My initial suspicion was that this relationship would be less strong and potentially negligible, but these results provides evidence that the common assumption that one's religion is related to someone's cultural beliefs.

3.4. Some interpretation of coefficients of the first homosexuality model build

Since the model is a binary logistic regression, the coefficient needs to be modified in order to be interpreted in a clear way. When one exponentiates, the interpretation is more meaningful.

Religion	Coefficient	Exponentiated Coefficient
Catholic	-0.319	0.73
Protestant	0.933	2.54
Mormon	1.693	5.44
Orthodox	0.361	1.44
Jewish	-1.256	0.28
Muslim	0.831	2.30
Buddhist	-1.850	0.16
Hindu	0.335	1.40
Atheist/agnostic/none	-1.247	0.29

Table 2: The coefficient results of each independent model build of demographic factors with each individual religious identity and the coefficient exponentiated to be more easily interpretable.

In this table, one can see that the odds of being disapproving of homosexuality increases by a factor of 5.44 if one identifies as Mormon as opposed to someone who does not. It is also important to compare these numbers to the atheist/agnostic/none group as well as to the mean. So, while it is true that someone who identifies as Catholic is more likely to support homosexual lifestyles, this person is still much more likely to be disapproving of homosexuality when compared to someone who identifies with no religion at all. To get a better look at these interpretable results, a bar plot is created as figure 2.

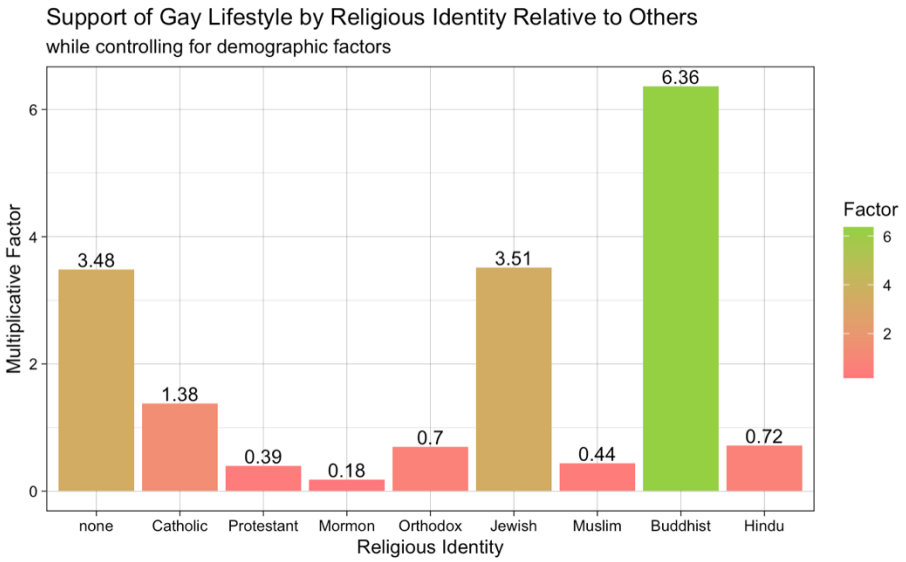

Figure 2: A barplot of the odds of each group to support homosexuality according to coefficients of the binary logistic fit relative to those not in that group when controlling for demographic factors apart from religion.

With this visualization, it is obvious to see that Buddhists tend to be the most supportive of homosexuality, while Mormons are the least. These results show the general shape of religious belief relative to one another, but perhaps the more interesting takeaway comes only after comparing to the same plot with coefficients generated in the absence of other explanatory variables aside from religion. In doing this, the hypothesis that controlling for other demographic explanatory variables might decrease or completely make insignificant the relationship between religious identity and belief regarding homosexuality can be tested. If the inclusion of these variables moves the odds for each religion closer to each other or towards one, that would be evidence that religion plays a less important role in informing one's opinion on homosexuality than most might expect.

The plot for the exponentiated coefficients from the models built without any explanatory variables apart from religious identity is seen in figure 3.

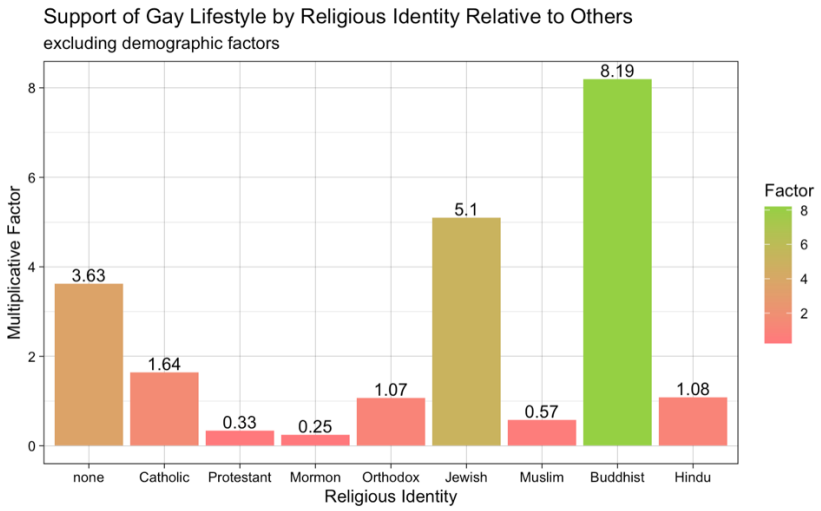

Figure 3: A barplot of the odds of each group to support homosexuality according to coefficients of the binary logistic fit relative to those not in that group without controlling for demographic factors apart from religion.

