JOURNAL FOR THE
SCIENTIFIC STUDY OF RELIGION

Evangelical Environmentalists? Evidence from Brazil

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While scholarship on the relationship between religions and environmental attitudes has been inconclusive, evangelical Protestants present an exception: they consistently report less environmental concern than other groups. However, prior studies have largely been conducted in the United States. Following a recent "contextual" turn, we revisit the assumption that universal cognitive and doctrinal factors drive the previously documented negative association between evangelicalism and environmental concern. Leveraging qualitative fieldwork, nationally representative surveys, and a survey experiment from Brazil, we find that evangelical and Pentecostal affiliation and church attendance are not associated with reduced environmental concern; that members of these groups simultaneously embrace otherworldly beliefs and advocate for this-worldly solutions to environmental problems; and that being primed to consider divine intervention increased support for environmental protection. Even in a tradition emphasizing orthodoxy, doctrine appears not to exert a universal influence, a finding we suggest results from different issue frames in the United States and Brazil.

Keywords: *evangelicalism, environmental concern, Brazil, survey experiments, climate change.*

INTRODUCTION

In October 2014, a Brazilian pastor from the Assembly of God explained his stance on environmental protection: "God made the universe, and he took one celestial body that he made the earth. He put fish of all colors: yellow fish, green fish, red fish, blue fish. He put trees, all

Note: The quantitative analysis in this paper utilizes three different publicly available datasets: (1) Data from the LAPOP AmericasBarometer's 2014 survey in Brazil may be found at www.americasbarometer.org, (2) data from the World Values Survey 2014 in Brazil may be found at http://www.worldvaluessurvey.org/wvs.jsp, and (3) Data from the 2014 Brazilian Electoral Panel Study may be found at https://www.iadb.org/en/research-and-data/publications?pub_id=IDB-DB-122. Upon publication, all code to replicate the quantitative analyses in this paper will be uploaded to Dataverse. The qualitative data collection was funded by several awards to the first author: a Fulbright Postdoctoral Research Award; a Small Research Grant from the American Political Science Association; a Regional Faculty Research-Travel Award from the University of Wisconsin-Milwaukee; and a Small Grant Award from the College of Liberal Arts and Sciences at Iowa State University.

Acknowledgments: For comments on prior versions of this paper, we thank Taylor Boas, Sumita Pahwa, participants in the "Finding Religion" workshop at Boston University, April 2019, and three anonymous reviewers. Thanks to Mariana González and Ana Paula Evangelista for assistance with the focus groups. Thanks to Taylor Boas for sharing articles from *Mensageiro da Paz*. And last, we thank the Latin American Public Opinion Project (LAPOP) and its major supporters (the U.S. Agency for International Development, the Inter-American Development Bank, and Vanderbilt University) for making the LAPOP data available.

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Journal for the Scientific Study of Religion (2020) 59(2):341–359

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sorts of little birds. Every year he sends flowers to us in that beautiful garden. And human beings throw it away. Now man in his sinfulness destroys it all. He kills the little birds, he burns down the forests." Meanwhile, at a focus group in the same denomination conducted in the southeastern United States, a participant rejected environmental concern: "people place so much emphasis on saving the trees [that] they forget the fact that God created those trees. Instead of focusing on the creation, we need to focus more on the creator."[1] These remarkable differences in views, both grounded in the same theological tradition, underscore a need to better understand how context intersects with religious traditions to produce different environmental attitudes.

Scholarship on religion and the environment has recently undergone a "contextual turn," increasingly viewing attitudes and behavior as dependent on contextual cues rather than universal doctrine. Nonetheless, many scholars continue to assert that universal doctrine explains the environmental attitudes of evangelicals in particular. Consistent with this theory, a large body of empirical research finds evangelicals to be less environmentally concerned than members of other groups. However, this literature to date has been largely based on studies of the United States, inhibiting a full understanding of how interpretive context may shape environmental attitudes.

We examine the impact of religious affiliation on environmental attitudes in a different national context: Brazil. Using both survey and focus group data to provide a rich account of interpretive practices, our analysis suggests that, in stark contrast with the United States, evangelicalism and Pentecostalism are associated with neutral or even increased environmental concern in Brazil. We conclude by discussing potential mechanisms, as well as implications for our understanding of Christianity and environmental concern.

The Need for Cross-National Research on Evangelicals' Environmental Attitudes

What initially spurred research into Christianity's effects on environmental attitudes was a 1967 paper published in the journal *Science*, in which the historian Lynn White, Jr., attributed environmental crisis to the exploitative attitude toward nature sanctioned in Genesis (White 1967). Yet decades of subsequent research have yielded mixed support for White's broad generalization. In recent years, this has prompted a "contextual turn." Rather than conceiving of universal doctrine as driving religious influence, scholars now point to factors that shape attitudes and behavior in local settings: identity or reputational concerns, congregational norms, decision-process cues (cues from elites about how faith informs environmental advocacy), and habituation (opportunities to practice environmental behaviors in worship settings) (Djupe and Hunt 2009; Djupe and Gwiasda 2010; Vaidyanathan, Khalsa, and Ecklund 2018). This turn helps to explain ambiguous findings: scholars will only find a tight coupling between religious teachings and environmental attitudes/behavior when additional, contextual factors reinforce the implications of those teachings (Chaves, 2010; Vaidyanathan, Khalsa, and Ecklund 2018).

However, the situation is different with evangelicals. Studies consistently find lay evangelicals to be less environmentally concerned than adherents of other traditions, controlling for political and demographic factors (Arbuckle and Konisky 2015; Boyd 1999; Carlisle and Clark 2017; Eckberg and Blocker 1996; Greeley 1993; Guth et al. 1993, 1995; Hand and Van Liere 1984; Jones, Cox, and Navarro-Rivera 2014; Kilburn 2014; Smith and Leiserowitz 2013; Shao 2017; Sherkat and Ellison 2007; Slimak and Dietz 2006).[2] Despite efforts to propose other mechanisms of influence (e.g., Djupe and Gwiasda 2010; Greeley 1993), researchers still commonly appeal to what Djupe and Hunt (2009:670) call cognitive/doctrinal explanations. For example, Schwadel and Johnson (2017) argue that "biblical literalism is the foremost cause of evangelicals' [negative] views of environmental spending" (17). Other scholars focus on the role of dominion beliefs and eschatology (e.g., Barker and Bearce 2012; Eckberg and Blocker 1996; Hand and Van Liere 1984; Guth et al. 1993, 1995; Kilburn 2014).[3]

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[1] Interview by Amy Erica Smith, October 10, 2014. Focus group by Robin Globus Veldman, October 12, 2011.

