

Religious Elite Cues, Internal Division, and the Impact of Pope Francis' *Laudato Si'*¹

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Abstract: What impact do cues from religious elites have on followers, particularly when religious communities are internally divided? Could religious elites promote internal consensus, or would their cues stoke further internal polarization? This article utilizes the release of Pope Francis's encyclical on the environment, *Laudato Si'*, to explore these questions. A unique survey experiment, conducted on a nationally representative sample of Catholic voters in the United States in late 2015, tests the impact of Francis' message relative to a similar message from unidentified environmental elites. In keeping with other studies of *Laudato's* impact in the United States, findings reveal real, but nuanced, effects from Francis' environmental cue. The Francis cue did impact conservatives and high religiosity Catholics, but these effects were not distinct from those on other Catholics in the sample, suggesting limitations in promoting consensus. Instead, responses to a Francis cue varied sharply depending on pre-existing views of Francis' leadership.

Laudato Si', Pope Francis' encyclical letter on humanity's relationship to the natural world, received a nearly devotional reception in the United States when released in Summer 2015. President Barack Obama, the head of the United Nations Environment Program, and the journals *Nature* and *Science* all praised the encyclical and welcomed Pope Francis' leadership on issues of environmental protection (Jesuit European Social Centre 2015). At the time of the encyclical's release, survey research from the Pew Research Group found Francis enjoying an 86% approval rating from American Catholics. However, even among American Catholics, elite reaction to Francis' intervention was

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hardly universal acclaim. Congressional Republican Paul Gosar, a Catholic, complained that the pope's "climate change talk has adopted all the socialist talking points" (Linker 2015). Conservative activists like Samuel Gregg of the Acton Institute were outspoken in criticizing the "lamentable understanding of economics, and free markets more specifically, that permeates *Laudato*," as well as the "sheer overreach that plagues the text" (Gregg 2015). Beyond these criticisms, it is also reasonable to wonder whether Francis was likely to persuade those not already "converted" to environmental concern (Landrum and Lull 2017).

Preexisting research specifically focused on religion and environmental attitudes provides mixed guidance on potential effects of interventions like *Laudato* among Catholics. While evidence indicates relatively high levels of clergy speech in favor of environmentalist views in some American denominations (Djupe and Hunt 2009) and nuanced religious attitudes and environmental responses in comparative settings (Smith and Veldman 2020), the study of religion and the environment remains influenced by a tradition of skepticism about religion's impact, primarily via Lynn White Jr's classic linking of "our environmental crisis" to religious beliefs (White 1967; Konisky 2018). Especially in the United States, significant attention is paid to white evangelical Christianity, whether in its skepticism of climate science (Smith and Leiserowitz 2013), response to environmental deliberation (Djupe and Gwiasda 2010) or resistance to particular forms of international policy responses (Chaudoin, Smith, and Urpelainen 2014). Multiple studies have identified the role of eschatology as negatively associated with environmental concern (Guth et al. 1995, Barker and Bearce 2013). Studies have arrived at limited findings regarding Catholic identification (Greeley 1993; Arbuckle and Konisky 2015; Arbuckle 2017; Clark and Carlisle 2020). Applying these findings to the study of *Laudato* presents challenges, as eschatological beliefs are likely less salient in the study of Catholic politics, and existing findings related to Catholicism are not entirely consistent. Moreover, while scholars have long paid attention to the influence of moral norms in environmental attitudes (Stern, Dietz, and Black 1985; Feinberg and Willer 2012), recent evidence is more ambiguous regarding the effect of moral appeals relative to those based on economic interests (Albertson and Busby 2015). Scholars of religion and U.S. politics have moved beyond the assumption that clergy speech automatically leads to congregational change (Djupe and Gilbert 2009). As Jenkins, Berry, and Kreider (2018) point out in a recent review, scholars are just beginning to grapple with the connections between elite environmental statements and public environmental attitudes.

Often missing from reporting and research analyzing religion and the environment is the broader, sometimes contentious, political environment in which religious leaders make environmental claims. This is a point with implications both for the United States and in comparative perspective. Religious elites addressing environmental politics one day may have been marching for civil rights or advocating for restrictions on same-sex marriage earlier in the week. And their grassroots co-religionists may have strongly held views on their approval for particular religious elites or the general involvement of religious leaders in politics that shape their responses to any environmental claim-making. Elite cues may promote new consensus over divisive issues, but could also stoke latent internal divisions over religion and politics. In the case of Francis, his public leadership has garnered international attention on issues as diverse as same-sex marriage and refugee resettlement, but his public interventions on such issues have provoked internal dissent, particularly in the United States, where religiosity and partisanship have become tightly linked, at least among whites. Conservative American Catholic commentator Ross Douthat has speculated that Francis' public agenda is playing a part in a slow motion schism in Catholicism (Douthat 2019). The study of Francis' impact on environmental politics may benefit from contextualization in broader contention over religion and politics.

This paper attempts to take up this task, using a novel experimental design to both conduct a tough test of any "Francis effect" while also embedding religion and environmental politics in a broader religious-political environment. The research design advances recent research on religion and the environment by employing experimental methods to provide a tough test of the causal effect of exposure to the pope's letter, testing whether papal leadership motivates change among American Catholics beyond that achieved by "normal" environmental leaders. Findings also contribute to a growing literature in both American and comparative subfields of political science on the moral authority of religious elites in politics, particularly when religious messages target internally divided religious populations. There is significant evidence that responsiveness to religious political cues is variable in the United States (Calfano and Djupe 2009; Robinson 2010; Weber and Thornton 2012; Adkins et al. 2013; Albertson 2015; Campbell et al. 2018). This resonates with recent research in comparative politics that demonstrates variable demand for religious politics, even in high religiosity environments (Kurzman and Naqvi 2010; Boas 2014; Chhibber 2014; McClendon and Riedl 2015; Buckley 2016a). Data presented below suggest that the

effects of religious-political cues in one particular context were strongly conditioned by public approval of particular religious leaders, and that cues from religious elites may exacerbate internal divisions. As Grzymała-Busse (2015) puts it in her comparative analysis, “Moral authority is brittle...it is a valuable political asset for churches, but one that must be carefully tended and invested.”

In sum, the experimental evidence indicates that Francis’ cues in *Laudato* did have some impact on American Catholics when compared with messaging from anonymous environmental elites. Consistent with recent research, evidence of a “Francis effect” is more robust in raising the moral salience of climate change, and less so on impacting policy attitudes. Most importantly to this argument, these Francis effects stoked fragmentation between the Pope’s advocates and critics in the American Catholic population. There is limited evidence that conservatives came to a new consensus with liberals in response to Francis’ cues. Conservatives responded, but with Francis effects indistinguishable from more those among liberal Catholics.

LAUDATO: RELEASE AND RECEPTION

Papal encyclicals rarely receive the mainstream media attention in the United States that accompanied *Laudato*’s release. The document itself stretches to nearly 200 pages, and focuses broadly on what its subtitle terms “care for our common home.” It does devote attention to classic themes of environmental protection like preserving biodiversity and improving water quality, but is quite different from secular environmental advocacy materials. It ties environmental concern into the tradition of Catholic social teaching, emphasizing the importance of the global environmental crisis to relationships, both among humans and between humans and the divine. It develops the concept of “integral ecology,” linking environmental concerns to a much broader critique of “throwaway culture” and modernity’s “anthropocentrism.”² In the assessment of one church historian, “[Laudato] was a challenge both to pro-life, pro-family conservatives to respect the integrity of the natural world, and to environmental campaigners to safeguard the institutions and laws that protect human life and family” (Ivereigh 2019).