Upon first visual inspection of this plot, one notices relatively quickly that the shape looks very similar to the plot in figure 2. The magnitudes are only modestly scaled differently. To show whether the inclusion of demographic factors moved each of these odds towards 1, for each religion the percent change of the odds towards 1 can be calculated where x_c is an exponentiated coefficient while controlling for demographic factors, x_{nc} is an exponentiated coefficient without controlling for demographic factors, and $p \equiv$ the push 'proportion'/value that measures how closely to 1, the odds was pushed with the inclusion of the other explanatory variables:

$$p = -\frac{(x_c - x_{nc})}{(x_{nc} - 1)}$$

assuming that x_{nc} and x_c are both either $>$ or <1 (when they are not it becomes a more complicated calculation). Take Catholicism for example, without the inclusion of other demographic variables, the odds of homosexual support are 1.64 and then 1.38 with the inclusion. Meaning according to this calculation $\frac{0.26}{0.64} = 0.406$, or just under a half. The

interpretation of this is that the inclusion of demographic factors on the model moved the Catholic odds almost halfway to 1. This process repeated is demonstrated in figure 4.

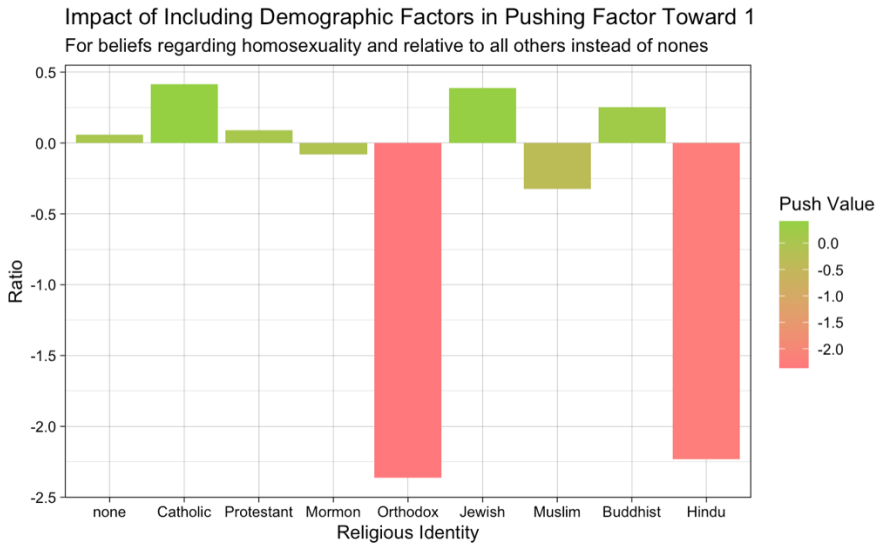

Figure 4: A barplot of the push values (as defined above) for each of the religious identity's view on homosexuality relative to those who do not identify with that religion.

While just more than half of the values are positive, this is not the kind of consistent push toward 1 that I had anticipated. This suggests that there is very little evidence to suggest that cultural values and religious beliefs are fundamentally independent after controlling for other demographic factors.

3.5 Building a Model to Describe Opinion on Homosexuality Relative to those who Identify as "Nothing in Particular" instead of Relative to All Others

One point of confusion in this process is the proper interpretation of the odds of belief for different religion. While it is true to note that Catholics have 1.64 times the odds of supporting gay marriage relative to those who do not identify as Catholic, it is important to recognize who the group of people who do not identify as Catholic really is. This is a group that is consisted yes of people who do not identify with any religion, but also against white evangelicals, Mormons, and many others, so for the sake of ease of interpretation it might be more useful to build a

model that is based strictly on the odds of support of homosexuality relative to those who identify with “nothing in particular.”

This model build process is repeated in a very similar process so there is no need to restate the steps that bring us to the most informative steps. The only difference is that in this case, every religion can be included in the same model build because the base comparison group is the same for each. Again, all the variables are found to be significant and the following figures are calculated:

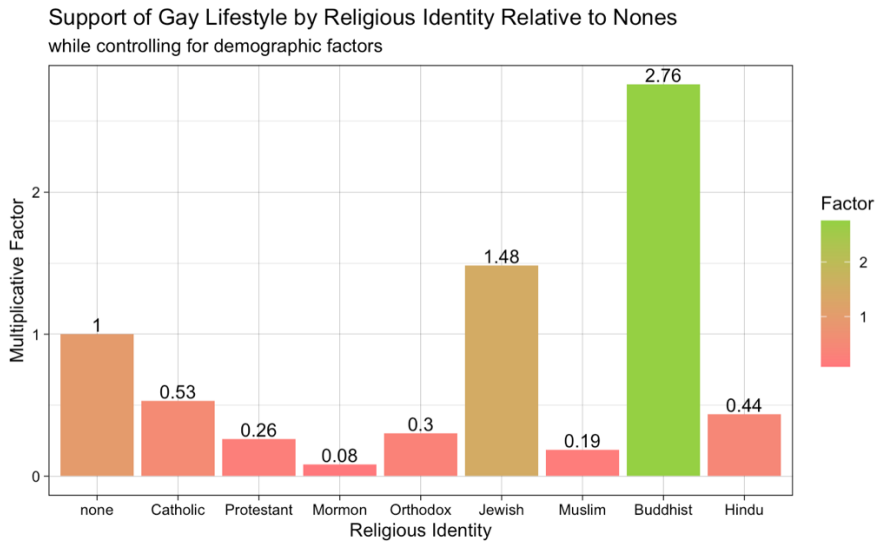

Figure 5: A barplot of the odds of each group to support homosexuality according to coefficients of the binary logistic fit relative to those who identify as “nothing in particular” when controlling for demographic factors apart from religion.