[2] U.S.-based studies have found that evangelicals' environmental attitudes vary on several dimensions, including public v. private environmental behaviors (Sherkat and Ellison 2007); present v. future environmental problems, and individual v. collective behavior (Smith, Hempel, and MacIlroy 2018); and leaders v. laity (Danielsen 2013; Wilkinson 2012).

The continued emphasis on doctrine might make more sense for evangelicals than other religious groups, given the centrality of orthodoxy and religious belief to evangelical identity. As Glazier (2015) writes, "in a subfield [of religion and politics] that has plenty of data but fewer causal explanations, beliefs form a critical link between the religious realm and the political, with effects that are more direct and immediate ... compared to other religious measures." But even if religious beliefs are a key mechanism of influence, are we justified in assuming that beliefs operate in a cultural vacuum? Or could context shape how beliefs are interpreted? The striking empirical consistency in evangelicals' environmental attitudes means they can serve as a useful religious test case for examining whether and how national context mediates the role of doctrine in shaping environmental attitudes.

As literature reviews document, the bulk of research on religion and the environment has been situated in the United States (Berry 2017; Taylor, Van Wieren, and Zaleha 2016). Yet recent research suggests that the empirical regularity found in the environmental attitudes of U.S. evangelicals might be linked to the national context. Specifically, Bean (2014) highlights the role of the U.S. Christian Right in "successfully defin[ing] evangelical identity in ways that delegitimize political diversity within the subculture" (Bean 2014:18), noting that the same factors were not operative among Canadian evangelicals. Veldman (2019) further shows that one issue U.S. Christian Right leaders specifically targeted was the environment, which they villified as a "liberal" issue incompatible with (white, conservative, American) evangelical identity.[4]

Could evangelicalism support proenvironmental attitudes outside the United States, where subcultural factors that delegitimize Christian environmental concern are not operative? At present, it is hard to know, because even studies that look beyond the United States have mostly studied the Anglophone or North Atlantic world (Berry 2017; Taylor, Wieren, and Zaleha 2016), or instead relied on cross-country data to assess the validity of the Lynn White thesis (e.g., Chuvieco, Burgui, and Gallego-Álvarez 2016; Hagevi 2014; Hayes and Marangudakis 2000; Schulz, Zelezny, and Dalrymple 2000). As a result, the question of whether different contexts could encourage lay adherents from the *same* tradition to interpret theology differently has not yet been satisfactorily answered. The country case of Brazil promises to provide a revealing contrast with the United States.

The Case of Brazil

Since the term "evangelical" is used differently in Brazil than in the United States, we will start by clarifying how we define it in this paper. In folk usage, Brazilians sometimes call all non-Catholic Christians "evangelicals" (*evangélicos*), including groups ranging from Latter-day Saints to the Assemblies of God to Methodists. When speaking more precisely, Brazilians use the term to refer only to Protestants, including both people who attend "historical" denominations such as Methodists and Baptists (called "mission evangelicals" in the Brazilian census, given their foreign origins) as well as nondenominational congregations that would be recognized as evangelical in the United States. Given the country's weak tradition of theologically liberal Protestantism, Brazilians typically distinguish between "historical" and "new" but not between "mainline" and "evangelical" denominations; even denominations such as Methodists and Presbyterians tend to theological conservativism. As a result, for Brazilian scholars of religion, a more relevant division than between mainline and evangelical Protestants is between Pentecostal and non-Pentecostal *evangélicos*. Following Brazilian usage, in this paper "evangelical" refers to all Protestants.

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[3] Studies have also detailed the emergence of an evangelical environmental movement (e.g., Bean and Teles 2015; Danielsen 2013; Kearns 2007, 2012; Wilkinson 2012). Most theoretical work has nevertheless focused on explaining evangelicals' lower levels of environmental concern precisely because this movement appears not to have reached the grassroots.

[4] See also Marsden (1980), who argues that fundamentalism is best understood as "a distinct version of evangelical Christianity uniquely shaped by *the circumstances of America* in the early twentieth century" (1980: 3, emphasis added).

Since the large majority of Brazilian *evangélicos* are religiously conservative, this group provides a Brazil-appropriate comparison to American evangelicals. Survey data show that Brazil's evangelicals and Pentecostals believe and worship in similar ways as their U.S. counterparts. Examining cross-national survey data from Pew, McAdams and Lance (2013) find that evangelicals in the two countries reported identical levels of doctrinal orthodoxy, and Brazilians reported *greater* religious commitment. Brazilian evangelicals and Pentecostals report high levels of fear of God's wrath, belief that the Bible is the "literal word of God" and relatively frequent discussion of the End Times in church (Smith 2019). In all these respects, Brazil's evangelicals and Pentecostals are substantially more theologically conservative than Catholics, despite the large and growing presence of conservative Charismatic Catholicism.

As for the tradition's influence on Brazilian society, evangelicalism has grown dramatically in Brazil in the past half-century: from around 5 percent in the 1970 census, to likely around 30 percent in the 2020 census (Coutinho and Goulgher 2014; Jacob, Hees, and Waniez 2013). In the same period, the percentage Catholic has fallen from over 90 percent to likely somewhat over 50 percent in the 2020 census. Pentecostalism accounts for most of this growth in the past half century and is now the largest branch of evangelicalism in Brazil. Using a tradition-based coding scheme classifying citizens' open-ended religious identifications, the 2010 census categorized 22.2 percent of Brazilians under the overarching category of "evangelical." Within that group, 60.0 percent were "evangelicals of Pentecostal origin," while 18.2 percent were "mission evangelicals," meaning from historical denominations, and 21.8 percent were "evangelical, not determined."[5] We count all three of these groups as evangelical. Given the social importance of the distinction between Pentecostals and non-Pentecostals, the remainder of the paper refers to "evangelicals and Pentecostals" as a shorthand for both Pentecostal and non-Pentecostal evangelicals.

Despite doctrinal similarities, evangelicals and Pentecostals in Brazil have critical *political* differences from their brethren in the United States. Brazil's evangelicals and Pentecostals have become increasingly politically engaged and influential (Smith 2019). However, McAdams and Lance report that "Brazilian Evangelicals tend to self-identify as [politically] moderate or liberal in comparison with their American counterparts," and that they are substantially more liberal on economic issues (2013:491–492). Furthermore, in the Pew data, high levels of doctrinal orthodoxy and religious commitment were not correlated with political ideology or economic conservatism in Brazil—a sharp contrast with American evangelicals (McAdams and Lance 2013). Similarly, Smith (2019) finds that economic conservatism is strongly correlated with conservatism on sexual issues among Brazil's evangelical/Pentecostal legislators, but that the two sets of attitudes are entirely uncorrelated among citizens.

