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Science and the Pulpit: Clerical Perspectives on Science and Religion in the United States

Shiri Noy

Timothy L. O'Brien

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SHIRI NOY
Latin American and Caribbean Studies
Denison University, 100 West College Street,
Granville, OH, 43023, United States

TIMOTHY L. O'BRIEN
Department of Sociology
University of Wisconsin-Milwaukee, Milwaukee,
United States

Although public perceptions of science and religion are the focus of a large body of scholarship, we know much less about religious leaders' views of science and its relationship to religion. Using data from a national survey of religious leaders in the United States, our latent class analysis finds three underlying groups of clergy based on their engagement with science and their beliefs about its interface with religion. Those with a modern clerical *perspective on science and religion (40 percent) accommodate mainstream scientific theories alongside their religious beliefs and they discuss science frequently with congregants. Those with a* traditional clerical *perspective (29 percent) are dismissive of mainstream scientific theories although they rarely discuss science with congregants. Those with a* critical clerical *perspective (31 percent) are also skeptical of science, yet these clergy frequently discuss science with their congregants. We also find that these latent classes cut across religious traditions and political ideologies and are associated with clergy's social views and political participation. We conclude by discussing the implications of these findings in light of religious leaders' roles in their congregations and communities.*

Keywords: *clergy, science, religion, survey.*

INTRODUCTION

In the United States, many people incorporate elements of science and religion into their understandings of the world. Similarly, many scientists are not only tolerant of religion, but they also embrace it (Ecklund and Scheitle 2010). However, we know less about how religious leaders discuss science with their congregations or how they view its relationship to religion. This gap in our understanding has been brought into sharp relief in recent years as religion and science have been mobilized in debates surrounding climate change, sexuality, and other issues. The COVID-19 pandemic in particular raised questions about whether and how religious leaders should help guide their congregations on issues of public health. Given clergy's importance in the lives of their congregants and their roles as community leaders, their perspectives on science and its relationship to religion are an important area of inquiry.

Recent research in the sociology of science and religion has turned attention from questions about the theoretical or logical compatibility between science and religion toward the ways that

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Correspondence should be addressed to Shiri Noy, Denison University, OH 43004, USA. E-mail: snoy@denison.edu

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publics understand and use them. One of the most important conclusions from this literature is that despite the well-publicized positions of some theologians and scientists (Dawkins 1996; Plantinga 2011), relatively few people think that science and religion conflict (Ecklund and Scheitle 2010). Instead many people rely on both as sources of meaning and identity (DiMaggio et al. 2018; Ecklund 2021; Ecklund and Scheitle 2010; O'Brien and Noy 2015).

Likewise, many scientists and medical professionals draw on religion both in their private lives and in the secular institutions where they work (Ecklund and Park 2009; Ecklund, Park, and Sorrell 2011; Ecklund and Scheitle 2010). Religious symbols and practices in hospitals are reminders of how religion and science coexist in contemporary medicine (Cadge 2013). Similarly, many scientists are more religious than often assumed, and not all believe that religion conflicts with science (Ecklund and Scheitle 2010). Altogether, these studies underscore the gap between academic debates about the logical compatibility of scientific and religious knowledge and the ways that people use science and religion to anchor their worldviews.

Despite careful attention to how publics and scientists think about science and religion, we know less about religious elites' view of this cultural terrain. Existing studies of religious leaders' views of science are often case-based and centered around specific moral dilemmas (Evans 2002, 2010; Gilliland and Krull 2022). By focusing on moral controversies raised by particular religious groups, this research suggests that religious leaders' views of science depend on religious traditions and are limited to a few narrow areas of science. Yet, research on public opinion suggests that perspectives on science and religion reflect underlying worldviews that transcend faith traditions and disciplines of science (Lee 2023; Noy and O'Brien 2016).

In this article, we examine clerical perspectives on science and religion using data from the National Survey of Religious Leaders (NSRL), which is the first nationally representative sample of clergy in the United States (Chaves, Roso, and Holleman 2022). Our analysis proceeds in three steps. First, we conduct a latent class analysis (LCA) to identity underlying groups of religious leaders based on their responses to survey questions about human origins, conflict between science and religion, religious practice, and how often they discuss science with their congregations. Then, we compare how clerical perspectives on science and religion correspond to sociodemographic characteristics of clergy and their congregations. Finally, we use regression models to examine the relationship between clerical perspectives on science and religion and sociopolitical attitudes and behaviors, controlling for other sociodemographic characteristics.

Background

Religious Views of Science in the United States

Although there have been high-profile debates between scientists and theologians about the logical compatibility of science and religion, many social scientists approach science and religion as sources of meaning and identity (DiMaggio et al. 2018; Ecklund and Scheitle 2010; Evans 2018; Noy and O'Brien 2016). Researchers in this area have conceptualized religion in a variety of ways. Some scholars focus on historically and culturally grounded faith traditions (Steensland et al. 2000). Conservative Christians, including Fundamentalists and Evangelicals are especially prominent in the literature on public perceptions of science (Baker, Perry, and Whitehead 2020; Evans 2013; Evans and Hargittai 2020; Roos 2017). Among Protestants, research suggests that attitudes about the Bible often delineate attitudes about science more generally (Evans 2011). Individual-level studies of religion also use behavioral and attitudinal indicators, such as attendance at religious services and belief in God (O'Brien and Noy 2021).

There is similar heterogeneity in how science is conceptualized in this literature. Conventionally, the presumption was that science is primarily a source of factual knowledge. As such,

the concept of science literacy continues to receive scr cutiny in the research on public understanding of science (Sturgis et al. 2024). Increasingly, however, researchers recognize that people see science as a source of values and identity in addition to knowledge (Evans 2018). As a result, some areas of science, such as planetary motion, are uncontroversial, while other areas, such as human origins, are deeply contested (Roos 2017). Consequently, measures of science attitudes that include religiously or politically contested areas should be interpreted as measures of cultural attitudes rather than scientific knowledge (Noy and O'Brien 2023; O'Brien and Noy 2021).

Despite differences in how scholars conceptualize religion and science, they consistently find heterogeneity in how religious Americans think about science. This finding is at odds with the classic conflict thesis, which suggests that science and religion are incompatible. This presumption of intellectual conflict is often extended to imply that religious people are uniformly hostile toward science. This narrative has long dominated ideas about public views of science and religion (Hardin, Numbers, and Binzley 2018). Empirically, however, research suggests that while some Americans believe science and religion conflict with one another, this view is not as widespread as previously thought (Ecklund and Scheitle 2010; Vaidyanathan et al. 2016). Recent studies of religious scientists also show how scientific elites reconcile these two sources of meaning and cultural authority (Ecklund and Scheitle 2010; Ecklund et al. 2019).