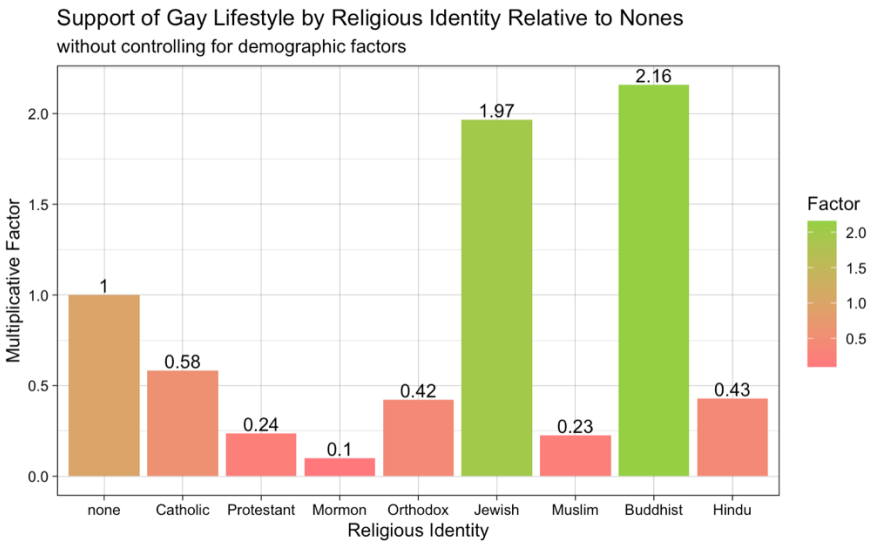

Figure 6: A barplot of the odds of each group to support homosexuality according to coefficients of the binary logistic fit relative to those who identify as "nothing in particular" without controlling for demographic factors apart from religion.

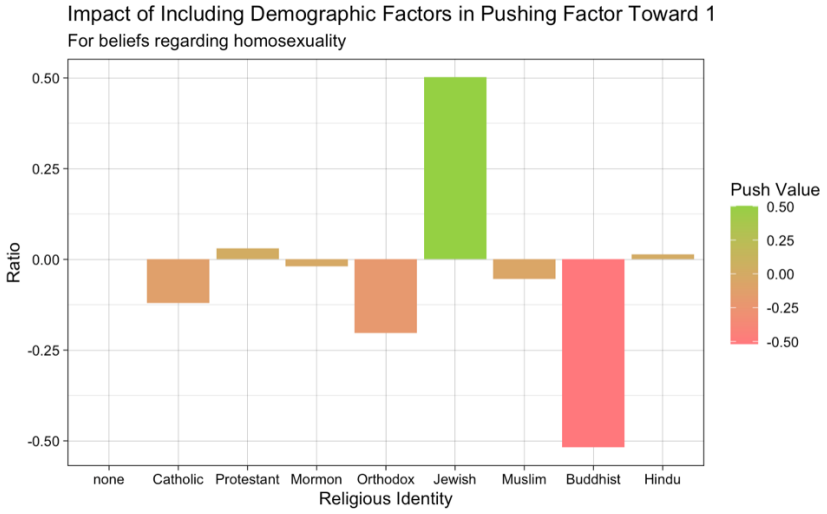

Figure 7: A barplot of the push values (as defined above) for each of the religious identities view on homosexuality relative to those who identify as "nothing in particular."

Figures 6 and 7 show the general trend and shape we have seen before but seem to just be scaled in a different way. Remembering that positive values closer to 1 for figure 7 would be consistency with the initial hypothesis, these results continue to lack support for this theory.

3.6. Abortion Model Build and Analysis

Section 3.5 is repeated but for the question "Should abortion be legal/illegal?" For the purposes of building a binary logistic regression, I bucketed the answers into two groups being, (1) at least mostly legal, and (2) at least mostly illegal. Since modeling against those who identify with "nothing in particular" is simpler to interpret, this is the base group for the logistic regression that was created. The model build process yields:

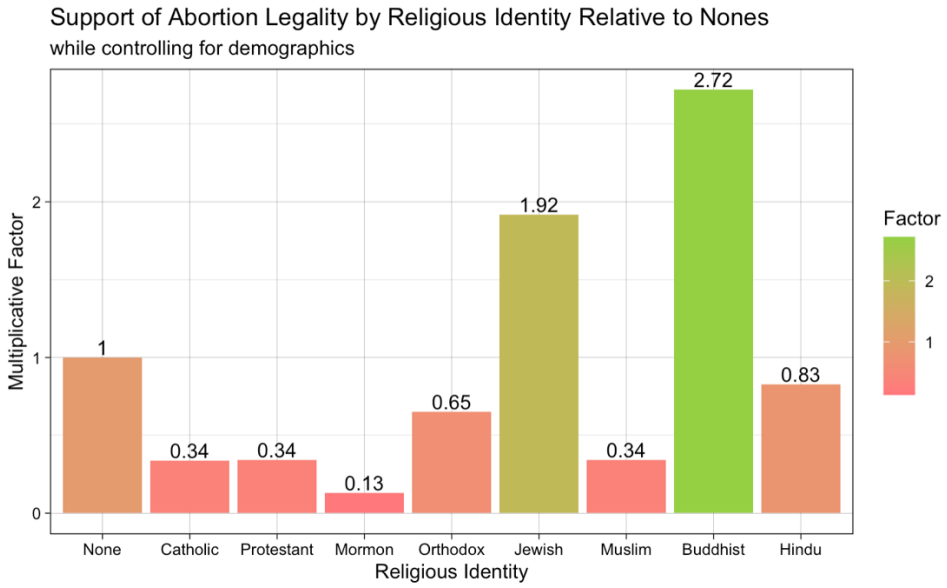

Figure 8: A barplot of the odds of each group to support abortion according to coefficients of the binary logistic fit relative to those who identify as "nothing in particular" when controlling for demographic factors apart from religion.

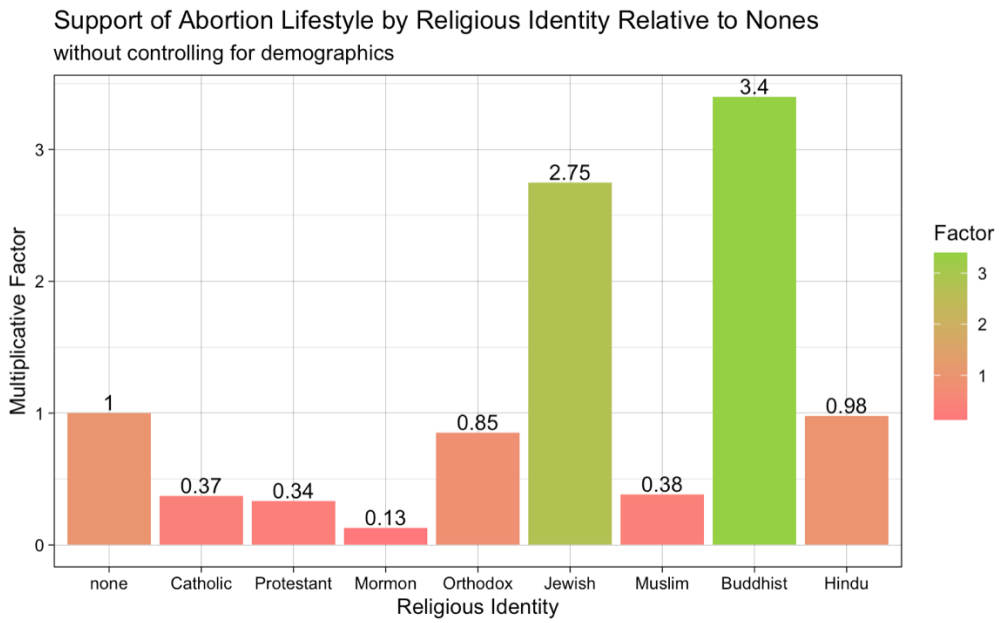

Figure 9: A barplot of the odds of each group to support abortion according to coefficients of the binary logistic fit relative to those who identify as "nothing in particular" without controlling for demographic factors apart from religion.

Interestingly enough, these results are actually pretty different are not perfectly consistent with what one might expect to see if looking at the homosexual odds only. Catholicism go from the 6th lowest odds religious group to support homosexuality to tied for the second lowest odds group for support for abortion. These disparities between figure 7 and figure 4 are explored in greater detail in section 3.7. From figures 8 and 9, figure 10 is produced.

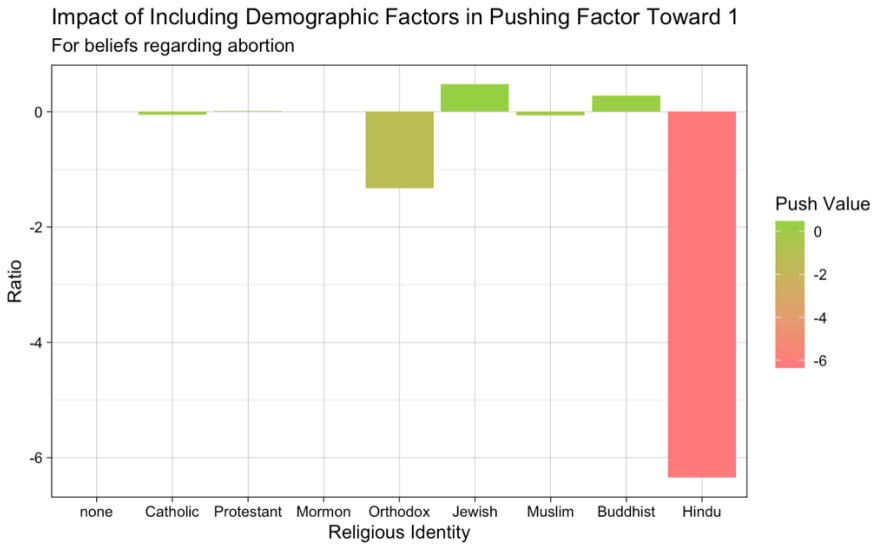

Figure 10: A barplot of the push values (as defined above) for each of the religious identity's view on abortion relative to those who identify as "nothing in particular."

Since Hinduism is such a strong negative value, it is excluded from the following plot so the other values can be seen in greater focus. Note here that even though there are enough data points to be significant, smaller religions like Hinduism and Buddhism tend to have higher variability most likely as a result of their smaller sample sizes.