While the environmental attitudes of evangelicals and Pentecostals remain understudied, Brazilian support for environmental protection has historically been high, especially compared to other world regions where evangelicalism is growing (Dunlap and York 2008; Inglehart 1995). Moreover, at least since the United Nations' 1992 Rio Earth Summit, Brazil has been known internationally for proactive environmental legislation. Social movements, business groups, and some politicians have embraced calls for environmental protection (Adams 2015; Hochstetler and Keck 2007; Nunes and Milciades Peña 2015; Orlove et al. 2011).

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[5] Beyond evangelicals, less than 1 percent of Brazilians adhered to other non-Catholic Christian traditions, most prominently Jehovah's Witnesses and Latter-day Saints.

Recent weather events have made environmental issues salient. Between 2014 and 2017, the Southeast region of the country endured its worst drought on record; by early 2018, experts were again warning that São Paulo's water supply was threatened (Ribeiro 2018). The semi-arid Northeast region has also experienced intermittent, progressively worsening drought since 2010, destroying both crops and cattle ranching (Marengo et al. 2017). Climate scientists predict rainfall will gradually decline in this historically drought-prone region, leading to chronic water shortages (Boadle 2017; Marengo, Torres, and Alves 2017). Meanwhile, Brazil's sharp economic contraction that began in 2014 led to a spike in deforestation (Fearnside 2017), one that was exacerbated by fire (Aragão et al. 2018). During this period, media accounts frequently highlighted scientists' explanations of the drought, pointing to human causes including deforestation and mismanagement of resources. These circumstances provide a good opportunity to examine whether evangelical and Pentecostal affiliation diminishes concern about the environment and climate change in Brazil, as in the United States.

The foregoing discussion leads us to hypothesize that:

H1. In Brazil, evangelical and Pentecostal *religious affiliation* and *religious attendance* are not associated with lower levels of environmental concern.

H2. In Brazil, evangelicals and Pentecostals are equally as likely as members of other groups to endorse scientific explanations of and responses to environmental phenomena. However, evangelicals and Pentecostals there are more likely than members of other groups to endorse supernatural/religious explanations and responses.

H3. In Brazil, evangelical and Pentecostal beliefs in divine agency and the end times will not reduce support for human action to address environmental problems.

DATA AND METHODS

This study integrates qualitative and quantitative research to develop deeper insight into the environmental attitudes of Brazil's evangelicals and Pentecostals. Online Appendix Table 1 provides an overview of our three quantitative surveys. The first is the 2014 AmericasBarometer, a nationally representative, face-to-face survey conducted in March and April. The AmericasBarometer selects respondents in each country via a stratified, random sample, with quota sampling at the level of the primary sampling unit (see Zechmeister 2014). We analyze a single question on *support for environmental protection*: "In your opinion, what should be given higher priority: protecting the environment, or promoting economic growth?" Respondents chose either the environment or economic growth, or they could volunteer that both were important. We develop a bivariate indicator for those choosing the most environmentalist option, which we model using logistic regression analysis.

Second, we confirm the AmericasBarometer results using the 2006 (fifth wave) and 2014 (sixth wave) World Values Surveys (WVS). These face-to-face surveys interviewed 1,500 Brazilians in 2006 and 1,486 in 2014, selected via a three-stage, probabilistic sampling method.[6] Both surveys included a survey item measuring *support for environmental protection* that differed slightly from that in the AmericasBarometer. In the WVS, respondents were asked which statement came closer to their views: "Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs" or "Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent." A bivariate indicator is coded "1" for those who chose the environment; those choosing economic growth or volunteering another option are coded as "0."

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[6] Study details and data are available at http://www.worldvaluessurvey.org/WVSContents.jsp.

Third, we turn to the 2014 Brazilian Electoral Panel Study (BEPS), a seven-wave panel study (Ames et al. 2016). The first wave, conducted in June, involved a face-to-face survey with a nationally representative, stratified random sample of 3,120 adults; subsequent interviews were conducted by telephone. The data analyzed here come from 1,001 respondents interviewed in the survey's seventh wave, in November, when a battery of questions investigated respondents' experiences with and attitudes toward the drought. First, respondents were asked about the extent to which the drought had affected their own lives, using a four-point scale. Second, the survey investigated attributions of responsibility: "Who is most to blame for the drought: the federal government, state government, local government, Brazilians in general, or some other entity? Or did human beings not cause the drought?" Respondents were allowed to volunteer other responses; interviewers coded respondents who voluntarily proffered a religious explanation, such as that God had caused the drought, or that it was a sign of the End Times.

Fourth, we draw on the first author's qualitative fieldwork in the city of Juiz de Fora (state of Minas Gerais) in July–November 2014. We present data from participant observation, clergy interviews, and focus groups in four congregations: Methodist, Baptist, Church of the Nazarene, and Assembly of God. These were part of a larger qualitative study conducted in eleven evangelical and Pentecostal congregations, three Catholic parishes, and two Catholic Charismatic prayer communities, purposively selected to represent varying socioeconomic levels and locations in the city (Smith 2019). The larger study focused not on environmental attitudes, but on processes of political mobilization more broadly. At the time of the fieldwork, however, Juiz de Fora was experiencing severe drought. As a result, the first author discovered that fieldwork conversations often touched on environmental issues; she subsequently incorporated structured questions related to attributions of responsibility for the drought and thoughts on the relative roles of divine agency and science in these four congregations.

BEPS 2014 also incorporated a survey experiment to test the impact of religious beliefs on attributions. Half of respondents were asked a question priming belief in divine agency, simulating a message received in church: "Changing the topic, many people say that God is in control of everything. Do you agree or disagree?" Responses in the treatment group were coded dichotomously; no question was asked in the control group. Next, everyone received two questions on solutions: "Talking about fighting the drought, is it very important, somewhat important, or unimportant for the government to stop people who deforest or cut down trees?" and "[Talking about fighting the drought,] is it very important, somewhat important, or unimportant for all Brazilians to pray?" Responses are modeled using ordinal logistic regression.