Christians in particular are often linked to mistrust in the scientific community (Alumkal 2019; Baker, Perry, and Whitehead 2020; O'Brien and Noy 2018). However, mistrust in science is not universal within congregations and many religious traditions actively embrace science (Colburn and Henriques 2006). For example, Catholic, liberal Protestant churches, and Jewish synagogues all explicitly accommodate modern scientific theories within their theologies (Evans 2018). Despite this, many religious Americans reject scientific consensus on issues that are at odds with some religious understandings, like evolution and the big bang (O'Brien and Noy 2015). Overall, while conservative Christians have been found to be most skeptical of organized science and scientists (Evans and Hargittai 2020; Evans and Justin 2013; Noy and O'Brien 2016), public perceptions of science among religious groups are multidimensional and vary both across and within religious traditions.

Perspectives on science and religion in the United States cluster in ways that cut across religious traditions and political ideologies. For example, using LCA and a survey of U.S. adults, O'Brien and Noy (2015) identified three perspectives on science and religion among the pubic: a modern one, characterized by appreciation of science, a traditional one characterized by adherence to religion, and a postsecular one that is appreciative of science but also adherent to religious tenets, including conservative religious theories about human origins. Lee (2023) finds these same groups in an analysis of international data. He also finds a fourth, postmodern group that is skeptical of both science and religion but tends to support science when faced with a conflict between the two.

Using different data and measures, DiMaggio and colleagues (2018) also find that public perspectives on science and religion cluster in theoretically coherent ways. However, we know much less about religious leaders' views on these issues. This gap in the literature reflects a longstanding limitation in the available data. Yet, it is surprising given the importance of clergy in the lives of their congregants and because of their roles as leaders in communities more broadly. Importantly, religious leaders' perspectives on science and religion may provide a window into the ways in which religious people in general reconcile these two ways of knowing. Furthermore, clergy are a particularly important group to study given their role of "on the ground" representatives of their congregations and the cultural authority of religion.

Clergy and Religious Leadership

In this article, we use the term clergy to refer to the recognized leaders of local religious congregations (Chaves et al. 2022). As community members and organizational officers, clergy must

simultaneously negotiate religious organizations' hierarchies and rules and local communities' values and customs. While clergy are broadly recognized as spiritual leaders, religious traditions differ in the role clergy play within congregations. As Edwards notes, "some denominations expect clergy to preach sermons, while others expect them to deliver homilies" (2014:59). Even within denominations, clergy vary in the ways they interact with their communities. Clergy are thus constrained both by the needs and characteristics of their congregations and by their doctrinal tradition and denominational hierarchy (Djupe, Burge, and Calfano 2016). Whereas their congregations consider them to be independent leaders, clergy are often subject to policies and interests within religious organizations. In this way, clergy must sometimes navigate competing pressures.

Clergy are capable of affecting the behavior and attitudes of their congregations, parishioners, and members (Djupe and Gilbert 2003; Djupe and Hunt 2009; Nteta and Wallsten 2012). Importantly, clergy guide congregants in their interpretations of the world and can influence their decision making. Clergy also have unique moral authority, and in some traditions are even viewed as divinely sanctioned (Djupe and Friesen 2018). Of particular interest has been how clergy operate as political elites, and whether and how they encourage congregants to engage in political behaviors such as voting (Calfano 2009). Researchers have found that clergy routinely engage with their congregants on a variety of social issues, including sexuality (Cadge, Lyleroehr, and Olson 2012). Other research suggests that clergy's political messaging influences the social and political attitudes and perspectives of congregants (Nteta and Wallsten 2012). Altogether, clergy's organizational position, moral authority, and historical association with social change reinforce the importance of understanding their perspectives on science and how they discuss it with their congregations.

Religious Leaders' Engagement with Science

Existing studies of clergy perspectives on science are largely limited to issues related to human origins and often focus on particular religious traditions or groups. These studies suggest that many religious leaders are both interested in science and accepting of mainstream scientific theories, including evolution (Colburn and Henriques 2006; Dickerson, Dawkins, and Penick 2008; McLaughlin et al. 2022). More recent scholarship suggests that pastors and clergy can play a role in communicating scientific information and encouraging health behaviors among their congregants (Guidry et al. 2022; Moore et al. 2022; Privor-Dumm and King 2020). However, clergy's engagement may vary substantially along denominational and racial lines. For example, there is evidence that leaders of predominantly Black Churches engage frequently with topics related to health including cancer, diabetes, and health disparities (Moore et al. 2022; Schneider and Bolger 2021). A recent study of a purposive sample of religious leaders found that Catholics, Mainline Protestants, and Evangelical Protestants clustered into underlying groups based on their views of scientific and social issues including abortion, sexuality, and evolution (McLaughlin et al. 2022). This suggests that like the public more broadly, clergy's perspectives about science may also cohere around cultural markers related to science, religion, and society.

Overall, research on clergy's views of science has typically relied on small, convenience samples and has prioritized Protestant Christianity. To date, data limitations have prevented researchers from making population-level inferences about clergy's perspectives on science and religion. In this article, we investigate clergy's perspectives on science and its relationship to religion using data from a national sample of clergy, which is uniquely situated to examine the scope of the attitudes of religious leaders from across the United States. The analysis will also provide new insights about the usefulness of sociological theories of public perceptions of science and religion for explaining religious elites' perspectives on science and religion. Altogether, this article seeks to expand our understanding of how religious leaders view the relationship between science

and religion, and how these perspectives relate to other religious, political, and social cleavages among clergy.

Data

We use data from the NSRL to investigate religious leaders' perspectives on science and religion (Chaves et al. 2022). The NSRL is a nationally representative survey of congregations collected in conjunction with the 2018 General Social Survey (GSS) and the 2018–2019 National Congregations Study (NCS) (Chaves 2023; Chaves et al. 2022; Holleman and Eagle 2023; Smith et al. 2019). The NSRL sample is based on the insight that the leaders of the congregations attended by a national sample of U.S. adults can be used to generate a nationally representative sample of religious leaders. Using this logic, NSRL researchers constructed a national sample of congregations based on the congregations attended by 2018 GSS respondents, which were selected as a national probability sample. Researchers then contacted each congregation and requested that a primary or secondary leader complete an online survey questionnaire. Most congregations (94 percent) are led by a single person who is clearly the congregation's primary leader. These leaders held titles such as Pastor or Senior Pastor, Senior Rabbi, Bishop, and Imam. Secondary leaders included paid religious staff who interact with congregants but who are not primary leaders. These leaders held titles such as Associate Pastor, Associate Rabbi, and Parochial Vicar. The response rate was 70 percent among primary leaders and 23 percent among secondary leaders. We weight our analyses to adjust for this differential nonresponse so that results generalize to the population of primary and secondary congregational leaders in the United States. In total, the NSRL data set includes the responses of 1,600 congregational leaders in the United States collected between February 2019 and June 2020 (Chaves et al. 2022).