While the document ranges widely from interpreting earlier papal teaching to expounding on the relationship between faith and science, secular media attention largely focused on Francis’ attention to climate change,

which he calls “a global pattern with grave implications” and attributed “mainly as a result of human activity.” The *New York Times* and *Wall Street Journal's* news headlines agreed that encouraging action to address climate change was the encyclical's newsworthy takeaway (Rocca 2015; Yardley and Goodstein 2015). The document's clear statements highlighting the human origins of climate change, linking environmental care to moral concern for the common good, and urging “lines of action” including “enforceable international agreements” and “new national and local policies” might drive changes in popular attitudes. Still, it remained unclear whether mainstream media coverage would correlate with shifts in public views. As one recent review put it, *Laudato's* release was accompanied by a “media frenzy...in which hyperbolic claims about the transformative power of religious authority populated most news accounts” (Berry 2016). Berry's comment is astute not only in its measured skepticism, but also in its diagnosis that a shortcoming in early coverage of the encyclical was an assumption that religious authority automatically brings about significant popular change among co-religionists.

In the wake of *Laudato*, several studies have set out to measure the impact of Francis' message, especially in the United States. In the run-up to the encyclical, researchers devoted attention to the religious beliefs or values that might correlate with climate change attitudes, while also documenting the strong moral standing of Pope Francis in public opinion (Leiserowitz et al. 2015). Post-release, others found that U.S. Catholics were more likely than other Christians to perceive a moral responsibility for addressing climate change, and that knowledge of the encyclical seems to correlate with a perceived moral responsibility to address the issue (Gray 2016). Myers et al. (2017) used panel data to argue that Francis' message was associated with behavioral, not just attitudinal, change. Researchers in another panel study found changes that could be the result of the document's impact, including increased perception of Francis' credibility as a source of information about global warming (Maibach et al. 2015). Interestingly, that same study found *no changes* in the level of support for *governmental* action to address climate change. Mills, Rabe, and Barrick (2015) similarly documented an uptick in acceptance of climate change, but less robust results in linking religious views to governmental policy responses. An observational study from Li et al. (2016) indicates that awareness of the encyclical may have distinct effects among conservatives and liberals, with some potential for blowback from conservatives reminiscent of Zhou (2016)'s

“boomerang effect.” In a question-order experiment, Schuldt et al. (2017) find that being prompted with an image of Francis and an awareness question about the encyclicals caused respondents to raise the moral salience of climate change, but only increased mitigation responsibility among Democrats.

On the whole, these studies give reason to expect that *Laudato* had some effect among Catholics, but do present several unaddressed opportunities for further research. First, one could argue that existing research designs have not provided the toughest tests of potential Francis effects. Observational studies, even of panel data, may be open to influence from other real-world events. Schuldt et al. (2017)’s experimental design, involving a question-order experiment that primes a treatment group with an awareness question about *Laudato*, has real strengths, but is designed in such a way that it does not test the impact of Francis’ particular environmental intervention in comparison to more typical environmental advocacy efforts. This approach, notwithstanding its other virtues, leaves unaddressed common claims that *Laudato* was *uniquely* important for reaching audiences usually resistant to “secular” environmental advocacy. Second, existing studies of *Laudato*’s impact have tended to examine potential effects largely in isolation from broader attitudes related to religion and politics. Several studies test the role of partisanship in conditioning *Laudato* effects, because of partisanship’s linkage to environmental views, but there is little attention to how such effects might be conditioned by pre-existing norms on religion and politics or approval for religious leaders. Landrum et al. (2017), as discussed below, make real progress by highlighting the impact of *Laudato* on religious leader environmental credibility, which raises but does not resolve the question of how broader religious leader credibility might impact the effect of *Laudato* on Catholic attitudes.

RELIGIOUS LEADERSHIP AND THE ENVIRONMENT: BRIDGING OR FRAGMENTING?

Based on research to date, it is reasonable to expect that Francis’s message would have an impact on environmental views of American Catholics, with stronger effects on the moral salience of the issue and more limited effects on policy views. From this foundation, there is a significant opportunity to advance our understanding of the unique effects Francis’ intervention may have had. In this section, I use existing research to set

out two contrasting approaches about how American Catholics may have responded to Francis' message on care for the environment. On one telling, *Laudato*'s significance was that a religious messenger was able to reach portions of the population most likely to resist typical environmental advocacy, in the process building new consensus and reducing polarization. On a different line of argumentation, however, *Laudato* could have had a very different effect, contributing to latent internal divisions among American Catholics. Religious cues on the environment, even from a leader as apparently popular as Francis, could drive further internal polarization among Catholics, particularly those who either resist the messenger involved, Pope Francis, or the general concept of religious leader involvement in politics.

Reaching New Partners and Building Consensus

Among the most common themes in journalistic coverage of *Laudato*'s release was the expectation that Pope Francis would possess the ability to reach portions of the American electorate typically skeptical of mainstream environmental groups. As columnist Emma Green wrote in *The Atlantic*, "His encyclical is a sermon, not a white paper." To an extent, these journalistic claims evoke social science research on the ability of religion to shape policy views in ways that may cut against partisan predispositions (Robinson 2010; Margolis 2018), although that research has generally reached ambivalent or even slightly skeptical findings. Still, particularly given research linking skepticism of environmentalism (Barker and Bearce 2013) and certain forms of scientific knowledge (Ecklund et al. 2017) to religion, it is plausible that *Laudato* could have opened new advocacy doors, especially among American Catholics. Put another way, claims about building consensus imply that *Laudato* would have effects among portions of the American Catholic population likely to be skeptical of environmentalism, and, for the strongest evidence, that effects among those Catholics would be more positive than among Catholics more likely to support environmentalist views without Francis' intervention.

A first place to look for such effects could be defined in terms of partisanship and political ideology. Liberalism stands out as a key predictor of environmental attitudes in extant research (Dunlap, Xiao, and McCright 2001; McCright and Dunlap 2011; Egan and Mullin 2017), a finding that seems to be strengthening over time (Guber 2013). Data from the