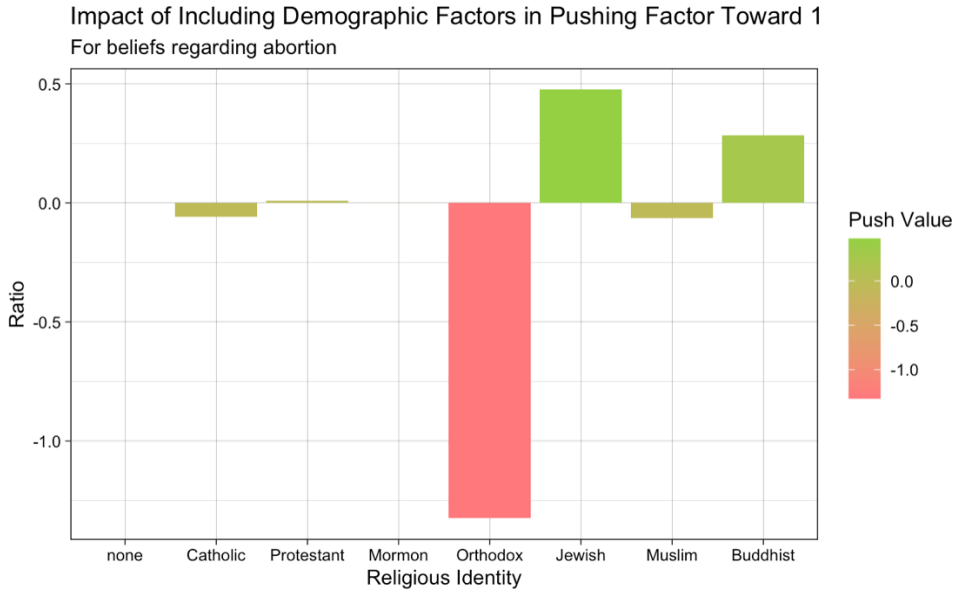

Figure 11: A barplot of the push values (as defined above) for each of the religious identity's (excluding Hinduism) view on abortion relative to those who identify as "nothing in particular."

Again, there is no uniform push toward one. There is no good evidence to suggest that the correlation between religious identity and cultural views is only superficial as a result of other explanatory factors. The evidence in this study is much more consistent with the view that religion and social/cultural beliefs are related in some real way. It has also been the case that whether or not one is controlling for demographic variables, when a religious institution has a specific cultural or social belief as a part of their teaching, the members of that religious institution hold that same view more frequently than those who identify as "nothing in particular."

3.7. Exploring Differences in Religions' View on Homosexuality and Abortion

Propensity to support homosexuality doesn't seem to perfectly predict support for abortion. The residuals between figures 5 and 8 to give some indication for which religions there exists disparity in these beliefs.

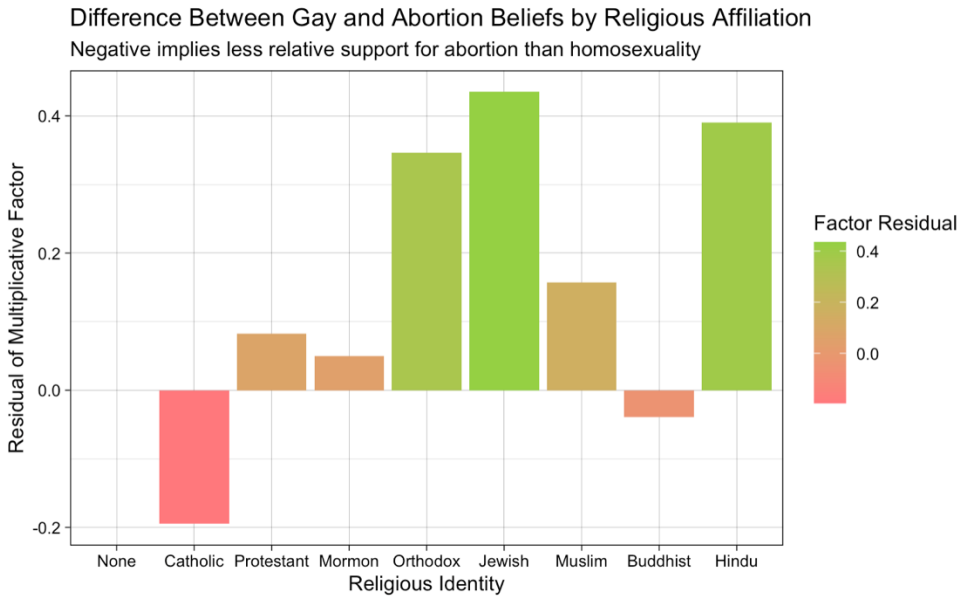

Figure 11: Residuals for plots 5 and 8. See sub caption for quick interpretation.

Interestingly enough, aside from a very small negative residual for Buddhism, Catholicism seems to be the only religion which has less relative support for abortion than homosexuality when compared to "nones." In each of the other cases, there is more relative support for abortion. While this plot has no direct interpretation to the heights, it demonstrates some level of the magnitude with which this difference exists in each religion. Seeing the wide range of differences and the relatively high residuals that are produced in this plot should caution those who categorize a religion as monolithically 'traditional' or 'progressive.' For many of

these religions, very traditional views within members of the religion on abortion does not imply very traditional views on homosexuality and vice versa.