Methods

Our analysis proceeds in three stages. First, we use LCA to identify groups of respondents based on their engagement with science and their attitudes about science and religion. LCA is a method that assumes that there are underlying patterns in responses to conceptually related survey questions. It attempts to find the number of latent classes that correspond best to the underlying patterns in the variables. By adding additional classes to the model and comparing fit statistics and substantive results, analysts select the number of classes to include in the model. Respondents are then assigned to classes based on the greatest probability of class membership. For example, in a two-class model where the probabilities of class membership were .8 and .2, the respondent would be assigned to the first class. Second, we examine the sociodemographic characteristics of clergy and their congregations and use *t*-tests to determine whether group differences are statistically significant. Third, we use linear and binary logistic regression models to examine how clergy's perspectives on science and religion correspond to sociopolitical attitudes and behaviors unrelated to science. This final step of the analysis considers perspectives on science and religion as independent variables that are predictive of clergy's views on specific social issues ranging from capital punishment to the environment.

Our LCA was performed using Mplus 7 software. Regressions and *t*-tests were performed using Stata 18 software. We imputed missing data on dependent variables in the LCA using a diagonally weighted least squares estimator. All analyses use the recommended sampling weights, which allow us to generalize results to the national population of religious leaders in the United States.

Measures

Indicator Variables of Clergy Perspectives on Science and Religion

Each step of our investigation focused on a different set of dependent variables. First, our LCA examined clergy's underlying perspectives on science and religion using several observed measures of clergy's engagement with science, their attitudes about human origins, and their beliefs about conflict between science and religion. To measure engagement with science, clergy were asked how often they discussed several topics related to science in their sermons, teachings, writings, or other messages to their congregations. The topics were astronomy, climate change, the environment, evolution, psychology, public opinion, stem cell research, vaccines, and medicine. Responses were scored on a five-point scale including (5) more than once a month, (4) about once a month, (3) more than once or twice but less than monthly, (2) once or twice, and (1) not at all.

To measure attitudes about human origins and creation, we examined a series of items that asked clergy about their level of agreement with several statements about various aspects of genesis. The statements were: God created the world in six 24-hour days; the Earth is less than 10,000 years old; God directly created humans through a miraculous process; humans evolved from non-human life forms; life evolved over millions of years according to the design of God; God created laws of nature, which led to the emergence of humans over millions of years of evolution, but without any guidance from God; Life evolved over millions of years, no God was involved. Responses were scored on a five-point scale including (5) definitely true, (4) probably true, (3) not sure, (2) probably false, and (1) definitely false.

As an additional indicator of clergy's views of contested science, we include a measure of their views on climate change. Response options were (4) the climate is changing, and human actions are a major cause of the change; (3) the climate is changing, but human actions are only a minor cause of the change; (2) the climate is changing, but not because of human actions; and (1) the climate is not changing.

To measure clergy's religiosity, we examined items about prayer frequency both alone and before a meal. Response options ranged from (1) not at all to (6) more than once a day. We also included a categorical, nominal indicator for views on the Bible. Response options were (1) the Bible is the literal word of God, (2) the Bible is the inspired word of God, and (3) the Bible is a book of legends and stories. Non-Christians did not receive this survey question and are included in a separate, nominal response category. Correlations among these measures (not shown) are supportive of their validity. For example, there is a significant, negative bivariate correlation between the belief that the world was created in six 24-hour days and the belief that life evolved over millions of years.

Finally, to measure clergy's attitudes about the relationship between science and religion, we use four survey items. One asked whether scientific findings conflict with religious beliefs. A second asked how important it is that religion is consistent with science. A third question asked about openness to changing religious beliefs considering new science. A fourth item asked whether most scientists are hostile to religion. Response to these questions were scored on Likert-scales ranging from between one and four and one and seven, as detailed in Table 1. Once again, correlations among these items are supportive of the data's validity. For example, there is a statistically significant, positive correlation between the beliefs that scientists are hostile to religion and that science conflicts with religion.

Clergy and Congregation Characteristics

The second step of our analysis examined the characteristics of clergy and their congregations associated with each latent class. We measured gender using a binary variable that equals one for female. We measured race and ethnicity using categories Black, Hispanic, white, and a residual

Table 1: Descriptive statistics of indicator variables

	Mean	Standard Deviation	Min	Max	Scale
How often you do discuss…?					
Astronomy	1.50	0.06	1	5	
Climate change	1.97	0.10	1	5	
The environment	1.94	0.10	1	5	5 = More than once a month
Evolution	2.14	0.09	1	5	4 = About once a month
Psychology	2.08	0.11	1	5	3 = More than once or twice, but less than monthly
Public opinion	2.33	0.12	1	5	2 = Once or twice
Stem cell research	1.28	0.09	1	5	1 = Not at all
Vaccines	1.47	0.11	1	5	
Medicine	1.88	0.11	1	5	
Beliefs about origins					
God created the world in six 24-hour days	3.28	0.15	1	5	5 = Definitely true
The Earth is less than 10,000 years old.	2.68	0.14	1	5	4 = Probably true
God directly created humans through a miraculous process.	4.09	0.12	1	5	3 = Not sure
Humans evolved from nonhuman life forms.	2.11	0.12	1	5	2 = Probably false
Life evolved over millions of years according to the design of God.	2.84	0.15	1	5	1 = Definitely false
God created laws of nature, which led to the emergence of humans over millions of years of evolution, but *without any guidance* from God	1.87	0.14	1	5	
Life evolved over millions of years; no God was involved.	1.46	0.11	1	5	
Views on climate change	3.25	0.09	1	4	4 = The climate is changing, and human actions are a major cause of the change

(*Continued*)

Table 1: (Continued)

	Mean	Standard Deviation	Min	Max	Scale
					3 = The climate is changing, but human actions are only a minor cause of the change 2 = The climate is changing, but not because of human actions 1 = The climate is not changing
Attitudes about science and religion					
Do scientific findings conflict with your religious beliefs?	2.37	0.13	1	5	5 = Very much 4 = Quite a bit 3 = A moderate amount 2 = A little bit 1 = Not at all
How important is it for religion to be consistent with science?	2.33	0.11	1	4	4 = Very important 3 = Pretty important 2 = A little bit important 1 = Not at all important
Open to changing religious beliefs considering new science?	1.79	0.09	1	4	
Most scientists are hostile to religion	3.92	0.18	1	7	7 = Completely agree 6 = Moderately agree 5 = Slightly agree 4 = Neither agree nor disagree 3 = Slightly disagree 2 = Moderately disagree 1 = Completely disagree

(*Continued*)

Table 1: (Continued)