Pew Research Group (2012) show that conservatives have become more comfortable with political expressions from religious leaders than liberals, while Wolsko, Ariceaga, and Seiden (2016) find that conservatives are responsive to environmental frames that stress the binding nature of authority claims, which one would think, among Catholics, should be particularly strong coming from the pope. A working paper from Landrum et al. (2016) uses content analysis to show that *Laudato* included appeals to papal authority and “clout” in ways that may resonate with conservatives. This expectation about conservatism is sharpened because of tensions between conservatives and mainstream environmental activists and scientists. Ecklund et al. (2017), for example, have found that skepticism of climate science, in contrast to evolution, is more a matter of conservatism than of religious identification. Peifer, Khalsa, and Ecklund (2016) have shown that religiosity may actually moderate the impact of conservatism on environmental attitudes. In addition to a generic measure of conservatism, responsiveness could be concentrated among those with conservative views on “culture wars” issues most closely tied to the place of religion in public life. The religious claims in *Laudato* take place within a broader policy landscape where individuals form their most salient views on moral authority in politics. While environmental politics is conceptually distinct from views of abortion, culture war views could impact response to papal messaging because conservative culture warriors may be more accustomed to and supportive of religious authority in policy debates. On this telling, *Laudato* would have a little distinct effect on liberals compared to mainstream environmental advocates, but make significant progress in promoting new consensus by positively impacting more conservative Catholics. *H1a: Exposure to religious cues increases environmentalist views among Catholics who are conservative and conservative culture warriors. H1b: The effect of exposure to religious cues is statistically distinct, in a positive direction, among conservative Catholics compared to liberal Catholics.*

It could be that the role of *Laudato* in reaching new partners is most important not between ideological camps but rather across the levels of religiosity or religious experience. Even if studies have arrived at nuanced conclusions on public opinion on religion and science (Ambrosius 2015; Ecklund et al. 2017), there may be a reason to suspect that high religiosity individuals would be most responsive to Francis’ cues in *Laudato*. Scholars of elite framing have documented the ways in which personal interactions may reinforce, or undermine, elite cues (Druckman and Nelson 2003). Catholic religious participation

could set the stage for a more positive response to *Laudato* by indicating that individuals are more accustomed to clerical rhetoric, as well as, according to trends in several rounds of Pew data, more responsive to political leadership in public life (Group 2012). As Wald, Owen, and Hill (1988) put it in their classic study, "Churches possess many of the characteristics that should maximize behavioral contagion and are thus fertile ground for the dissemination of common political outlooks." A wide array of studies has built on this core insight in studying the impact of congregational context on political attitudes and behavior (Djupe and Gilbert 2009). Of course, a central insight of the congregational context literature is that congregations vary, even within a religious tradition. Applying the general congregational approach to the study of environmental politics, Djupe and Hunt (2009) find that both patterns of clergy discourse on the environment and (especially) social environment and participation in a congregation shaped environmental views. One might expect, then, that the effects of *Laudato* are concentrated among those in congregations where the encyclical's cues resonated with local clergy messages. With that said, Landrum et al. (2017) found that prior awareness of *Laudato* was more important for non-Catholics than for Catholics, perhaps tempering expectations. *H2a: Exposure to religious cues increases environmentalist views among Catholics who are regular attenders and those who have heard about Laudato in their churches. H2b: The effect of exposure to religious cues is statistically distinct, in a positive direction, among high religiosity Catholics and those who have heard about Laudato in their churches, when compared to low attending Catholics and those who have not heard about Laudato in their churches.*

Activating Latent Divisions

While it is certainly plausible that *Laudato* could promote new consensus among American Catholics, alternative theoretical approaches point to another claim: religious leader cues could exacerbate existing internal tensions, leading to further fragmentation in public views on the environment. Expectations about encouraging fragmentation imply that the effect of elite religious cues is distinct, and divergent, among different portions of the religious population. Research points to two particular sources of potential fragmentation in response to *Laudato*: messenger credibility and normative views on the religion-state relationship.

Among the key findings from framing research is that popular responses may depend as much on the messenger as the message. As Druckman puts it, messenger credibility places “a clear and systematic constraint to using frames to influence and manipulate public opinion” (Druckman 2001). Elites may provide “heuristic cues,” paths through which even relatively low information individuals form opinions that may come to resemble those of better-informed counterparts (Mondak 1993; Kuklinski and Hurley 1994; Lupia 1994), with the reputations of elites providing important contextual information (Zaller 1992). In the realm of political knowledge, Lupia (2016) highlights the importance of messenger credibility on the reception of new information, particularly across values boundaries. As Kuklinski and Hurley (1994) put it, “it is very possible that citizens-as-cue-takers focus so heavily on the ‘who’ that the ‘what’ recedes to the background.” Other framing research has documented that the effect of moral frames is contingent on the perceived moral standing of the messenger (Van Zant and Moore 2015). Wilholt (2013) has highlighted the particular importance of trust in the context of science information. Scholars of religion and politics have highlighted the importance of leadership credibility in distinct, but related ways (Campbell and Monson 2003; Djupe and Gwiasda 2010). Margolis (2018)’s recent contribution concludes by noting, “Additional research testing group salience, *source credibility* and message effectiveness can offer more nuanced explanations for when counterattitudinal messages can effectively shape attitudes” (emphasis added).

While it is commonly assumed that Pope Francis represents what one study refers to as “a highly credible source” (Myers et al. 2017), perceived credibility is actually variable even for a pope, and likely to shape responses to the encyclical among American Catholics. Evidence has begun to mount that general approval of Francis has begun to decline, whether because of his handling of the sexual abuse crisis or due to partisan dynamics polarizing American Catholics (Smith 2018). Mills, Rabe, and Barrick (2015) found that there is variation in perceived religious leader credibility on climate issues, and Landrum et al. (2017) find that papal credibility on environmental issues may have been impacted by the release of the encyclical itself for some Americans. While these studies focus particularly on credibility *in the sphere of environmental policy*, the broader literature suggests that approval of religious messengers would benefit from being measured more generally, as it could be shaped by public statements unrelated to environmental policy. In the particular case under consideration here, Francis’ public statements on issues ranging from abortion to migration, same-sex marriage to the death penalty have attracted broad attention and surely

shaped approval patterns among American Catholics.³ With this in mind, one would expect that personal approval for Pope Francis's leadership would be an important factor conditioning the impact of *Laudato Si'*. *H3a: Exposure to religious cues increases environmentalist views among Catholics who approve of his leadership. H3b: The effect of exposure to religious cues is statistically distinct, in a negative direction, among those who disapprove of Francis' leadership compared to those who approve.*

A second strand of research points to an alternative pathway through which religious cues could generate internal division: norms regarding religion and politics that shape responses to elite cues. Several comparative studies have examined the causes and consequences of international variation in norms regarding the political influence of religious elites (Buckley 2016a; Grzymała-Busse 2015). Religious traditions are internally diverse, particularly in their views of religious involvement in politics, and what Buckley (2016b) calls "pious secularists" may resist religious elite involvement in public life, even while being personally religious. If an individual holds to a separationist norm that values the division of religion from politics, whether because of a fear of religious influence over politics or a desire to preserve religion from political manipulation, religious cues may generate a negative response. Separationist norms might be thought to impose a kind of generalized negative messenger effect. Rather than the particular leader credibility referenced above, such norms would drive negative responses across the entire category of religious messengers. Campbell et al. (2018) provide a helpful reminder that such norms are not necessarily analogues for personal religiosity or partisanship: "someone can embrace a secular perspective while maintaining a religious identity and participating in religious activities." Albertson (2015) finds that similar norms mediate responses to religious cues, although only for religious out-groups, not among religious in-groups. *H4a: Exposure to religious cues increases environmentalist views among Catholics who demonstrate accommodationist norms on religion-state relations. H4b: The effect of exposure to religious cues is statistically distinct, in a negative direction, among those who hold separationist norms compared to those who hold accommodationist norms.*

RESEARCH DESIGN, DATA AND AGGREGATE FINDINGS

To put these distinct expectations to an experimental test, YouGov was commissioned to gather a nationally representative sample of American

Catholics. The study was conducted online, which allowed subjects to read short mock news clips that introduced experimental variation into the study. The sampling frame was constructed by stratified sampling from the 2010 American Community Survey sample subset on Catholics, supplemented with data from the 2007 Pew Religious Landscape Survey, which was the most recent publicly available version of the Pew religious landscape data at the time that the frame was constructed. The study was in the field from July 22 to 31, 2015, roughly a month after *Laudato*'s official public release on June 18. The survey was administered in English, not in translation, and so the sample of Hispanic Catholics should not be taken as a representative of the Hispanic Catholic population in the United States. This also limits the ability to test hypotheses regarding potential differences between Hispanic and non-Hispanic Catholic responses to religious cues, which are plausible, but largely inappropriate for testing using this sample.⁴ Respondents were randomly assigned to one of two conditions, and post-survey analysis reveals a balance between two groups on major covariates such as age, gender, ethnicity, partisanship, and religiosity (see online Appendix).