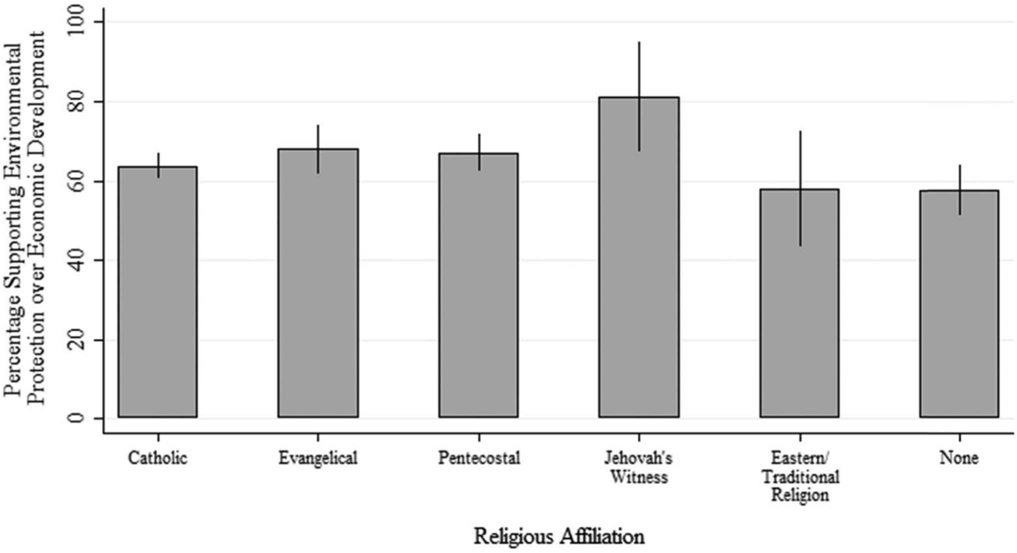
Our key independent variable throughout the analysis is *religious affiliation*. Given data limitations, our categorization of non-Catholic Christians varies. In the AmericasBarometer and BEPS, non-Catholic Christians are classified as Pentecostal, non-Pentecostal evangelical, and Jehovah's Witness (Latter-day Saints are dropped because of extremely low numbers in both datasets). However, in analysis of the WVS data we are forced to group all non-Catholic Christians together.

RESULTS

Religion and Support for Environmental Protection in Brazil

To begin, we examine support for environmental protection over economic growth in the 2014 AmericasBarometer. Confirming previous research, public opinion in Brazil overall is fairly supportive of environmental protection: 64 percent of respondents prioritized the environment over the economy, and another 13 percent said that both were important. Only 23 percent said

Figure 1
Support for environmental protection versus economic growth, by religious tradition.



Note: 84% confidence intervals shown; comparison of two 84% CIs is equivalent to a $p = .05$ test.
Source: AmericasBarometer by LAPOP, Brazil 2014. Estimates adjusted for survey design effects.

that economic growth was more important than the environment. By comparison, in 2013, only 43 percent of Americans supported prioritizing the environment over the economy, while 48 percent viewed economic growth as more important—more than double the number in Brazil (Saad 2013).

Figure 1 presents the percentage of Brazilians choosing the environment over the economy within each religious tradition.[7] Confirming H1, the association between religious affiliation and environmentalism is weak. However, to the extent there is any relationship, Christianity is associated with *higher*, rather than lower, levels of environmentalism. Only 58 percent of "nones" and non-Christian religious adherents chose the environmentalist option, compared to 64 percent of Catholics, 68 percent of Pentecostals and non-Pentecostal evangelicals, and 81 percent of Jehovah's Witnesses. None of these differences is statistically significant. The Online Appendix presents multivariate models controlling for gender, education, household wealth, place of residence, and political ideology. The difference between Jehovah's Witnesses and "nones" becomes statistically significant at $p = .07$. By far the largest determinants of environmental concern, however, are household wealth and size of the locality, both of which decrease environmental concern.[8] Unfortunately, the 2014 AmericasBarometer did not ask about church attendance, so it is not possible to assess the impact of religious attendance more generally.

Another analysis, included in the Online Appendix, confirms the findings for religious affiliation and examines the role of church attendance, using data from the 2006 and 2014 waves of the WVS. Although the WVS used only the overarching category of "evangelicals," without distinguishing between Pentecostals and non-Pentecostals, results largely mirror prior findings: there were no statistically significant differences in preference for environmental protection across major religious affiliations in either year.[9] Moreover, in the 2014 data, church attendance was strongly positively associated with environmentalism among evangelicals and Pentecostals—boosting the predicted percentage choosing the environmentalist option by nearly 20 percentage points—as well as adherents of other religions (predominantly Spiritists). However, it was unrelated to the environmental attitudes of Catholics.[10]

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[7] This and all other figures adjust confidence intervals, per Schenker and Gentleman (2001) and Payton, Greenstone, and Schenker (2003). Comparison of two 86 percent confidence intervals is equivalent to a $p = .05$ test of statistical significance, and comparison of two 74 percent confidence intervals is equivalent to a $p = .10$ test.

[8] In addition, participating in meetings of religiously oriented civil society associations has a marginally statistically significant positive effect on environmental attitudes ($p = .08$).

Thus, testing Hypothesis 1 across two nationally representative studies, we have seen that evangelical and Pentecostal *religious affiliation* and *religious attendance* are not associated with lower environmental concern in Brazil. Indeed, in contrast to the United States, evangelical and Pentecostal church attendance may be associated with *higher* levels of environmental concern.

Acceptance of Human Responsibility for Environmental Degradation? Religious Explanations for and Proposed Responses to Drought

But what about specific natural phenomena? How did evangelicals and Pentecostals explain and respond to the 2014 drought? Did they accept scientific explanations pointing to human responsibility, and endorse this-worldly action? Or did they instead adhere to religious explanations and responses—for instance, divine intervention and the need to pray for rain? The latter, if advocated to the exclusion of the former, would indicate that religious belief inhibited environmental concern.

Hence, we assess our second hypothesis. Our results indicate that evangelicals and Pentecostals simultaneously supported both religious *and* scientific explanations and strategies. With answers that featured both human and divine agency, they drew on their traditions' emphasis on God's sovereignty as an interpretive lens, while at the same time recognizing human responsibility for environmental degradation.