3.8. Secondary Analysis

The secondary analysis was conducted in an attempt to answer the second research question: "How does disagreement between a religious institution and its members relate to the change in membership of that religion over time?" To answer that question, I investigated the relationship between the change in proportion of a religious identity over a 7 year period and something that I defined as the "agreement proportion."

The agreement proportion is a very basic statistic that I created in order to capture some idea of the agreement within a religion regarding their institution's teachings. The proportion is calculated using very basic theological and cultural beliefs as the metrics. These questions used are:

- Belief in God
- Belief in heaven/belief in hell (both questions weighted at ½ to be scaled to another question's value)
- View on homosexuality
- View on abortion
- View on holy book

When a religious identity does not have an official stance on one of these issues, I immediately consider that as "agreement" for that bullet for all congregants because I consider that religious institution's flexibility on that teaching as part of what I am interested in studying. Therefore, all those who identify as "nothing in particular," immediately have an agreement

proportion of 1, because there are no institutionally defined official teachings of an institution-less group. This agreement proportion is calculated for each respondent within a religious identity and the average agreement is recorded.

The growth or decline of a religious identity is scraped from other publicly available Pew data [8] which studied religious change from 2007 to 2014. The value is calculated by taking the change in proportion of US adults who identify with that religion and then dividing by the initial proportion to "scale" the change. These results are plotted in figure 12.

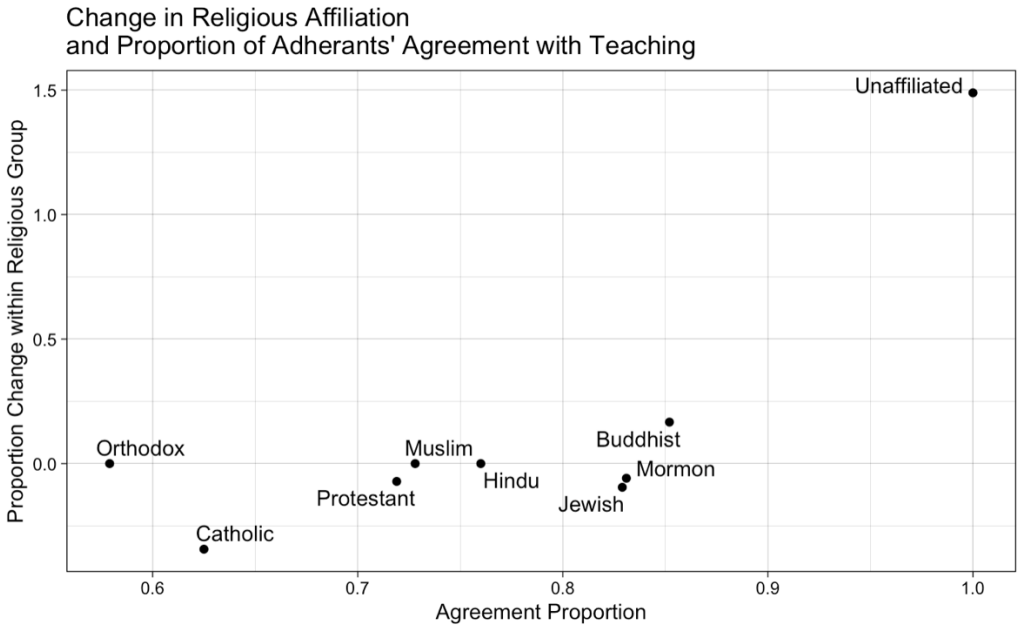

Figure 12: Scatterplot of religious growth/decline vs. agreement proportion.

Since the Unaffiliated group is far apart from the other data, it is excluded in the following plot, just to make it easier to see the overall trend in the rest of the data.

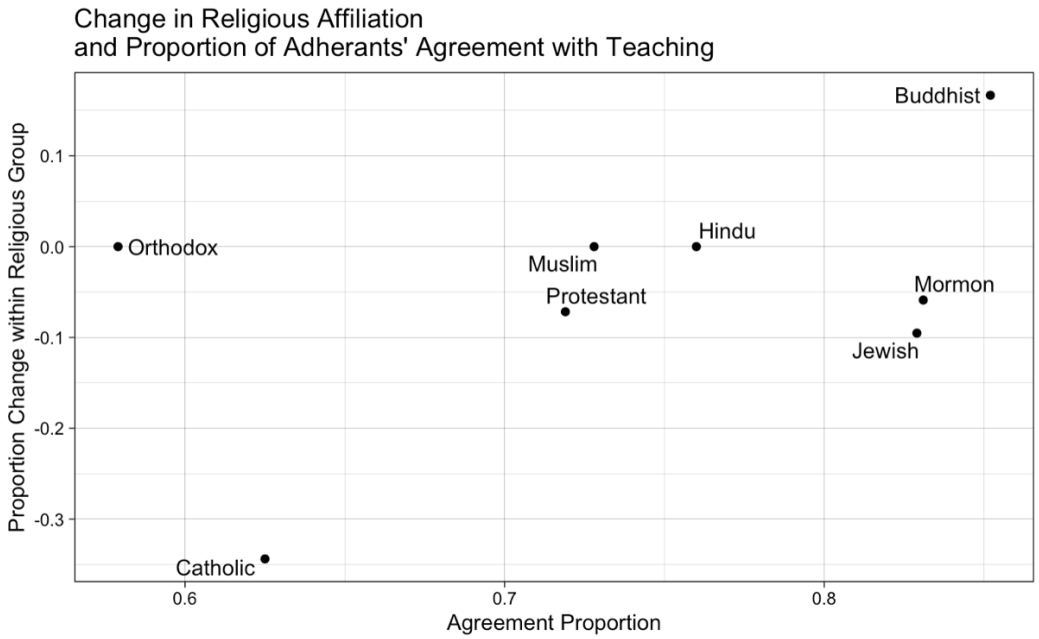

Figure 13: Scatterplot of religious growth/decline vs. agreement proportion, excluding the religiously unaffiliated.