To introduce variation, the study embedded subtle changes in both (1) framing and (2) messenger to contrast a "Leader" condition with a "Francis" condition. In the "Leader" condition, the messenger is identified simply as an environmental "leader," while in the second, Pope Francis is identified as the source of the quote. While the substance of the quotation is similar, the "Leader" condition contains general references to "humanity" and "the natural world," while the "Francis" condition adds more explicitly theological framing such as "human dignity" and "God's creation," using quotes actually drawn from the encyclical letter.⁵ This decision to combine two forms of variation captures the multifaceted nature of Francis' potential impact on climate change attitudes, both through his unique status as a messenger and the distinct religious values used in his exhortations. It is important to note that this decision means that this research design is not equipped to settle debates over whether the *content* of religious teaching or the *personal status* of clergy as messengers is more important in shaping responses to cues. While this is a cost, it also increases the external validity of the design, as, in practice, *Laudato*'s unique importance was regularly reported to be a blend of theological content and a uniquely popular messenger. The research design is intended to pose a tough test to potential Francis effects in several ways. It compares the coverage of Francis' statements not to the absence of all news coverage of environmentalists, but instead the absence only of

religious messengers and framing in that coverage. It also is entirely possible that individuals in the "Leader" condition were exposed to information that would resemble the Francis treatment outside of the study via real-world coverage of *Laudato Si'*'s release, which could then water down differences between the two randomized groups (Figure 1).⁶

The dependent variables collected after exposure to the mocked-up newspaper article reflect dimensions along which *Laudato Si'* could impact environmental attitudes (Egan and Mullin 2017). First, a common question about anthropogenic climate change tracks the effect of Francis' teaching on a question of scientific information. Second, because of the focus on moral salience in Francis' teaching, particular attention was paid to the extent to which respondents viewed climate change as a moral priority (Schuldt et al. 2017).⁷ And third, the survey measured support for unspecified "United States Governmental action to address climate change." While scholars have documented the extent to which dimensions of climate change attitudes have moved in general sync over time (Brulle et al. 2012), it seems reasonable that the nature of this study's variation, focused on the impact of religious interventions, could result in different response patterns across these dependent variables (Table 1).

The analysis below examines variation in the impact of Francis' message across several subgroups of American Catholics tied to the contrasting narratives set out above. Variables related to the hypotheses were collected before exposure to environmental messages. Pew's religious attendance measure allows a comparison of effects among weekly mass attenders and those who attend less regularly. Common multi-category questions measure party identification and ideology.⁸ Questions about abortion attitudes provide a measure of a "culture wars" policy issue that could condition responses to Francis' message. The survey included a question about Francis' leadership of the Catholic Church, structured as a "right direction/wrong track" question, to capture the impact of papal approval.⁹ A common Pew question about whether religious leaders should "keep out of political matters" or "express their views on social and political questions" measures beliefs about the proper place of religion in democracy. And finally, the questionnaire included an item documenting whether the individuals had heard environmental issues discussed by religious leaders in their churches.¹⁰

Before proceeding to analyze the experimental evidence, pre-variation views of Pope Francis and levels of environmental rhetoric from local clergy give a sense of potentially relevant variation within the national

Split A: "Leader" Condition

Split B: "Francis" Condition

<p>The Examiner Leaders call for action to address climate change By John Stone, June 18 2015</p> <p>Climate change experts issued a strong statement on Monday calling for world governments to act effectively to combat climate change and environmental degradation.</p> <p>"Global climate change is an unprecedented challenge, threatening humanity and devastating the natural world," the experts wrote. "The time has come for governments, acting on behalf of their citizens, to rise to this challenge."</p>	<p>The Examiner Pope Francis calls for action to address climate change By John Stone, June 18 2015</p> <p>Pope Francis issued a strong statement on Monday calling for world governments to act effectively to combat climate change and environmental degradation.</p> <p>"Global climate change is an unprecedented moral challenge, threatening human dignity and devastating God's creation," the Pope wrote. "The time has come for governments, acting on behalf of their citizens, to rise to this challenge."</p>
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FIGURE 1. "Leader" and "Francis" environmental news stories.

Table 1. Question wording and coding

Dependent variables		
1. Cause of climate change	Do you believe increases in the Earth's temperature over the last century are due more to [ROTATE] the effects of pollution from human activities OR natural changes in the environment that are not due to human activities.	1. Natural Causes, 2. Human Activities
2. Moral salience	Do you agree or disagree with the following statement: "Climate change is a major moral issue facing society today."	1. Strongly disagree, 2. Disagree, 3. Neither agree nor disagree, 4. Agree, 5. Strongly Agree
3. U.S. Government action	Do you agree or disagree with the following statement: "The US Government needs to do more to address climate change."	1. Strongly disagree, 2. Disagree, 3. Neither agree nor disagree, 4. Agree, 5. Strongly Agree

Catholic sample. The overall findings indicate an American Catholic population that is quite supportive of the pope, but with more modest levels of exposure to environmental information in local religious congregations. In keeping with data from sources like the Pew Research Group, Pope Francis was quite popular in Summer 2015, with over 80% expressing approval. Aggregate numbers related to hearing about the environment from a local religious community are mixed, with data indicating that only around one in five Catholics has heard from local religious leaders on the topic. These uneven levels of awareness are in general keeping with results from other post-encyclical surveys about the levels of awareness about *Laudato* (Maibach et al. 2015). A brief look at variation among American Catholics shows internal diversity in Francis approval, but less so in clergy rhetoric. On the right direction/wrong track leadership evaluation question, solid majorities of American Catholics support Pope Francis regardless of category examined. Attendance, for instance, reveals almost no difference between weekly attenders and non-weekly attenders. However, differences are statistically and substantively significant between Republicans and Democrats, with nearly 30% of Republicans responding that Francis is on the wrong track, compared to only 7.5% among Democrats, as well as between Hispanic and non-Hispanic Catholics in the sample, with 22% of non-Hispanic American Catholics objecting to Francis' direction, while only 11.9% of Hispanic individuals do so. Table 2 shows less dramatic partisan variation in hearing about the environment in local communities. Democrats and Republicans look quite similar, with roughly 25% hearing environmental themes in local churches.