Focus group responses indicate the prevalence of scientific explanations. Surprisingly, perhaps, given the high salience of religion in focus groups conducted at churches, participants in all groups explained the causes of drought first and foremost in scientific or nonsupernatural rather than religious terms (albeit with apparent discomfort over their incomplete knowledge). Moreover, they put blame squarely on the wasteful practices of human beings. For instance, a group of young adults in an evangelical Methodist congregation attributed the drought to a combination of poor public administration and wasteful water consumption practices.[11] One participant ventured to guess that, "It's 80 percent the government's mismanagement and 20 percent people." When asked specifically about the role of divine will, one participant replied, "It's poor organization. It's not like it's not raining as a punishment from God . . . .[T]here are strategies to avoid drought. The reasons it's not raining are environmental." A different respondent ventured that it had to do with global warming and the greenhouse effect, and another added that it must be a consequence of "human errors."

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[9] The percentage of respondents choosing the environment over economic development rose slightly between the two waves, but differences are not statistically significantly. There is a large discrepancy in the findings for Spiritists. In the 2014 AmericasBarometer, 59 percent of Spiritists chose the environmentalist option; in the WVS, 82 percent did so. With small samples of Spiritists, the 95 percent confidence intervals barely overlap, so the differences might be due to sampling error. It is also possible that geographic heterogeneity in Spiritist environmentalist teachings leads to pronounced differences because different cities happened to be sampled in the two studies.

[10] In 2006, in the WVS data, church attendance had no impact on attitudes in any religious group.

[11] Focus group 1, October 18, 2014.

Similarly, in a Church of the Nazarene, a different group of young adults attributed the drought to "human influence."[12] As one participant explained, "it's a combination of [many factors] . . . .Humanity . . . began deforesting and everything else. Humanity is, quote unquote, destroying the world." He elaborated that, "It's a consequence of our schools. The scientists have been saying this would happen for a long time. God isn't going to come down and say, 'Stop!' Our job is not to disbelieve what the scientists say." Another person agreed: "We don't worry about [saving our natural resources] and we're used to having abundant water. God is in control of things, but he isn't going to come and tell us we should stop doing things." Even in a highly politically engaged, conservative Baptist congregation, participants agreed the drought was "a natural phenomenon that's a consequence of the actions of man in nature."[13] Two participants blamed rich and individualistic people who squandered water in violation of rationing. A third discussed "a lack of proper education and awareness" more generally. A fourth argued that "pollution" and "the ozone layer" led to "imbalances" in the environment.

While acknowledging human responsibility, respondents seamlessly incorporated religious frames and divine agency into their explanations of the drought. Environmental degradation was interpreted in the language of human sin. For many evangelicals, that sin was failure to steward the environment itself. This position is exemplified in the quote from the Assembly of God pastor in the introduction. As a member of the Church of the Nazarene explained, "Human beings hardened their hearts, cut down forests, polluted the rivers." And a Baptist participant held that, "man was created to subdue the earth, but man subdued nature too much with his selfish thought, and that hurt the environment. We have dominion of the earth, seas, and heavens, but not with the care we should."

Only in one congregation, a Church of the Nazarene, did religious beliefs deflect attention from scientific consensus. There, some participants saw environmental degradation as a consequence of a more distant sin—namely, a failure of faith. As one respondent argued, "God is showing that he is in command. We are paying the price of human disbelief." In an adult Sunday School lesson in this congregation that the first author attended, the pastor's wife attributed the drought to inadequate prayer. Such an interpretation has been reported among evangelicals elsewhere in the global south, but was a minority view in Brazil (Chérif and Greenberg 2014; Hermesse 2014; Sarfo-Mensah and Awuah-Nyamekye 2014).

Despite acknowledging human responsibility, participants universally reported praying for rain, an unambiguously religious solution. Respondents in all sites hoped God might choose to intervene. As one Methodist respondent argued, the scientific causes of the drought "don't mean that God isn't in control. It's not raining as a result of bad human actions, but if God wanted, it could rain right now." A Church of the Nazarene respondent explained that, "the one who can make it rain is God." Another person in that group added that "there are people going to church to pray to see if something might happen," because "people don't have any other solution . . . .People remember God when things get tough." A few weeks earlier, the Church of the Nazarene Sunday School teacher had discussed divine agency in more definite terms: "God will send rain when it's the right moment." While each individual needed to pray for rain, she also implied that political leaders had extra responsibility to do so.

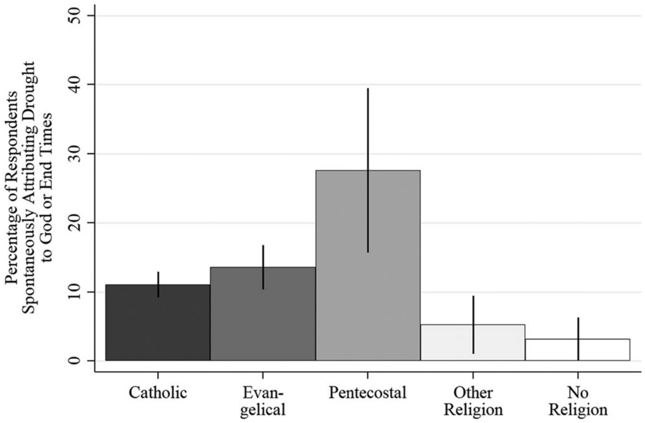
This emphasis on God's omnipotence reflects a pan-evangelical belief in divine sovereignty. Brazilian informants combined this belief with acceptance of human responsibility and support for this-worldly solutions. Hence, the focus groups show conservative theology supporting environmental concern, rather than indifference.

How representative are the focus group results of the Brazilian population? To validate the findings, we turn to the BEPS. We note first that our focus group respondents were typical of their

[12] Focus group 2, October 19, 2014

[13] Focus group 3, October 19, 2014

Figure 2
Divine attribution of responsibility for drought, by religious tradition.



Note: 84% confidence intervals shown; comparison of two 84% CIs is equivalent to a $p = .05$ test.
Source: Brazilian Electoral Panel Study 2014. Seven Catholics and Protestants spontaneously blaming other human sources (e.g., agribusiness, foreign governments) are omitted from the analysis.

fellow citizens in the salience of climate phenomena. Across BEPS, 61 percent of respondents said the drought had reached their city/locality; 70 percent of those in affected localities said the drought affected their own lives a little (39 percent) or a lot (31 percent).

More importantly, survey data corroborate focus group results regarding simultaneous acceptance of religious and scientific understandings. Consistently with Hypothesis 2, evangelicals and Pentecostals were more open than other groups to supernatural explanations and solutions to the drought. When asked who was principally responsible for the drought, 28 percent of Pentecostals and 14 percent of non-Pentecostal evangelicals attributed the drought to God or to the end times (Figure 2). By contrast, only 5 percent of those in other groups, and 3 percent of "nones" did so.