	Mean	Standard Deviation	Min	Max	Scale
Religiosity					
Pray before meal	5.22	0.11	1	6	6= More than once a day 5 = Every day 4 = Two or more times a week, but not every day
Pray alone	5.32	0.06	1	6	3 = Once a week 2 = Sometimes, but less than once a week 1 = Not at all
Bible is the literal word of God[a]	0.15	0.03	0	1	Proportion that chose this response
Bible is the inspired word of God[a]	0.77	0.04	0	1	
Bible is legends and stories[a]	0.02	0.01	0	1	
Not asked views on Bible (non-Christian)[a]	0.06	0.03	0	1	

Source: National Survey of Religious Leaders (NSRL).
Note: $n = 1{,}012$
[a] Views on the Bible were modeled as a nominal variable, we present the proportions for each category for ease of interpretation.

category that includes all other clergy. We measured age in seven categories based on decade of birth, ranging from 1930–39 to 1990–99. We measured education using categories for Master of Divinity, other graduate degree, bachelor's degree, some college or formal training, and no college or formal training. Household income is measured using 13 categories and political ideology is measured using a seven-point scale ranging from extremely liberal to extremely conservative. Political party identification is measured on a seven-point scale from strong Democrat to strong Republican.

We measured religious traditions using categories for Catholic, White Evangelical, Black Protestant, White Liberal Protestant, and a residual category of other religions. These categories were assigned by NSRL researchers based on information on the denomination as well as "other questions asking about congregations' religious affiliations and traditions" (Chaves 2023:62) including a question about the "religious identity or culture" of the congregation (Chaves 2023:172). We measured congregational race and ethnicity with categories for predominately Black, predominately Hispanic, predominately white, and predominately another race. Finally, we measured geographic region using categories for New England/mid-Atlantic, North Central, South, and West.

Sociopolitical Behaviors and Attitudes

The final step of our analysis examined clergy's latent class membership as an independent variable in regression models predicting their social views and political behaviors. Using linear and binary logistic regression, these models show the relationship between clerical perspectives on science and religion and broader social attitudes independently of ideology and denominations, controlling for the individual and congregational-level characteristics listed above. This final step of the analysis helps to illustrate the external validity of the latent classes we identified and their relationship to clergy's positions on a wide variety of political issues where they may have influence over congregants.

Results

LCA: Clerical Perspectives on Science and Religion

To select the number of latent classes for our analysis, we estimated models with between one and eight latent classes and compared each model's Bayesian information criterion (BIC). Conventionally, analysts estimate models with $T+1$ classes, where T is the number of classes, until the BIC reaches a minimum value. However, in some cases, the BIC may not reach a minimum value or it may identify spurious classes because of residual variation among indicator variables (Asparouhov and Muthén 2015, 2016). The BIC's reliability has also been criticized when there are small, unequally sized classes (Nylund, Asparouhov, and Muthén 2007). It also may be less reliable with categorical outcome variables, like the ones in our model. Lo-Mendel-Rubin and bootstrap likelihood ratio tests are common alternatives for finding the preferred number of classes in LCA (Lo, Mendell, and Rubin 2001). Unfortunately, they are not reliable for complex survey designs with sampling weights, which we use to generalize our findings to the national population of religious leaders. Nevertheless, a Lo-Mendel-Rubin likelihood ratio test based on unweighted data suggests that the three-class model is the preferred model.

As Table 2 shows, the BIC is lowest in the seven-class model. However, the conditional means of indicator variables for the seven-class model do not indicate seven substantively different latent perspectives. We therefore examined the class-conditional means for indicator variables for models with between two and six classes and found that the three-class solution provided the most interpretable results. The two-class solution did not capture the full variety of worldviews in the data and solutions with more than three classes created continua within existing classes rather

Table 2: Fit statistics for latent class analysis

Number of Latent Classes	BIC	Proportion BIC Reduced	*p*-Value from Lo-Mendel-Rubin LR Test
1	93659.82		
2	86070.45	.08	.00
3	83955.36	.02	.00
4	82306.86	.02	.05
5	81566.45	.01	.76
6	80668.23	.01	.24
7	80430.77	.00	.76
8	80724.47	.00	.76

Source: National Survey of Religious Leaders (NSRL). Lo-Mendel-Rubin test on unweighted data.
Note: BIC is Bayesian information criterion.

than identifying new ones. A three-class solution is also consistent with the theoretical framework we elaborated earlier and results of analyses of public perspectives on science and religion. Altogether, our consideration of substantive, theoretical, and statistical evidence led us to focus on the three-class solution below.

Table 3 contains the conditional means for the indicator variables for the three-class model. Names for latent classes were selected based on substantive differences in levels of the indicator variables between groups. The top row of the table indicates that the largest group holds what we call a *modern clerical* perspective on science and religion. The second group is marked by a *traditional clerical* view of science and religion. The remaining clergy hold what we call a *critical clerical* perspective of science and religion.

As Table 3 shows, two in every five U.S. religious leaders holds a modern clerical perspective of science and religion. Leaders in this group address a wide variety of scientific topics in their sermons and teachings. In fact, they engage more frequently with nearly every scientific topic than clergy in the traditional category. A modern clerical perspective is also marked by its accommodation of scientific theories of human origins. For example, leaders in this group are significantly more likely than others to believe that humans evolved from other animals, and they are less likely than others to believe that humans originated miraculously. Those with a modern clerical perspective are also significantly less likely than others to believe that science and religion conflict and that scientists are hostile to religion, and they are significantly more open than others to changing their religious beliefs in light of new science. Finally, this group has the lowest frequency of praying alone and before meals and is the most theologically liberal, as indicated by opposition to a literalist interpretation of the Bible.

Table 3 also shows that roughly one in three religious leaders holds a traditional clerical perspective on science and religion. These leaders are marked by their relative disengagement from science. For example, they are significantly less likely than members of one or both of the other classes to engage with each scientific topic in their sermons and teachings, on average. They are also relatively unaccommodating of scientific understandings of the universe's origin. For example, members of this group are significantly more likely than those in the modern clerical group to believe that Earth is less than 10,000 years old, and that God created the world in six days. Compared to those in the modern group, they are significantly more likely to believe that science and religion conflict and that scientists are hostile toward religion. Finally, members of this group are the most theologically conservative with nearly one-third holding a literalist view of the Bible.