While more sophisticated multivariate analysis beyond the scope of this paper could further probe the covariates of both local environmental cues and papal approval, these initial crosstabs confirm the instinct that both approval of Francis' leadership and hearing about environmental themes locally is in fact unevenly distributed even among American Catholics.¹¹ Examining the causal effect of Francis' message in comparison to standard environmental advocacy moves to the experimental portion of the research design.

EXPERIMENTAL EVIDENCE

In sum, the experimental evidence is consistent with expectations that Francis effects could stoke fragmentation, particularly along lines of

Table 2. Pope Francis approval and environment in local religious communities

Francis approval: “Overall, would you say that Pope Francis has been leading the Catholic Church in the right direction, or on the wrong track [Options Rotated]?”

	Right direction	Wrong track
National Catholic	82.4	17.6
High attenders	81.7	18.3
Low attenders	82.7	17.3
Republicans	70.8	29.2
Independents	74.1	25.9
Democrats	92.5	7.5
Hispanic	88.2	11.9
Non-Hispanic	78.1	21.9

Environment in congregations: *Have you heard a leader in your local religious community speak about climate change or protecting the environment?*

	Yes	No	Don't Attend Regularly
National Catholic	21.1	50.3	28.6
Republicans	26.7	50.7	22.7
Independents	18.7	48.0	33.3
Democrats	25.1	50.7	24.3

papal approval, and provides weaker support for the idea that Pope Francis had unique effects on conservative Catholics that might provide new consensus with liberals. The analysis that follows presents results in two forms. First, tables report Francis effects for the sample as a whole as well as theoretically-motivated subgroups within the sample. Tables present straightforward difference of means tests between the two story conditions: unidentified “leaders” and “Pope Francis.” While this approach has its virtues in simple interpretation, the hypotheses set out above about consensus and fragmentation imply a tougher statistical test, examining whether effects are statistically *distinct* across portions of Catholic Americans. Thus, second, the analysis turns to interaction models to test whether the effect of a “Francis” treatment was statistically different across portions of the Catholic sample, whether leading to bridging or fragmenting. In those models, a statistically significant interaction term indicates that the effect of the Pope’s intervention was distinct between subgroups of American Catholics.¹²

When examining all Catholics sampled, the top line of Table 3 demonstrates that the Pope Francis condition has robust effects on moral salience, with effects on causes of climate change and U.S. Governmental action that are estimated in the expected direction but short of standard measures

Table 3. Experimental effects: Francis approval and religion-politics norms

	<i>Causes climate change</i>				<i>Moral salience</i>				<i>U.S. Government action</i>			
	Human acts cause climate change				Mean, climate change moral issue				Mean, U.S. Gov't should do more			
	(% Agree)				(1–5, 5 Strongly agree)				(1–5, 5 Strongly agree)			
	“Leader”	“Francis”	Sig.	N	“Leader”	“Francis”	Sig.	N	“Leader”	“Francis”	Sig.	N
Total	57.8%	62.7%		1,257	4.13	4.29	**	1,400	3.6	3.68		1,400
Francis approval												
Right direction	64.5	71.6	*	994	4.25	4.39	**	1,118	3.82	3.98	*	1,118
Wrong track	32.4	21.7		263	3.64	3.81		282	2.72	2.23	**	282
Religion-politics norm												
Relig leaders speak out politics	60.7	70.9	**	641	4.2	4.39	**	708	3.69	3.89	*	708
Relig leaders keep out politics	54.9	53.2		516	4.06	4.19		692	3.52	3.44		692

Results report significance of difference of means tests between the “Leader” and “Pope Francis” groups.
 *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

of statistical significance. To give more detail beyond the mean values reported, on moral salience, in the “Leader” condition, 42.5% of Catholics strongly agreed that humans have a moral duty to protect the environment, while in the “Francis” condition, that percentage rose to 49.8. On causes of climate change, 4.9% more of those who received the Francis treatment did report that human activities are responsible for climate change, but this result does not meet conventional levels of statistical significance. As expected from existing studies of *Laudato*’s impact, aggregate effects on policy preferences were limited. At the aggregate level, this indicates that Francis’ intervention did impact Catholic environmental attitudes, but may have fallen short of the broad realignment of policy views that some expected.

While the aggregate effects of the religious cue are of interest, the more refined hypotheses about consensus and fragmentation require analysis of subgroups within the sample. What do the data say about hypotheses regarding potential sources of internal fragmentation, whether papal approval or general norms on religion and politics?

First, approval of Pope Francis, measured through the “right direction”/“wrong track” question, is the most consistent and robust mediator of *Laudato*’s effect in this study. Among those who think that Francis has the Catholic Church headed in the right direction, exposure to the “Francis” condition resulted in statistically significant effects on all three measures, *including* support for U.S. Government action to combat climate change. Among “right direction” responders in the “Francis” condition, 43% strongly agree that the U.S. Government needs to take action, in comparison to 36% in the “Leader” condition. In contrast, among those who think Francis is leading the church on the “wrong track,” there is no positive Francis effect for the causes of climate change or moral salience, and a *negative* and statistically significant effect on support for U.S. Government action, which drops from 35% in the “Leader” to 20% in the “Francis” condition. This is one of the only negative Francis effects documented in this study. Turning to the tougher test of whether the impact of the “Francis” condition varied depending on papal approval, Table 4’s Models I and III provide evidence in favor of this claim. These are the only instances of interaction terms attaining conventional levels of statistical significance, indicating truly distinct effects of the encyclical among subgroups of the American Catholic population. Figure 2 provides a basic visualization of the variation in effects depending on papal approval which clarifies the fragmenting nature of these Francis effects. Francis approvers and disapprovers are

Table 4. Testing fragmentation interaction effects

	I Human causes	II Moral issue	III USG action	IV Human causes	V Moral issue	VI USG action
Francis story × Francis right direction	1.575** (0.44)	0.038 (0.19)	0.365*** (0.20)			
Francis story × Religious leaders keep out				-0.874 (0.32)	-0.120 (0.17)	-0.142 (0.15)
Observations	1,257	1,400	1,400	1,257	1,400	1,400

Models I and IV are logit models; other models are ordered probit. Standardized β coefficients; standard errors in parentheses. Tables depict only interaction coefficients in the interest of space; tables including the component variables that make up the interaction are available in the online Appendix.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

moving in fundamentally different directions when being reminded about *Laudato*. It is especially compelling that significant interactions emerge on two outcomes where the aggregate results show no significant effect. It is fair to note that Model II, testing moral salience, does not show differential effects. As Table 3 makes fairly clear, the general direction (if not the statistical significance) of the effects was positive for all involved on that dependent variable. This result is likely explained by the design of the Francis condition, which included an explicit mention of morality, thus being quite closely tied to the moral salience outcome measure.