However, evangelicals and Pentecostals simultaneously and overwhelmingly accepted scientific and this-worldly solutions to drought. As described above, BEPS 2014 asked if respondents endorsed two approaches to dealing with the drought: stopping deforestation (a this-worldly solution) and praying for it to end (an otherworldly solution). Figure 3 presents results in the control group that was not primed to think about God's potential role in human affairs. Given high agreement with both items, we use bivariate indicators for those saying each approach was "very important." Nearly all respondents agreed that stopping deforestation was "very important," ranging from 97 percent of Catholics to 88 percent of those in other religions; interreligious differences are not significant. Meanwhile, Pentecostal and evangelical respondents had the highest agreement with prayer as a "very important" solution, at 87 percent and 80 percent, respectively.[14]

This raises a question: even though large majorities in all groups endorsed this-worldly solutions, might religious beliefs sometimes discourage proenvironmental action? Hypothesis 3 specifies that evangelical and Pentecostal religious beliefs will not reduce support for human action to address environmental problems in Brazil. If respondents perceived prayer as a *substitute* for this-worldly solutions to drought, there would be a negative correlation between responses to the questions about ending the drought by stopping deforestation and ending it through prayer. However, there is no correlation between responses on the two items, coding

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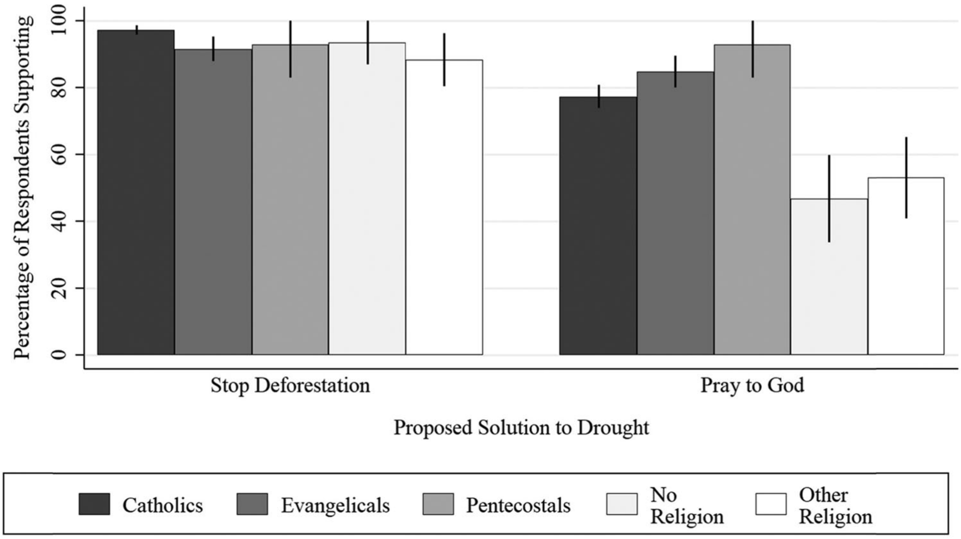
[14] The Online Appendix presents this analysis, coding the dependent variable as "1" if the respondent says the solution is either "very" or "more or less" important.

Figure 3
Support for two solutions to drought, by religious tradition.



Note: 84% confidence intervals shown; comparison of two 84% CIs is equivalent to a $p = .05$ test.
Source: Brazilian Electoral Panel Study 2014. Results from analysis of control condition only.

the items in various ways, and either across the sample as a whole or within any religious group. Hence, evangelicals' and Pentecostals' tendency to advocate prayer did not seem to displace environmental concern. Another way to examine the relationship is to ask who prefers prayer over this-worldly solutions. Very few respondents do so in any group, ranging from 3 percent of Catholics to 10 percent of Pentecostals. Most members of every group weight prayer and this-worldly solutions equally. Thus faith did not appear to interfere with environmental concern.[15]

What about the most supernaturally oriented respondents—those who attributed the drought to God or to the end times? Strikingly, even members of this group overwhelmingly endorsed ending deforestation; 94.2 percent of those who spontaneously attributed the drought to religious causes said that it was "very important" to stop deforestation, as compared to 94.5 percent of those who did not attribute the drought to religious causes. Moreover, there is no evidence of a trade-off between religious and this-worldly solutions in their responses.

Survey Experiment: Does Religious Priming Reduce Environmental Concern?

A survey experiment further tests Hypothesis 3, illuminating how thinking about divine agency in human affairs affected citizens' support for environmentalist proposals. Does an emphasis on divine agency induce environmental apathy (e.g., "God has control over everything, so I don't need to worry about the environment") among evangelicals and Pentecostals, indicating that antienvironmental attitudes lurk in their doctrine? Immediately prior to the questions on solutions to drought, half of respondents randomly received a question priming them to reflect on

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[15] Christians were less likely to select the reverse situation. Just 19 percent of evangelicals and Catholics and 13 percent of Pentecostals valued this-worldly over religious solutions, compared to 35 percent of "nones," and 41 percent of "others." However, this likely reflects Christians' emphasis on prayer, rather than aversion to this-worldly means of solving environmental problems.

Table 1: Support for this-worldly and other-worldly solutions to drought (ordinal logistic regression models)

	Stop Deforestation	Prayer
Evangelical and Pentecostal	−1.234*	.520
	(.009)	(.068)
Other religion	−.898	−1.474*
	(.270)	(.000)
No religion	−1.521*	−1.221*
	(.018)	(.001)
“God in Control” treatment	−.661	.336
	(.134)	(.100)
Treatment × Evangelical and Pentecostal	1.252*	−.898*
	(.058)	(.018)
Treatment × Other religion	.201	.476
	(.848)	(.410)
Treatment × No religion	.861	.463
	(.349)	(.394)
Cutpoint 1	−4.285*	−1.879*
	(.000)	(.000)
Cutpoint 2	−3.537*	−1.214*
	(.000)	(.000)
Number of observations	*972*	*971*
Pseudo R-squared	*.023*	*.031*

Source: Brazilian Electoral Panel Study 2014. Baseline category is Catholics. Standard errors in parentheses. Coefficients are statistically significant at *$p < .05$.