There seems to be a positive relationship with a weak correlation. It is not obviously linear or curved, and there are so few points that attempting to fit a curve to it could be misleading (additionally, the unaffiliated point would have way too much weight given the nature of least squares minimization). Even still, the positive relationship does seem to exist, especially when looking at figure 12, which is consistent with the hypothesis that religious institutions that have more agreement with its members are tending to lose less net-members over time.

IV. Summarizing Conclusions

In investigating the relationship religious identity has with cultural beliefs, I set out to prove that the relationship one has between the two is somewhat superficial—that other factors more outside of one's control like location, sex, socioeconomic status, or age are what *truly*

would determine someone's view on abortion or homosexuality, while the religious identity someone has is really of secondary importance at best to those other factors. But as it turns out, after building my models, I was unable to find any significant evidence to dispute the conventional notion that one's religious identity likely impacts their view on both abortion and homosexuality.

Additionally, the secondary analysis revealed that religions whose members more frequently disagree with the teaching of the institution tended to decline more rapidly than those agreed more with their institution, at least to some extent. These results were consistent with my second hypothesis.

It seems to be the case that, if current trends continue, to be a successful religious identity going forward requires a kind of flexibility and adaptability that religions have never before needed. Many cultural beliefs are changing at a rapid, unprecedented pace. In 2008, all major Democratic candidates for president ran campaigns against gay marriage, while just 8 years later, in 2016, pro-LGBTQ+ equality had already become the commonplace viewpoint in US—so much so that all of the Democratic candidates supported it without question, and even the Republican nominee for President, Donald Trump, did too. Social, moral, and religious beliefs are changing rapidly in the US, and it will be interesting to see whether flexible belief systems like Mormonism (unintuitive, but true!) or more liberal Protestantism will be enough to retain membership, or whether identities or spiritual communities completely devoid of any institutional core (i.e., astrology) will begin taking over. Having large numbers of people identifying with no religious affiliation at all is completely historically unprecedented, and investigation into the causes of this phenomena should continue, whether it be institutional

disagreement (which was studied here), institutional distrust, alternative approaches to spirituality, or anything else that might be contributing to this shift.

V. Future Work

This report primarily focuses on data from 2007 and therefore is forced to exclude some major spiritual changes in the US that have occurred since. I am most interested to see investigation into whether any decline in religious practice can be attributed to increased spiritual or communal practices that are more secular in nature. In the past 2 years or so, the popularity of a spiritual practice called "manifestation" among Gen Z has skyrocketed [9], which is approximately a practice of prayer to the divine that excludes the use of words many young religiously unaffiliated people associate negatively with like God or Jesus, replacing them with words like the Universe or Love. Other avenues to explore could be rise in popularity sporting events, meaningful art/poetry consumption, or attendance music concerts and festivals. Many theologians relate these changing practices to the decline of institutional religion, but I have yet to see a meaningful data driven study into the veracity of these claims. In any case, not much is understood about our culture's religious transformation, and we might stand to benefit from some more thorough investigation surrounding this topic.