Moving from particular approval of Francis' leadership to more generalized norms regarding religious leaders in public life, results are more limited. Table 3 does show that those with permissive religion-state norms responded strongly and consistently to the "Francis" condition. These subjects showed statistically significant responses to the Francis condition on all three measures, with the percentage agreeing that human activities cause climate change, for instance, rising from 60.7 to 70.9%, and those strongly supporting U.S. Government action rising from 33.8 to 42.8%. In contrast, those who think that religious leaders should keep out of politics showed little positive response to Francis, with an estimated effect even on the moral salience question that was below conventional levels of statistical significance, and a negative

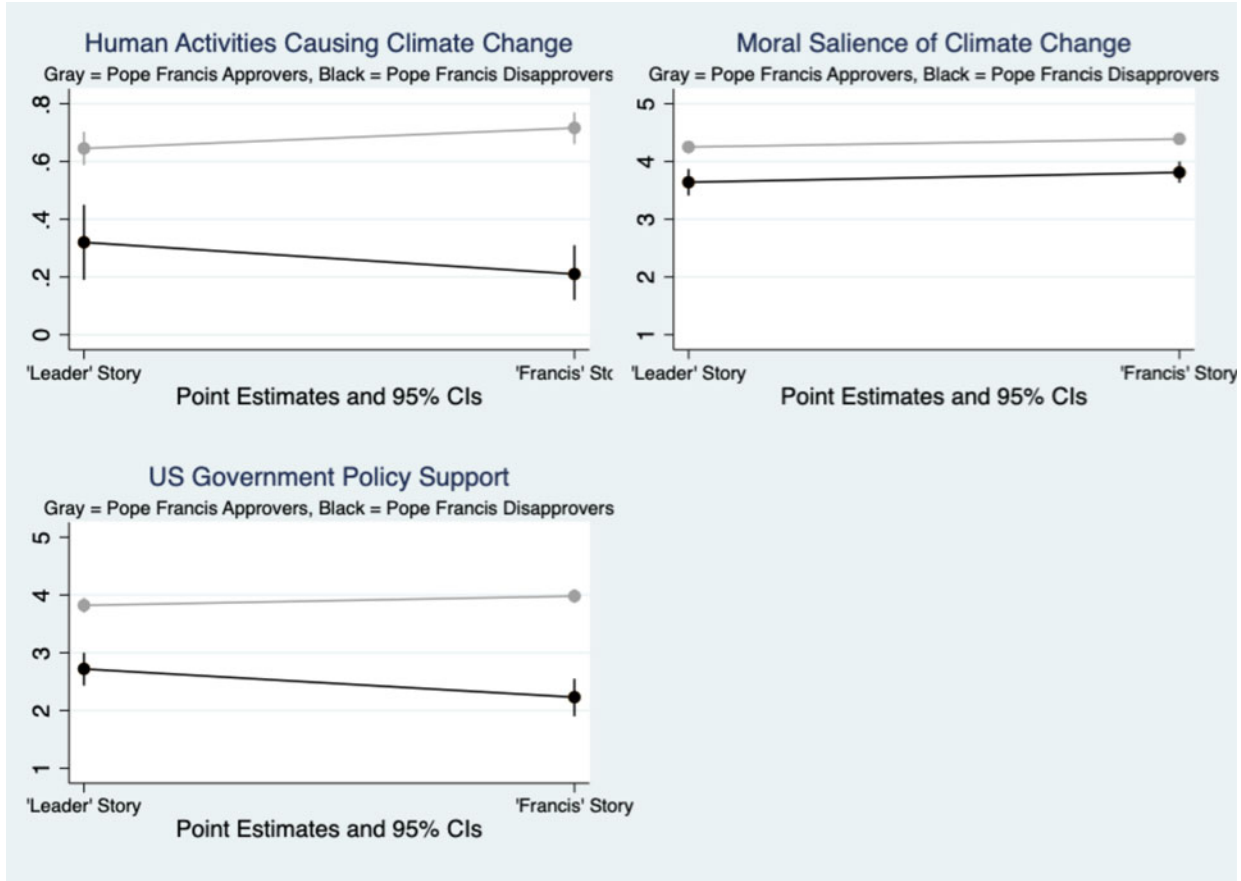


FIGURE 2. Effects of religious cues on environment attitudes, across papal approval.

(though statistically insignificant) effect estimate on support for U.S. Government action. However, in part because the effects among those who reject religious influence were not as strongly negative as among Francis' non-approvers, the interaction effects in [Table 4](#) are not statistically significant. Thus, it is fair to say that Francis reached those who support religious leaders involvement in public life, but not that his intervention drove new fragmentation between them and others with more separatist views.

Given this evidence of new fragmentation based on messenger approval, what do the data say about claims regarding potential new partners who may lead to stronger consensus among Catholics? How did conservatives and high attenders respond to the Francis condition, and were these responses distinct from their coreligionists?

In total, the evidence is limited that the Francis condition drove different effects for Catholic conservatives. [Table 5](#) reports results generally consistent with the expectation that Francis effects should exist among conservatives and conservative culture warriors. Results for conservatives reach robust levels of statistical significance for causes of climate change and the moral salience of the issue, although not on shaping policy response. Just 29% of conservatives agreed that human activities cause climate change in the unidentified "Leader" condition, compared to 42% who read about Francis. In contrast, liberals showed no statistically significant responses to Francis. Liberal Francis effects were estimated in the positive direction, but none come particularly close to rejecting the null hypothesis, at least in part because liberals are already starting out with strong environmentalist views on all measures when in the "Leader" condition. Similar to general conservatives, pro-life Catholics showed strongly positive responses to treatment when measured by both the cause of climate change and moral salience, although again the positive treatment effect estimate for U.S. Government action was not statistically significant. In contrast, pro-choice Catholics showed no significant responses to treatment, although, again, all estimated effects were in the positive direction.¹³ Like with liberals in general, pro-choicers start out in the "Leader" condition with highly pro-environmental views.

While conservative Catholics did respond to Francis, the strongest claims of promoting new consensus imply that political ideology mediated the effect of treatment, with conservatives being uniquely responsive. [Table 6](#), however, shows no robust evidence that this is the case. All interaction effects are estimated in the positive direction, as hypotheses of new consensus would predict, but none of the standardized coefficients reach

Table 5. Experimental effects: ideology and religious behavior

	<i>Causes climate change</i>				<i>Moral salience</i>				<i>U.S. Government action</i>			
	Human acts cause climate change				Mean, climate change moral issue				Mean, U.S. Gov't should do more			
	(% Agree)				(1–5, 5 Strongly agree)				(1–5, 5 Strongly agree)			
	“Leader”	“Francis”	Sig.	N	“Leader”	“Francis”	Sig.	N	“Leader”	“Francis”	Sig.	N
Total	57.8%	62.7%		1,257	4.13	4.29	**	1,400	3.6	3.68		1,400
Ideology												
Conserve	28.7	42.2	**	513	3.84	4.07	**	558	2.67	2.85		558
Liberal	78.7	81.5		463	4.5	4.55		499	4.3	4.4		499
Culture wars												
Pro-life	42.9	54.8	**	638	3.94	4.21	***	708	3.23	3.37		708
Pro-choice	73	72.7		619	4.34	4.39		692	4.0	4.05		692
Religiosity												
Weekly attenders	50.4	59.7	*	407	4.09	4.29	*	452	3.34	3.61	*	452
Non-weekly attenders	61.4	64.4		850	4.15	4.3	*	948	3.73	3.71		948
Heard environment in church?												
Yes	62.4	71.3		314	4.28	4.41		338	3.67	3.8		338
No	54.6	57		642	4.17	4.27		693	3.54	3.56		693

Results report difference of means tests between the “Leader” and “Pope Francis” groups.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

conventional levels of statistical significance. In sum, this provides limited evidence that Francis' intervention in *Laudato* was preferred over generic environmental advocacy in a unique way by conservative Catholics. Those groups did respond, but in ways statistically indistinguishable from their more liberal coreligionists.