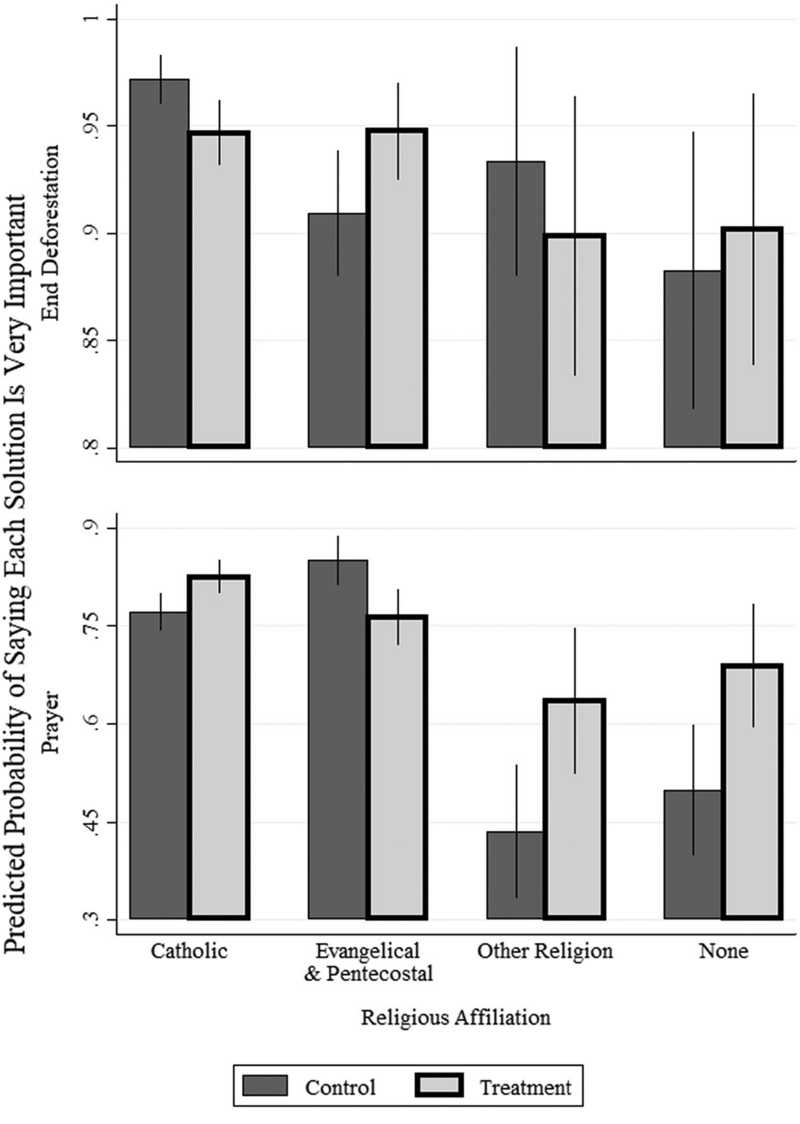
divine agency by asking whether they agreed or disagreed that God was in control of everything. Levels of agreement were high: 92 percent of evangelicals, 94 percent of Pentecostals, and 86 percent of Catholics agreed, as did 61 percent of those in other religions, and 67 percent of “nones.”

We develop two ordinal logistic regression models examining the experiment’s impact on priorities. The indicator for the treatment measures only whether the respondent received the question about divine agency, and not the content of the respondent’s answer. The coefficient for the treatment variable represents the effect of the treatment among Catholics, while the interaction terms represent the difference in the effect of the treatment for each other religious group. Given low statistical power among evangelicals and Pentecostals and similar coefficient sizes, we group those categories.

In Table 1, we find that religious affiliation significantly influences responses in both the treatment and control condition, and the treatment also affects responses within religious groups. However, it is easy to misinterpret the coefficients from interaction terms in the context of ordinal logistic regression. To aid interpretation, Figure 4 presents the predicted probability of saying each solution (stopping deforestation and prayer) is “very important,” based on the ordinal logistic regression results, by religious group and treatment/control condition.

The top pane of Figure 4 shows that priming respondents to consider divine agency slightly decreases support for stopping deforestation and increases support for prayer as a solution among Catholics and adherents of other religions. However, the treatment has a counterintuitive impact among evangelicals and Pentecostals: *increasing* preference for ending deforestation and

Figure 4
Impact of a divine agency prime on support for this-worldly and other-worldly responses to drought, by religious tradition.



Note: Comparison of two 76% confidence intervals is equivalent to a 90% test.
Source: Brazilian Electoral Panel Study 2014. Whiskers represent 76% confidence intervals of the estimates.

decreasing support for prayer. In analysis not shown here, we also find the treatment significantly affects evangelicals' relative prioritization of the two solutions.

Thus, among Brazil's Protestants and Pentecostals, emphasis on divine agency in controlling human affairs is seen as consistent with scientific explanations of and this-worldly solutions to environmental problems. This is further confirmed by Table A2 in the Appendix, where we find that after controlling for treatment group members' beliefs in divine agency, evangelicals and Pentecostals are, at a statistically significant level, *less* likely than Catholics to believe in prayer as a solution to drought. Why do Brazilian evangelicals and Pentecostals take this stance? While a fuller explanation must be left to future research, perhaps a reminder of God's will leads some evangelicals and Pentecostals in Brazil to remember the commandment to steward the earth, and the principle of "turning this world into heaven."

Discussion and Conclusion

So, does the assumption that evangelical doctrine drives antienvironmental attitudes hold up in the Brazilian context? Our data confirm that evangelical and Pentecostal affiliation is not associated with diminished environmental concern in Brazil as it is the United States. Indeed, in some analyses, it is positively correlated with environmental attitudes. Evangelicals and Pentecostals were slightly, but generally not statistically significantly, more likely than the nonreligious and Catholics to prioritize the environment relative to the economy, while church attendance was strongly and significantly associated with environmental concern for this group. By contrast, in the United States context, evangelicalism significantly negatively predicts environmental concern on similar trade-off items (Arbuckle 2016; Eckberg and Blocker 1996; Guth et al. 1993; Klineberg, McKeever, and Rothenbach 1998), and frequent church attenders are less supportive of government spending on the environment (e.g., Carlisle and Clark 2017; Schwadel and Johnson 2017). These results provide a first indication that the U.S.-based model of cognitive/doctrinal religious influence falls short in Brazil.