Table 3: Conditional means of indicator variables by latent class

	Modern (40%) n =404	Traditional (29%) n = 297	Critical (31%) n = 311
How often you do discuss…?			
Astronomy	1.51[t c]	1.21 [m c]	1.83 [m t]
Climate change	2.80 [t c]	1.11 [m c]	2.16 [m t]
The environment	2.71 [t c]	1.01 [m c]	2.26 [m t]
Evolution	1.89 [c]	1.86 [c]	2.70 [m t]
Psychology	2.79 [t]	1.14 [m c]	2.48 [t]
Public opinion	2.60 [t]	1.55 [m c]	2.95 [t]
Stem cell research	1.55	1.07 [c]	1.26 [t]
Vaccines	1.60	1.21 [c]	1.65 [t]
Medicine	2.40 [t]	1.21 [m c]	2.14 [t]
Beliefs about origins			
God created the world in six 24-hour days	1.34 [t c]	4.24 [m]	4.01 [m]
The Earth is less than 10,000 years old	1.19 [t c]	3.39 [m]	3.25 [m]
God directly created humans through a miraculous process	2.48 [t c]	4.73 [m]	4.88 [m]
Humans evolved from non-human life forms.	3.85 [t c]	1.45 [m]	1.25 [m]
Life evolved over millions of years according to the design of God	3.84 [t c]	2.52 [m]	2.28 [m]
God created laws of nature, which led to the emergence of humans over millions of years of evolution, but *without any guidance* from God	2.77 [t c]	1.42 [m]	1.53 [m]
Life evolved over millions of years; no God was involved	2.30 [t c]	1.19 [m c]	1.00 [m t]
Views on climate change	3.94 [t c]	2.72 [m c]	3.20 [m t]
Attitudes about science and religion			
Do scientific findings conflict with your religious beliefs?	1.71 [t c]	2.86 [m]	2.43 [m]
How important is it for religion to be consistent with science?	2.88 [t c]	1.94 [m]	2.26 [m]
Open to changing religious beliefs considering new science?	2.86 [t c]	1.22 [m c]	1.44 [m t]
Most scientists are hostile to religion	2.58 [t c]	4.80 [m]	4.18 [m]
Religiosity			
Pray before meal	4.55 [t c]	5.42 [m]	5.61 [m]
Pray alone	4.97 [t c]	5.42 [m]	5.53 [m]
Bible is literal word[1]	0.01 [t c]	0.32 [m c]	0.09 [m t]
Bible is inspired word[1]	0.75	0.67 [c]	0.91 [t]
Bible is a book of legends and stories[1]	0.05	0	0
No views on Bible (non-Christian) [1]	0.20 [t c]	0.01 [m]	0 [m]

Source: National Survey of Religious Leaders (NSRL).

Note: Tables contains means of by latent class, total n = 1,012.

[1] Views on the Bible were modelled as a nominal variable, we present the proportions for each category for ease of interpretation.

Superscripts designate statistically significant group differences based on adjusted Wald tests ($p < .05$).

[t] means significantly different from Traditional.

[m] means significantly different from Modern.

[c] means significantly different from Critical.

Last, Table 3 shows that the remaining nearly one-third of religious leaders hold a critical perspective on science and religion. While the modern and traditional perspective are in some ways inverse positions, the critical perspective defies this binary. The engaged yet unaccommodating orientation toward science is unique to this perspective and suggests that members of this group interpret at least some aspects of science as a threat to religion. For example, this group engages with many areas of science at similar or higher levels than those in the modern group but is less likely than modern leaders to believe that human activity is causing climate change. Those in the traditional group are even less likely to acknowledge humanity's role in climate change although they are relatively unlikely to discuss it with their congregations.

Religious leaders with a critical clerical perspective differ markedly from those with a traditional one in their engagement with science. Critical leaders are significantly more likely than traditional ones to discuss each area of science on the survey, including medicine, vaccines, and stem cell research. Yet, leaders from these two groups mostly share views about human origins and the boundary between science and religion. For example, traditional and critical leaders are both significantly more likely than modern ones to endorse conservative religious theories of creation and are less likely to endorse scientific explanations of evolution. Critical clergy are even less likely than traditional leaders to agree that life evolved with no help from God. Furthermore, religious leaders in the critical group, like those in the traditional one, are more likely than those in the modern group to believe that science and religion conflict and that scientists are hostile to religion.

While we do not have measures of the nature of clergy's engagement with science, these results suggest that the critical perspective is antagonistic toward at least some areas of science. For example, those in the critical group discuss evolution with their congregations significantly more often than the modern group yet they are less likely than the modern group to believe that humans evolved from other animals. Likewise, those in the critical group discuss climate change relatively often yet are significantly less likely than those in the modern group to acknowledge human's role in it. This critical assessment of science is one of this perspective's defining features. While the traditional perspective is just as likely to reject scientific theories of human origins and climate change, these clergy rarely discuss these issues with their congregations. In contrast, those with a critical perspective discuss science frequently despite their doubts about conventional scientific theories and their belief that scientists are hostile to religion.

To sum up, our LCA found three underlying groups of religious leaders marked by varying levels of engagement with and accommodation of science. Most clergy hold either a modern perspective that is engaged and accommodating of science or a traditional one that is the opposite. A third group of religious leaders also engages frequently with science but may do so confrontationally. Overall, results from our LCA indicate that religious leaders' perspectives on science and religion are multidimensional and cannot be reduced to either to their level of engagement with science or their accommodation of mainstream scientific theories.

Characteristics of Religious Leaders and Congregations

To illustrate the kinds of religious leaders that hold each perspective on science and religion, Table 4 presents sociodemographic information for each latent class. The table shows column percentages for each variable to facilitate comparison between the distributions of variables within latent classes and the population of congregational leaders. As the table shows, clerical perspectives on science and religion differ alongside several aspects of religious leaders' social location. For example, those with a modern perspective are disproportionately female and white. Additionally, clergy in this group have the highest average level of education. Roughly half of them lead white liberal protestant denominations and nearly three quarters lead predominately white congregations. These are also the most politically liberal clergy, and they are disproportionately located in northern states.

Table 4: Characteristics of religious leaders and congregations by latent class

	Modern (40%)	Traditional (29%)	Critical (31%)	Total
Female	0.39 t c	0.13 m c	0.02 m t	0.17
Race/ethnicity				
White	0.82 c	0.65	0.62 m	0.69
Black	0.07 t c	0.34 m	0.27 m	0.24
Latino/Hispanic	0.08	0.01 c	0.09 t	0.06
Other race/ethnicity	0.03	<0.01	0.01	0.01
Leader age (in decades)[1]	4.40 c	4.39 c	3.89 m t	4.23
Leader education				
No formal training/college	0 t	0.08 m	0.01	0.03
Some formal training/college	0.02 t c	0.17 m	0.19 m	0.13
Bachelor's degree	0.17	0.30	0.26	0.25
Graduate degree, non-MDiv	0.12	0.10	0.11	0.11
Master of divinity	0.69 t c	0.35 m	0.42 m	0.48
Religious leader household income[2]	7.74	6.71 c	7.68 t	7.34
Religious tradition				
Catholic	0.14	0.01	0.02	0.06
White Evangelical	0.08 t c	0.65 m	0.61 m	0.46
Black Protestant	0.08 t c	0.25 m	0.25 m	0.20
White Liberal Protestant	0.49 t c	0.08 m	0.13 m	0.22
Other religion	0.20 t c	0.01 m	0 m	0.06
Party identification[3]	2.01 t c	4.65 m	4.85 m	3.91
Political Views[4]	2.74 t c	5.64 m	5.47 m	4.70
Congregation race				
Predominantly white	0.70 c	0.54	0.50 m	0.58
Predominantly Black	0.10 c	0.25	0.25 m	0.20
Predominantly Hispanic	0.08	0.02	0.07	0.05
Predominantly another race	0.00	0.07	0.01	0.03
Multiracial congregation	0.12	0.12	0.18	0.14
Region				
New England/Mid Atlantic	0.28 t c	0.07 m	0.06 m	0.13
North Central	0.27	0.27	0.29	0.28
South	0.38	0.50	0.53	0.47
West	0.07	0.16	0.13	0.12

Source: National Survey of Religious Leaders (NSRL).