Appendix:

```
Coefficients:
                              Estimate Std. Error z value Pr(>|z|)
(Intercept)                  0.7879249  0.1311848   6.006 1.90e-09 ***
megaData$age                 0.0179797  0.0006867  26.184  < 2e-16 ***
as.factor(megaData$race)2    0.2678784  0.0430964   6.216 5.11e-10 ***
as.factor(megaData$race)3    0.4439100  0.0825171   5.380 7.46e-08 ***
as.factor(megaData$race)4   -0.2499749  0.0653003  -3.828 0.000129 ***
as.factor(megaData$race)9   -0.0560642  0.0952474  -0.589 0.556119
as.factor(megaData$mrIncome)1 -0.1061307  0.0366377  -2.897 0.003770 **
as.factor(megaData$mrIncome)2 -0.0390699  0.0358797  -1.089 0.276191
as.factor(megaData$sex)2    -0.5902826  0.0244620 -24.131  < 2e-16 ***
as.factor(megaData$educ)2   -0.3437289  0.0947103  -3.629 0.000284 ***
as.factor(megaData$educ)3   -0.3710711  0.0848533  -4.373 1.23e-05 ***
as.factor(megaData$educ)4   -0.1991424  0.1072975  -1.856 0.063456 .
as.factor(megaData$educ)5   -0.5246333  0.0857623  -6.117 9.52e-10 ***
as.factor(megaData$educ)6   -0.8525513  0.0869618  -9.804  < 2e-16 ***
as.factor(megaData$educ)7   -1.2497495  0.0893304 -13.990  < 2e-16 ***
as.factor(megaData$educ)9   -0.8543016  0.1776492  -4.809 1.52e-06 ***
as.factor(megaData$state)4  -1.1081296  0.1300141  -8.523  < 2e-16 ***
as.factor(megaData$state)5   0.0927447  0.1522679   0.609 0.542465
as.factor(megaData$state)6  -1.4328508  0.0984922 -14.548  < 2e-16 ***
as.factor(megaData$state)8  -1.3145406  0.1300265 -10.110  < 2e-16 ***
as.factor(megaData$state)9  -1.7771858  0.1569407 -11.324  < 2e-16 ***
as.factor(megaData$state)10 -1.0627755  0.2273304  -4.675 2.94e-06 ***
as.factor(megaData$state)11 -1.6483368  0.2946907  -5.593 2.23e-08 ***
as.factor(megaData$state)12 -1.0407115  0.1049937  -9.912  < 2e-16 ***
as.factor(megaData$state)13 -0.5365516  0.1145360  -4.685 2.81e-06 ***
as.factor(megaData$state)16 -0.5718492  0.1809818  -3.160 0.001579 **
as.factor(megaData$state)17 -1.1897559  0.1088264 -10.933  < 2e-16 ***
```

```
as.factor(megaData$state)18 -0.6616164  0.1149352  -5.756 8.59e-09 ***
as.factor(megaData$state)19 -0.8617070  0.1349695  -6.384 1.72e-10 ***
as.factor(megaData$state)20 -0.4901940  0.1400176  -3.501 0.000464 ***
as.factor(megaData$state)21 -0.2281636  0.1291138  -1.767 0.077203 .
as.factor(megaData$state)22 -0.3496249  0.1322329  -2.644 0.008193 **
as.factor(megaData$state)23 -1.6389699  0.1757372  -9.326  < 2e-16 ***
as.factor(megaData$state)24 -1.2719378  0.1256971 -10.119  < 2e-16 ***
as.factor(megaData$state)25 -1.8054456  0.1289866 -13.997  < 2e-16 ***
as.factor(megaData$state)26 -0.9887627  0.1089874  -9.072  < 2e-16 ***
as.factor(megaData$state)27 -1.1261324  0.1197801  -9.402  < 2e-16 ***
as.factor(megaData$state)28  0.2822060  0.1614158   1.748 0.080409 .
as.factor(megaData$state)29 -0.6477054  0.1160848  -5.580 2.41e-08 ***
as.factor(megaData$state)30 -0.7213200  0.1810231  -3.985 6.76e-05 ***
as.factor(megaData$state)31 -0.7028882  0.1657873  -4.240 2.24e-05 ***
as.factor(megaData$state)32 -1.2667554  0.1669149  -7.589 3.22e-14 ***
as.factor(megaData$state)33 -1.4176033  0.1916019  -7.399 1.38e-13 ***
as.factor(megaData$state)34 -1.4151422  0.1179200 -12.001  < 2e-16 ***
as.factor(megaData$state)35 -1.0581084  0.1754435  -6.031 1.63e-09 ***
as.factor(megaData$state)36 -1.6038415  0.1051248 -15.257  < 2e-16 ***
as.factor(megaData$state)37 -0.4422738  0.1106229  -3.998 6.39e-05 ***
as.factor(megaData$state)38 -0.2604342  0.2286051  -1.139 0.254607
as.factor(megaData$state)39 -0.9692144  0.1052710  -9.207  < 2e-16 ***
as.factor(megaData$state)40 -0.2752936  0.1373781  -2.004 0.045080 *
as.factor(megaData$state)41 -1.2063596  0.1342233  -8.988  < 2e-16 ***
as.factor(megaData$state)42 -1.1414897  0.1035110 -11.028  < 2e-16 ***
as.factor(megaData$state)44 -1.5378816  0.2416823  -6.363 1.98e-10 ***
as.factor(megaData$state)45 -0.3984757  0.1294620  -3.078 0.002084 **
as.factor(megaData$state)46 -0.5355299  0.2172722  -2.465 0.013709 *
as.factor(megaData$state)47  0.1045721  0.1221299   0.856 0.391867
as.factor(megaData$state)48 -0.5372737  0.1014564  -5.296 1.19e-07 ***
as.factor(megaData$state)49  0.0012057  0.1548578   0.008 0.993788
as.factor(megaData$state)50 -1.8852562  0.2369896  -7.955 1.79e-15 ***
as.factor(megaData$state)51 -0.7034248  0.1138192  -6.180 6.40e-10 ***
as.factor(megaData$state)53 -1.1781009  0.1217797  -9.674  < 2e-16 ***
```

```
as.factor(megaData$state)54   -0.3751480  0.1578903  -2.376 0.017501 *
as.factor(megaData$state)55   -1.1383873  0.1185170  -9.605  < 2e-16 ***
as.factor(megaData$state)56   -0.8763849  0.2593340  -3.379 0.000727 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

    Null deviance: 43784  on 31786  degrees of freedom
Residual deviance: 39961  on 31723  degrees of freedom
AIC: 40089

Number of Fisher Scoring iterations: 4
```

Console 1: The resulting console from the logistic model build with only the demographic explanatory variables, excluding religious identity.

```
as.factor(megaData$state)56   -0.8367721  0.2600413  -3.218 0.001292 **
megaData$catholic             -0.3193238  0.0302395 -10.560  < 2e-16 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

    Null deviance: 43784  on 31786  degrees of freedom
Residual deviance: 39849  on 31722  degrees of freedom
AIC: 39979

Number of Fisher Scoring iterations: 4
```

Console 2: A screenshot of the console when adding Catholicism as a variable to the model from console 1.

Sources

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