Looking at the focus group data, another contrast from the United States emerged: Brazilian evangelicals and Pentecostals criticized human destruction of the environment as sinful, and recognized human responsibility to reverse such trends, while not relinquishing belief in human dominion over the earth's resources. By contrast, in focus groups conducted in the southeastern United States by the second author, evangelical pastors and laypeople generally agreed that humans should not harm the environment, but many rejected the notion that doing so would be sinful, effectively decoupling environmental degradation from religiously based moral reasoning (Veldman 2019). A Texas-based study found that evangelicals who accepted anthropogenic climate change often attributed it to sin, but others emphasized that nature itself could not be sinned against, only other people (Carr et al. 2012:291–292; Carr 2010:148). While American evangelicals struggle to integrate sin and environmental degradation, Brazilians seamlessly integrated them. This further undermines the assumption in previous research that evangelical doctrine discourages environmental concern independent of context.

Finally, Brazilian evangelicals and Pentecostals also contrasted with their American counterparts when it came to how they understood human responsibility for weather and environmental changes. Brazilians simultaneously accepted religious and scientific/this-worldly explanations for these changes, and they were no more likely to prefer otherworldly solutions than this-worldly ones. This contrasts with the tendency of U.S. evangelicals to disavow human responsibility for weather-related problems linked to climate change via the rationale that God controls the weather (Carr et al. 2012; Rabe and Borick 2017; Roser-Renouf et al. 2016; Wilkinson 2012; Veldman 2019).[16] In fact, in Brazil non-Pentecostal evangelicals and Protestants are *less* likely than Brazilians in other religious groups to seek supernatural solutions to environmental problems, once we account for their levels of religiosity.

What makes Brazilian evangelicals and Pentecostals so different from their U.S.-based counterparts? It seems clear that, at least for environmental issues, doctrine does not have a single, universal effect on attitudes. As we saw from the focus groups, this was not because respondents saw doctrine as irrelevant to environmental problems, but seemingly because Brazilian evangelicals interpreted its relevance differently from their U.S. counterparts. What accounts for the differences in interpretation? While we do not have the data to test mechanisms precisely, some discussion will still be valuable.

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[16] Rabe and Borick (2017) report that in 2012 and 2013 between 22 and 31 percent of American evangelicals who did not believe the earth's climate was changing referenced religious beliefs as the *primary* reason for their view, using explanations such as "God handles the weather," or "it is all in God's hands."

According to Chaves, we should only expect a "tight coupling" between religion and attitudes or behaviors (including environmental ones) under certain conditions: "substantial cognitive effort" and "intense and consistent social reinforcement or internalization" (2010:8). These conditions are arguably present in the United States, where social dynamics and the communications of religious elites have reinforced antienvironmentalism (Veldman 2019). This situation has likely strengthened the association between theological conservatism and antienvironmental attitudes over time. In Brazil, by contrast, the first author's fieldwork revealed no systematic effort to link conservative theological principles to either pro- or antienvironmental attitudes, despite vivid examples of environmental concern from individual clergy such as the Assembly of God pastor quoted in the Introduction. Hence, we doubt the result is due to what McClendon (2019) would call a "persuasive" effect of elite communication.

But then what explains the small *positive* effects of evangelicalism and Pentecostalism on environmental concern in Brazil? Perhaps, as Vaidyanathan, Khalsa, and Ecklund (2018) argue, rather than adherents examining their tradition's doctrines in order to deduce appropriate environmental attitudes, laypeople more often repurpose theological principles to support values they already hold. If this is the case, in the relatively proenvironmental public opinion context of Brazil, evangelicals and Pentecostals may justify environmental values with reference to religious teachings. As a result, Brazilian evangelicals and Pentecostals worry that humans have disobeyed God by mistreating the environment, while their U.S. counterparts worry that environmental concern threatens or opposes Christian faith. Same faith, same theology, different context, different intepretation.

Yet this does not mean elite communication could never play a role. Instead, evangelical and Pentecostal elites in Brazil might prime core religious beliefs that their laity associate with environmental concern (McClendon 2019). In a context where evangelicals interpret environmental degradation as a sin, elite communications priming divine will could increase the urgency of action. This logic should further disabuse us of the notion that theology shapes environmental attitudes independently of circumstances, an assumption that remains common in the predominantly U.S.-based social scientific research on evangelical environmentalism, notwithstanding critiques of universalism (Barker and Bearce 2012; Guth et al. 1993, 1995; Smith, Hempel, and MacIlroy 2018).

If context shapes how theology will be interperpreted, this helps make sense of U.S. evangelical environmentalists' experience that supposedly antienvironmental theological beliefs do not pose the formidable barrier that theory predicts. For example, Jim Ball, a former head of the Evangelical Environmental Network, rejected the argument that evangelicals' lower levels of environmental concern were due to their end-time beliefs by noting that "even for those Christians for whom end-times views are a barrier to creation-care, this hurdle is not a very high one and is, in my experience, easily dispelled" (Ball 2005). Suggesting that his experience may have been typical, Hayhoe, Bloom, and Web (2019) found that a single lecture on climate science from a Christian perspective was enough to create durable changes in opinion among evangelical college students.[17] If context is as important as theology, then it becomes easier to imagine how evangelicalism might be able to grow greener in the United States.

Promisingly, the Brazilian context provides useful examples of how core theological teachings can bolster environmental concern. One insight from the focus groups and survey experiment is that scientific teachings and this-worldly action can be framed as contributing to, rather than subtracting from, religious teachings and modes of action. In contexts where science and religion are seen to jointly explain social problems, our priming experiment confirms the power of providential cues (Glazier 2013, 2015)—in this case to encourage religious conservatives' support for this-worldly solutions to environmental problems. This finding merits further investigation within other evangelical communities outside of the Global North.

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[17] From the perspective of research on religious communication, the apparent durability of this effect is surprising; see McClendon (2019)'s discussion of "repeated exposure."

Directions for future research include disentangling how context operates at different scales—at the level of the church, denomination, region, or country, for example—to shape evangelicals and Pentecostals' environmental attitudes. Answering such questions will contribute to a less deterministic, more globally representative conception of the relationship between religious doctrine and environmental attitudes.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Table A1. Summary of the Three Quantitative Surveys
Table A2. Determinants of Supporting Environmental Protection
Table A3. Impact of Belief in Divine Agency on Support for Each Solution to Drought (Ordinal Logistic Regression Models; Treatment Group Respondents Only)
Figure A1. Support for Environmental Protection Versus Economic Growth, by Religious Affiliation and Church Attendance (World Values Survey)
Figure A2. Support for Solutions to Drought, by Religious Tradition (Using Looser Coding of Support for Solutions)