Note: Tables contains means of by latent class, total $n = 1{,}012$.

[1] The decades in which the leader was both are measured in seven categories, ranging from 1990–99 through 1930–39.

[2] Thirteen categories ranging from $0–$9.000 to $200,000 or more.

[3] Seven-point scale from strong Democrat to strong Republican.

[4] Seven-point scale from extremely liberal to extremely conservative. Superscripts in the table designate statistically significant group differences based on adjusted Wald tests ($p < .05$).

[t] means significantly different from Traditional.

[m] means significantly different from Modern.

[c] means significantly different from Critical.

Religious leaders with a traditional perspective on science and religion differ from those in the modern group along many of these dimensions. For example, more than one-third of the members of the traditional group are Black compared to less than a quarter of the sample as a whole and less than one-tenth of the modern group. Most clergy in the traditional group lead White Evangelical congregations, although leaders of Black Protestant congregations make up more than a quarter of the traditional group compared to one-fifth of the population of religious leaders. Whereas clergy in the modern group had the highest average level of education, clergy in the traditional group had the lowest. These clergy are also more politically conservative than those in the modern group.

Although a majority of each group consist of males, religious leaders with a critical perspective of science and religion are least likely to be female—this group is 98 percent male. This is also the youngest group of religious leaders, on average. Educationally, members of this group occupy middle ground between the other two groups: approximately four fifths hold at least bachelor's degree compared with nearly all in the modern group, and three fourths of the traditional group. Yet, setting aside age, education, and gender differences, clergy with a critical perspective look much like those with a traditional one. For example, both groups are majority White Evangelical and about a quarter are Black Protestants. And, like those in the traditional group, those with a critical perspective are politically conservative and half lead white congregations.

Overall, those with a modern clerical perspective differ from each of the other two groups on several sociodemographic characteristics and other dimensions. They are disproportionately female, liberal, and Northern. Compared to the modern group, the leaders in the critical and traditional groups are each more likely to be black, Evangelical Protestant, and conservative. However, those in the traditional and critical groups also differ from one another in key respects. For example, compared to the traditional group, the critical group tends to be younger and more affluent and it contains a smaller share of women and a larger share of Latinos.

Clergy Perspectives on Science and Religion and Sociopolitical Attitudes and Behaviors

The final step in our investigation examined some of the social and political consequences of religious leaders' perspectives on science and religion. To do so, we regressed clergy's responses to several survey questions about social attitudes and political behaviors on their perspectives on science and religion and on controls for the sociodemographic information in Table 4. The first three columns of results in Table 5 contain estimates from linear regressions where higher scores mean greater support for the topic in question. The remaining columns of results contain estimates from binary logistic regressions where the outcome signifies whether or not clergy had engaged in each political activity. To facilitate comparisons among all latent classes, we present results from a model where modern clergy are the referent and from a model where traditional clergy are the referent. Coefficients for control variables in the table correspond to the models where modern leaders are the referent, but all models included all controls.

Table 5 shows that traditional and modern clerical perspectives on science and religion are associated with significant differences in most of these attitudes and behaviors. Compared to those in the modern group, those in the traditional group are less likely to agree to perform same-sex marriages and are less supportive of gender and sexuality diversity in religious leadership roles. Like engagement with science, clergy in the traditional group are less engaged with politics compared to those in the modern group. For example, compared to those in the modern group, those with a traditional perspective are less politically active on a broad range of economic issues, including poverty and the economy, as well as cultural ones, such as LGBT issues and race relations.

While critical clergy are significantly more likely than traditional clergy to support women's access to church leadership roles, they are no more likely than traditional leaders to support lesbian, gay, bisexual, and transgender (LGBT) church leaders. Compared to the relatively politically inactive traditional group, critical leaders are more politically engaged with a variety of cultural

Table 5: Regression of social views on perspectives on science and religion with sociodemographic controls

	Leadership positions should be open to women[A]	Leadership positions should be open to people of all sexual orientations[A]	Perform gay marriage ceremonies[A]	Political activities address abortion[B]	Political activities address capital punishment[B]	Political activities address economic issues[B]	Political activities address education[B]	Political activities address environmental issues[B]	Political activities address foreign policy[B]	Political activities address LGBT issues[B]	Political activities address gun laws[B]	Political activities address hunger or poverty[B]	Political activities address immigration[B]	Political activities address police/ community relations[B]	Political activities address race relations[B]
Perspectives on science and religion															
Referent is modern															
Traditional	−1.43***	−1.39***	−0.86***	−0.20	−0.05	−2.87***	−2.45***	−2.77***	−2.35***	−1.08*	−0.78	−2.07***	−2.71***	−3.01***	−2.19***
Critical	0.02	−1.58***	−0.79***	0.88***	−1.26	−1.01*	−0.68	−2.00***	−2.12**	−0.74	−0.71	−1.17**	−0.99*	−1.19	−0.96
Referent is traditional															
Modern	1.43***	1.39***	0.86***	0.09	0.05	2.87***	2.45***	2.77***	2.35***	1.08*	0.78	2.07***	2.71***	3.01***	2.19***
Critical	1.45***	−0.19	0.07	0.90*	−1.21*	1.86***	1.77***	0.77	0.24	0.33	0.07	0.90**	1.72***	1.82***	1.23**
Information below is based on regressions where referent is modern															
Female	−0.20	0.75**	0.68***	−1.02***	−1.99*	−0.41	−0.03	1.04**	−1.36	0.50	0.15	0.84*	0.74	−1.69**	−0.32
Race/ethnicity (referent is white)															
Black	−0.08	−0.86	−0.59	−0.24	0.93	0.24	2.10**	−1.83	−7.97***	−1.46	−2.31**	−0.31	0.22	2.28**	0.87
Latino/Hispanic	−0.94	0.45	−0.46**	−0.67*	1.50**	1.05	0.20	0.30	2.08	−2.74***	−1.26*	−0.36	1.46	−4.82***	−0.13
Other race/ethnicity	−0.40	−0.68	−0.34	−0.67		−0.97	0.56	−0.39		−2.46**	−1.30	1.33	0.69	−2.36*	2.74
Leader age (in decades)[1]	0.07	0.11	0.03	0.04	0.21	−0.47***	−0.09	0.29	0.10	−0.18	−0.49**	−0.17	−0.13	−0.13	−0.04
Leader Education (referent is Master of Divinity)															
No formal training/college	0.68	1.38	0.24	−0.97*			0.50	0.83				−0.47	1.90	1.29	-0.03
Some formal training/college	0.14	−0.04	0.07	−0.55*	0.69	−0.89	0.71	0.18	1.52**	−0.17	1.24	−0.46	0.48	0.80	0.07
Bachelor's degree	0.77	0.11	−0.10	−0.18	1.64*	0.37	0.91	0.68	0.18	1.19**	1.06*	−0.40	0.05	1.80***	0.47
Graduate degree, non-MDiv	−0.73	−0.25	0.17	−0.47*	2.26***	0.29	−0.64	−2.97***	−0.60	−0.97	−0.06	−1.33**	−1.98***	−1.34*	−1.45**
Religious leader household income[2]	0.01	0.09**	0.06**	0.01	0.08	−0.11	0.03	−0.01	−0.12	0.04	0.03	−0.01	0.03	−0.01	0.08
Religious Tradition (referent is Catholic)															
White Evangelical	1.86***	−1.77***	0.12	−1.06***	−3.71***	−0.97	−0.81	−0.17	−0.63	2.05**	−2.08***	−1.11	−1.94***	−0.21	0.69
Black Protestant	3.34**	0.87	−1.73***	−1.07	−2.02	1.18	1.05	−2.15	−2.15	0.80	−0.17	−0.60	−2.01**	−0.68	0.30
White Liberal	2.69***	−0.28	0.75*	−2.44***	−2.93***	−0.50	−0.37	−0.53	−0.48	1.97**	−1.34*	−0.63	−1.97***	−0.34	0.98