The variables related to congregational experience behave in a similar way, particularly religious attendance. Effects in Table 5 are generally positive across all outcome measures for those with weekly attendance, although of modest statistical significance ($p < 0.1$). This consistent pattern emerges in spite of the fact that the sample size drops to roughly 450. Effects were limited among non-weekly attenders, with statistically significant results only on the moral salience variable. As with political ideology, however, the interacted models in Table 6 show no support for the claim that Francis' message would somehow impact high religiosity Catholics differently than others. Given the results among regular attenders, it is perhaps surprising that the measure of those who have actually heard about environmental issues in their own church does not show the expected pattern. Estimated effects are all positive, but none rise to conventional levels of statistical significance. To a certain degree, this may simply reflect the small sample size of those who have heard about the encyclical in the church ($n = 338$), as the estimated magnitude of effects for the human causes of climate change and the moral salience of the issue were quite consistent with, and in some cases larger than, others in the study.¹⁴ Again, interaction effects do not sure distinctly positive Francis effects among this group.

DISCUSSION

This set of findings sheds new light on the conditions under which co-religionists respond to elite religious cues in politics, and the effects of such cues within a divided religious population. In keeping with other research, there is evidence that Francis' leadership in environmental advocacy matters, particularly for raising the moral salience of climate change. Of newer theoretical importance, results advance our understanding of the role of perceived religious authority in conditioning responses to religious cues in public life. Personal approval of Pope Francis' leadership is a robust mediator of the effect of *Laudato*. Interaction-based models show that approval for the particular messenger conditioned the effect of *Laudato*, driving distinctly negative responses from some even within a

Table 6. Testing “New Partner” interaction effects

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	Human	Moral	USG	Human	Moral	USG	Human	Moral	USG	Human	Moral	USG
	Causes	Issue	Action	Causes	Issue	Action	Causes	Issue	Action	Causes	Issue	Action
Francis × conservative	0.867 (0.37)	0.106 (0.18)	0.019 (0.17)									
Francis × prolife				0.818 (0.34)	0.217 (0.17)	0.046 (0.15)						
Francis × weekly attender							0.382 (0.33)	0.044 (0.17)	0.139 (0.16)			
Francis × heard <i>Laudato</i>										0.460 (0.37)	0.140 (0.21)	0.071 (0.19)
Observations	1,145	1,245	1,245	1,257	1,400	1,400	1,257	1,400	1,400	957	1,031	1,031

Models I and IV are logit models; other models are ordered probit. Standardized β coefficients; standard errors in parentheses.

Tables depict only interaction coefficients in the interest of space; tables including the component variables that make up the interaction are available in the online Appendix.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

single religious “in-group.” On the whole, in contrast, there is limited evidence that interventions like *Laudato* were able to promote new internal consensus by uniquely impacting conservative portions of Catholic America.

The findings here highlight the importance of personal moral authority in conditioning the effect of political interventions from religious leaders. The importance of particular religious leader approval in shaping the politics of religion travels well beyond American Catholicism, and should receive more attention from scholars of religion and politics in the United States and abroad. General approval of religious politics may merit attention, but scholars should not assume that all moral authority goes together. One could imagine more refined measures of leader credibility, for instance probing whether a leader is seen as credible in particular policy spheres (Landrum et al. 2017). In this instance, results are consistent with the claim that Francis' involvement in climate debates may exacerbate internal fragmentation, at least involving the subset of Catholic America that disapproves of his leadership. In contrast, the insignificant results for general norms of religion and politics suggest that survey questions asking abstract questions about religion and politics may not be reliable predictors of responses to religious authority, especially if that authority makes claims in an unusual policy sphere.

Second, across the outcomes measured here, there was very little evidence that responses to *Laudato* were uniquely strong among those like conservatives and regular attenders who are commonly thought to be resistant to “secular” environmental advocacy. Such groups did generally respond to the Francis cues, but did not do so in a way that was statistically distinct from more liberal Catholics. The interpretation of this result is a bit ambiguous. On the one hand, it does seem that Francis increased pro-environmental views among conservatives, although not their policy preferences. However, there is limited evidence that these effects reduced the overall partisan polarization among Catholics over environmental issues, as the effects among conservatives were not different than those among liberals.

Third, the presence of certain non-findings raises interesting questions about the intersection of international and local religious authority. It could be that the measure of hearing about the environment in the church was capturing some unintended noise, as the question did not ask whether the local religious leader had adopted what might be thought of as pro-environmental positions. It could also be that local clergy rhetoric, as noted in the rich scholarship on local cues from

Djupe and Gilbert (2009) and others, has limited impact when not consonant with the local community, or perhaps that the processes that lead one to respond to local religious leadership are quite different from those that motivate a positive response to an international religious authority. While the research design of this study was not primarily focused on advancing the congregational context literature, the non-findings suggest further research on the interaction between that local context and cues from higher levels of religious hierarchies. Given the pluralization of religious authority both in the United States and comparative perspective, the intersection between local, national, and even international religious elites is ripe for further study.

Finally, these findings open doors to further comparative research on dynamics in religious leadership beyond the English-language, American Catholic sample gathered here. Data from this sample suggest, for example, that approval of Francis' leadership is particularly strong among the Hispanic Catholics included. However, given the significant limitation of collecting data only in English, robust study of potential ethnic divisions in papal approval would require multilingual data collection. Similarly, American Catholics possess a fairly unique history even within their own religious tradition, a minority tradition that has faced anti-immigrant political persecution, but has also seen its white, non-Hispanic members become increasingly conservative in recent voting behavior. Prominent American Catholic clerics have critiqued elements of Francis' papacy, while American Catholic elected officials have explicitly challenged his message. How would these dynamics of religious authority and responsiveness to cues hold up in national Catholic contexts that feature distinct recent patterns in politics? The question could be relevant from South America to Southeast Asia to Southern Europe; extant research suggests that approval of Francis, for instance, is less tied to the left-right axis in much of Latin America, in contrast to the pattern that emerged in this data (Bohigues and Rivas 2020). Finally, religious authority is fairly hierarchical in Catholicism, which contrasts to other religious traditions in which authority may be much more thoroughly devolved to local leaders.

Overall, these results present a nuanced picture of the likely impact of Francis' leadership, and religious appeals in general, on environmental politics. Those who predicted that Francis would build new bridges could point to the evidence that *Laudato* demonstrated an ability to reach conservative American Catholics in ways over and above generic climate change experts. However, skeptics would be right to point out

that *Laudato* does not seem to have impacted conservatives differently than other Catholics. Moreover, religious cues seem to have heightened environmental polarization between Francis' supporters and disapprovers, not reduced it. Demonstrating the experimental impact of *Laudato* on U.S. Catholics marks progress in our understanding of moral authority in this area, and raises several subsequent questions about the impact of religious appeals in the environmental movement and beyond.