(*Continued*)

Table 5: (Continued)

	Leadership positions should be open to women[A]	Leadership positions should be open to people of all sexual orientations[A]	Perform gay marriage ceremonies[A]	Political activities address abortion[B]	Political activities address capital punishment[B]	Political activities address economic issues[B]	Political activities address education[B]	Political activities address environmental issues[B]	Political activities address foreign policy[B]	Political activities address LGBT issues[B]	Political activities address gun laws[B]	Political activities address hunger or poverty[B]	Political activities address immigration[B]	Political activities address police/ community relations[B]	Political activities address race relations[B]
Other	1.99***	−0.43	1.56***	−0.14	−3.66**	−0.79	−0.05	−0.46	−0.58	0.74	−1.51	−0.28	−3.40***	−0.10	−0.81
Party identification[3]	−0.33***	−0.39***	−0.10*	−0.00	−0.06	0.07	0.24*	−0.20	−0.10	0.21	0.04	0.08	0.05	−0.02	0.03
Political views[4]	−0.07	−0.07	−0.21***	0.42***	0.09	−0.08	0.06	0.08	0.21	0.03	−0.65***	0.23	−0.28*	0.16	0.05
Congregation race (referent is predominantly white)															
Predominantly black	−1.60	−2.21*	1.80***	−1.07	−0.40	0.40	−1.56	3.78	9.70***	2.00	2.22**	0.50	−0.33	1.92	1.80
Predominantly Hispanic	1.66*	−0.30	−0.05	1.09**	0.04	−0.29	2.07*	1.12	−0.86	2.51***	1.23*	0.99	1.96*	5.10***	2.20*
Predominantly another race	0.95	−0.94	−0.15	−1.36		−1.91	−1.83	−0.25	4.17***	4.89***		−3.24**	4.58**	−4.39**	−2.22
Multiracial congregation	0.53	−0.09	0.16	0.01	−0.22	−0.32	−1.00*	−0.45	0.23	−1.14**	0.30	0.23	−0.99*	0.16	−0.36
Region (referent is South)															
New England/Mid Atlantic	0.90***	0.09	0.32	0.70**	0.16	−0.81	−0.47	−0.43	−0.47	0.28	−0.59	−0.49	−0.54	0.76	0.23
North Central	0.70	0.19	0.07	0.15	0.50	−0.22	0.39	0.40	−0.04	0.06	−1.04**	0.50	−0.20	−0.35	0.44
West	−0.26	0.06	−0.11	−0.13	−1.06*	−0.92*	−0.10	−1.07*	0.37	0.03	−0.60	−0.08	−0.23	0.67	−0.98**
N	1,010	1,010	1,011	955	963	976	982	982	965	976	971	982	982	982	982
R-squared	.421	.742	.725												

Source: National Survey of Religious Leaders (NSRL).

Note: Table contains regression coefficients using weighted data.

[A] indicates linear regression,

[B] indicates logistic regression.

[1] The decades in which the leader was both are measured in seven categories, ranging from 1990–99 through 1930–39.

[2] Thirteen categories ranging from $0–$9.000 to $200,000 or more.

[3] Seven point scale from strong Democratic to strong Republican.

[4] Seven point scale from extremely liberal to extremely conservative.

$^{+}p < .10$;

$^{*}p < .05$,

$^{**}p < .01$,

$^{***}p < .001$ (two-tailed tests).

issues including immigration, police, race, and education. In fact, critical clergy are just as politically active as those in the modern group on cultural issues such as abortion, LGBT rights, and race relations. Yet, based on these groups' political ideologies and attitudes, we suspect that the nature of their political activity differs substantially. Indeed, regression models that include an interaction for political views and latent class membership (not shown) suggest that political ideology moderates the effects of these worldviews on some of clergy's social attitudes and political activities. While this is only suggestive, it may be evidence that clerical perspectives on science and religion have their greatest effects on religious leaders with the most extreme political ideologies.

Conclusion

Using data from a nationally representative survey of United States clergy, our LCA found three underlying groups of congregational leaders based on their engagement with and accommodation of science. Those with a modern clerical perspective are engaged with and hospitable toward science while those with a traditional perspective are disengaged and unaccommodating. A critical perspective blends aspects of the other two. Like a modern perspective, a critical one engages with science frequently. Like a traditional perspective, a critical one is generally unaccommodating of science. These perspectives are held by different kinds of religious leaders and are predictive of a variety of their political attitudes and behaviors. Altogether, our results suggest that clerical perspectives on science and religion are nonbinary and, like public perceptions of science and religion, cannot be reduced to ideological or denominational commitments (DiMaggio et al. 2018; O'Brien and Noy 2015).