Supplementary Material

To view supplementary material for this article, please visit <https://doi.org/10.1017/S175504832000067X>

NOTES

1. Earlier versions of this paper were presented at the 2017 Meeting of the American Political Science Association and Society for the Scientific Study of Religion, as well as the University of Louisville's Sustainability Research Roundtable. The author thanks Evan Berry, James Guth, Amy Erica Smith, Daniel DeCaro, Jack Zhou, Asheley Landrum, Geoffrey Layman, Rodger Payne, Dave Simpson, Melissa Merry, and the anonymous reviewers and editorial team from *Politics and Religion* for discussion and helpful contributions on various aspects of the manuscript as it developed.

2. An exegesis of the entire document is beyond the scope of this article. The encyclical can be read in its entirety in English at: http://w2.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html

3. It is worth noting that, while Francis' overall approval remains quite high in the United States, he has faced concerted resistance from elements of American Catholic leadership that stands out from other national contexts, as well as a political landscape where religiosity is linked to partisanship, at least for white Americans. This raises the possibility that, in other comparative settings where high ranking clergy have not challenged papal leadership, or religiosity has different partisan salience, low papal credibility may not undercut the effect of messages like *Laudato*. At the same time, it is possible that low papal credibility would still undercut such elite cues, but simply that fewer people in a given society would have such low credibility views. This research design is not equipped to settle that substantively important question.

4. Differences between Hispanic and non-Hispanic Catholics in the United States are increasingly politically salient, and especially given Pope Francis' biographical background, potentially a source of variation in response to his political cues. Unfortunately, because interviews in this sample took place only in English, one should not attempt to generalize from Hispanic individuals in this study and those among American Catholics as a whole. In the interest of transparency, several tests related to the influence of Hispanic identity on the study's findings are included. First, Appendix Table 2 shows that Hispanic individuals were balanced between the "Francis" and "Leader" groups, lowering concerns that this may be determining other statistical results in the study. Second, Appendix Table 6 reports the experimental results broken down by Hispanic identity. Results indicate that the Hispanic portion of the sample did not show statistically significant responses to the "Francis" condition when isolated, and other interaction models not included show that they were not distinct in their responses from non-Hispanic Catholics when tested through interaction models. This is not necessarily surprising, both because Hispanic individuals were a relatively smaller portion of the sample, and their quite liberal views on environmental issues mean that there is less opportunity for the Pope Francis to have a further positive effect when compared to an unidentified climate expert using this particular research design. As discussed in the Conclusion, there is ample room for analysis more directly focused on Hispanic responses to Francis, drawing on data more appropriately tailored to that task.

5. The “Francis condition” does not contain an explicit reference to the title of *Laudato Si*. This decision was made because the impact of the pope’s statement seemed likely to rest on his personal status as messenger and the religious framing in the text, rather than a particular title. There is some chance that *not* mentioning the title undercut the effect of the Francis condition.

6. For context, Maibach et al. (2015) find that 24% of U.S. Catholics had heard of *Laudato Si* in Fall 2015. This is not an overwhelming number, but it could have played some part in limiting the effect of treatment.

7. This question wording on moral salience should be expected to pose the easiest test for the aggregate *Laudato* effects both because existing research has found strongest effects on moral salience, and because the “Francis condition” explicitly adopts a moral framing of the issue. As discussed below in the results, we should thus pay particular attention to consistent patterns across the dependent variables, rather than simply the moral salience question.

8. The ideology and partisanship items generate a scale reliability coefficient of 0.74, and are combined into a simple additive index for later analysis. For the purposes of comparing conservatives and liberals in later tables, those in the top third of the index are compared to those in the bottom third. Alternative codings that tested party identification and political ideology in isolation from each other do not alter the statistical findings.

9. One may wonder whether “Francis Approval” measured in this instrument, even if before treatment, still is essentially a measure of approval for *Laudato Si* since the data itself was collected after the encyclical’s release. While environmental politics has come to contribute to those who chafe at Francis’ papacy, there are reasons to think that the “Francis approval” variable in this study is not simply a direct measurement of support for *Laudato*. First, Pew Research Group measured Francis approval numbers at between 79 and 85% in February 2014 and February 2015 that are indistinguishable to his approval numbers in this sample. Second, as knowledge about *Laudato* was fairly limited even among American Catholics in studies like Maibach et al. (2015), there is reason to think that disapproval rested on more than simply environmental issues. Finally, if approval of *Laudato* is influencing the Francis approval measure, there is a likelihood that this actually works *against* observing differences between the Francis approvers and disapprovers in the statistical treatment effects.

10. It is likely that including questions mentioning religion and Pope Francis before variation effectively provides an extra prime to participants to be thinking about religious factors, and thus is a challenge to the experimental design here. This point deserves some careful consideration. While question order likely does impact aggregate findings, there are several reasons to believe that it is not the major source of the primary findings driving this analysis. First, if anything, introducing pre-variation questions related to religion may prime even the “Leader” condition to be considering religious factors, and thus undermining the likelihood of eventually observing “Francis effects” and generating conservative estimates of such effects. A question-order survey experiment on *Laudato* has shown the effect of such question-based reminders, which here would work against observing distinctions between the two randomized groups. Second, because much of the analysis that follows centers on testing variation in Francis effects *across* theory-driven subgroups within the Catholic sample, rather than aggregate treatment effects, there should be less reason to worry that question order is artificially driving up aggregate effects. Finally, the aggregate Francis effects are in fact quite consistent with other observational and experimental studies on *Laudato*’s impact, which should alleviate some concerns that question order is responsible for the variation in responses post-randomization.

11. See Appendix Table 3 for a basic model of Francis approval, which indicates that Republicans and conservatives are significantly less approving, while women, Hispanic individuals, and weekly attenders are all generally more approving. It is perhaps particularly noteworthy that Hispanic identity is a statistically significant predictor of Francis approval even once controlling for ideology and partisanship. As discussed in the conclusion, there is ample room for further research on the implications of ethnicity for responses to religious cues among American Catholics.

12. In the interest of preserving space and clarity of communication, the tables in the main manuscript only include the interaction terms, not the component variables of that interaction term, which were included in the models. There are tables which include both the interaction and component term variables available in the online Appendix.

13. Some subsequent exploratory analysis is consistent with the theoretical instinct that Francis effects are strongest with conservative groups because, for example, pro-lifers are generally supportive of religious rhetoric in public life. Appendix Table 4 shows that, even among pro-life subjects, Francis

effects were only statistically significant for those who have norms favoring religious leaders speaking out in politics.

14 It could also be that congregational religious experiences might matter in a slightly different way, with a "Francis" cue conditioning the effect of other variables on environmental attitudes (to put it another way, predictors of environmental attitudes that are insignificant in the "Leader" condition may become significant in the "Francis" condition). Appendix Table 5 reports conditional coefficients for several covariates that might be activated by Francis' message. For some variables, there is little difference in coefficient significance between the "Leader" and "Francis" conditions. Conservatism, for example, remains a robust, negative predictor of lower levels of environmental concern on all three measures, regardless of assignment to Leader or Francis. However, hearing about the environment in one's church is *not* a significant predictor of environmental attitudes in the "Leader" condition, but becomes so for two DVs when reinforced by a cue from Pope Francis.

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