These findings advance research on religion, science, and society in several ways. First, our investigation reveals that clerical perspectives on science and religion are multifaceted and relational. We focused specifically on clergy's ideas about creation and their engagement with science and found underlying groups based on different configurations of these manifest variables. Analyses of additional dimensions, such as clergy's understanding of science or their beliefs about noninstitutionalized science may reveal additional perspectives. As a first step, our analysis shows that clerical views of science and religion cohere around intellectual and moral dimensions and cannot be fully captured by unidimensional measures.

Second, our results provide evidence of multiple lenses through which clergy interpret science and religion. In doing so, these findings contribute to literature on the boundary between these two sources of cultural authority. The modern perspective is the strongest evidence against the classical conflict thesis' extension to people's perspectives, suggesting inevitable and widespread views of incompatibility between science and religion, because it shows that some clergy reconcile modern scientific theories with their religious belief. And, while those in the traditional and critical groups are less accommodating to science, few religious leaders in any category believe strongly that science and religion conflict or that scientists are hostile to religion.

Notably, these perspectives cut across religious traditions. Historically, conservative Christians are associated most closely with resistance to certain areas of science and technology (Evans 2002). However, we find that some Evangelical leaders hold a modern, accommodating perspective on science and religion. And, although white liberal Protestants are often associated with more favorable views of science, some of these leaders are included in the traditional and critical categories. In sum, while clerical perspectives on science and religion are related to religious traditions, focusing only on traditions obscures how clerical views of science and religion may vary within religious groups and cut across traditions.

Third, our findings contribute to research about the relationship between engagement with science and appreciation of science. Classical theories of science attitudes conceptualized appreciation of science as a function of engagement with science (Miller 2004). The assumption was that increasing a population's familiarity with science leads to an increase in its appreciation of science. This basic association may be evident in the modern and traditional perspectives, which are, in some ways, opposite poles on a spectrum of engagement with and accommodation of science. However, many religious leaders do not fit this pattern. For those in the critical group, engagement with science seems to be decoupled from appreciation of science. Although we do not have direct measures of science appreciation, given their disavowal of scientific theories of human origins and climate change, we surmise that these clergy have relatively negative views of science, despite their frequent attention to it and their relatively high educational attainment.

Another key finding of our investigation relates to ethno-racial differences in clergy perspectives. While most leaders in each group are white and lead white congregations, Black clergy and those who lead multiracial congregations are overrepresented among those who hold traditional or critical perspectives. This points to a potential contributor to ethno-racial health disparities and highlights the importance of clergy interaction with their constituents on issues related to science and medicine. Research has noted the importance of religious leaders' advice for addressing their congregations' vaccine hesitancy, which has important implications for health inequalities, morbidity, and mortality (Moore et al. 2022; Namageyo-Funa, Muilenburg, and Wilson 2015; Privor-Dumm and King 2020; Schneider and Bolger 2021). Indeed, leaders of predominately Black congregations are overrepresented in the critical and traditional groups. Broadly, this finding aligns with analyses of public opinion that finds that perspectives of science and religion differ by ethnicity and race in ways that are consistent with historical legacies and contemporary exclusion of Black Americans and other ethnic minorities from science (Noy and O'Brien 2018).

Finally, our findings contribute to research on the politicization of science and religion. In the past several decades, there have been growing ties between organized science and liberal politics and organized religion and conservative politics (O'Brien and Noy 2020). However, these results are a reminder of the heterogeneity among religious Americans' views of science. Consistent with studies that link organized religion to conservative politics, the religious leaders in our sample are relatively conservative both in terms of party identification and political ideology. Clergy's attitudes about specific political issues mirrored these more general ideological divides. Yet, those in the modern group were relatively likely to identify as liberals and as Democrats and to hold progressive views on gender and sexuality. Importantly, the liberal political values associated with the modern perspective are a counterpoint to research that uniformly associates organized religion with conservative politics.

Our analysis focused on the distribution of clergy across the latent classes we identified. Given religious leaders' ability to influence congregants, it is also worthwhile to consider the size of the audience reached by clergy in each category. To do so, we examined the average congregation size for clergy in each latent class for the whole sample and separately for each religious tradition.[1] Clergy in the modern group lead the largest congregations, with an average of 653 members. Clergy in the traditional group lead slightly smaller churches, with an average of 622 members. Those in the critical group lead the smallest churches, with an average of 555 members. Within each religious tradition, critical clergy lead smaller congregations than modern or traditional leaders. However, the rank order of congregation size for modern and traditional clergy depends on religious traditions. For example, modern clergy have substantially larger congregations than traditional clergy in white Evangelical and liberal Protestant churches. Yet, traditional

[1]In the NSRL data, congregation size is coded categorically: (1) 50 or fewer; (2) 51-150; (3) 51-150; (4) 351-1000; (5) 1,000 or more. We recoded categories to their midpoints. The highest category's upper limit is unbound, so its value was based on the interval from the previous category.

clergy lead slightly larger congregations than modern clergy in Catholic and Black Protestant churches. Overall, while critical clergy seem to have smaller audiences than modern and traditional leaders, conclusions about clergy's differential reach are tentative because the congregation size variable excludes congregants under the age of 18, which substantially complicates its interpretation. A more precise measure of congregation size is needed to support stronger conclusions about the audiences for clergy in these different groups.

Differences across the traditional, modern, and critical groups' political engagement are consistent with differences in their engagement with science. Just as it defines the traditional group's perspectives on science, disengagement seems to distinguish their politics. And, just as engagement with science unites the modern and critical groups, both are engaged with a variety of political issues. Yet, divides in their political ideologies (see Table 4) and attitudes about gender and sexuality (see Table 5) indicate that these two groups participate in politics with different goals.

Research on public opinion about science suggests that political polarization is driven by conservatives' mistrust of scientists as political actors, not by their mistrust of science as method of inquiry (Mann and Schleifer 2020). Because of scientists' historical association with liberal policy positions, many conservatives mistrust scientific information that is policy relevant while also recognizing the practical benefits associated with nonpoliticized science. This process seems especially germane to clergy in the critical latent class. These leaders' engagement with nonpoliticalized areas of science such as astronomy may signal their genuine interest in science informing their congregants about scientific information and advances. However, these clergy's engagement with politicized areas of science, like climate change, may undermine mainstream scientific theories because of their suspicion of scientists' underlying political agenda. The measures we analyze do not measure *how* clergy discuss these topics, which would be ideal for testing this possibility. Nevertheless, our results contribute to a growing body of evidence that perspectives on science are multifaceted and reflect both cognitive and affective dimensions.

As community leaders, clergy play an important role in their congregants' lives. This article underscores the variety of ways they view science and religion, independently of their faith traditions and political ideologies. These results also suggest that clerical perspectives on science and religion are multidimensional and include both intellectual and normative components. Additional survey research, focused on additional and more direct measures of attitudes about science and scientific knowledge, alongside qualitative research into the meanings leader from these three groups associate with science would facilitate a more complete understanding of clergy's views of this complicated cultural terrain.

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