

Religion and Climate Change Indifference: Linking the Sacred to the Social

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Abstract

This study seeks to identify the influence of religion on indifference toward anthropogenic climate change. This influence is conceptualized by adapting Durkheim's classic sociological model where religion serves to integrate individuals into society using sacred beliefs. We test this theory by conceptualizing and estimating a path model where climate change indifference is regressed on religion and political ideology. The study data are five cross sections from the General Social Survey over 1993 to 2018, and the results indicate indirect and direct effects of religion on climate change indifference. Second, the effects vary across religious traditions and biblical belief sets, and in some cases are oppositional. The study results are discussed in terms of religious influences on salient social questions during prior periods of US history. Finally, we describe how indifference toward the threat of climate change results from a blending of politics and religion and reflects the specific concepts that integrate individuals into a community. These conceptions have become embedded within fundamental relationships concerning how individuals understand their existential connection to a community. Because religious concepts are socially influenced, and because communities are free to reinterpret belief systems, the current relation between religious belief and climate change indifference is subject to future revision and re-interpretation.

1. Introduction

The proposition that religion exerts a causal influence on social life has a long and controversial career in the social sciences and includes foundational studies by Weber (1905/1958), Durkheim (1912/2001) and Adam Smith (1759/2018). Social research on religion continues (Benabou, Ticchi&Vindigni, 2015; Beyerlein, Soule & Martin, 2015; Davenport, 2016; O'Brien & Noy, 2015; Wilde & Danielson, 2014) and may be especially relevant in the US where the proportion professing religious worldviews, while declining in recent time, was approximately 70 percent of the adult population in 2021 (Hout& Fischer, 2002; Pew Research Center, 2022). In this study we consider the influence of religion on ideation about anthropogenic climate change (IPCC, 2015; Kolmes, &Butkus, 2007; White, 1967).

The analysis is carried out in two stages. First, we specify a structural model of religion, politics, and climate change indifference derived from social theory (Collins, 1986; Durkheim, 1912/2001). The model is inspired by Durkheim's substantive and functional framework where religion serves to integrate individuals into society based on sacred beliefs. Durkheim's theory is derived from anthropological evidence about hunter gatherer cultures where community unity is consolidated by social participation in sacred rituals. Applying this theory to the US where there are social divisions by class, race, gender, region, and politics may appear misguided. We would argue that insights from Durkheim's model are largely unexplored by modern day social researchers (Riesebrodt 2001), and that our investigation addresses this deficit. Second, the model is operationalized with empirical data that partitions causality between political versus religious reasons for climate change indifference. In our cultural framework, belief systems tend to interpenetrate, meaning that people do not always make clear distinctions between their religious, political, economic, and other beliefs. By locating the origins of climate change positions in religion, however, this analysis presents the opportunity to understand peoples' beliefs more fully. It adds to the literature by proposing and testing a new model of religion, politics, and climate change indifference.

Climate change and religion are strange bed fellows. The former is scientifically defined by empirical causality, including the history of industrialization and wanton fossil fuel consumption, measured by climate science that begins in the 19th Century (Mann, 2019). Christianity, along other Abrahamic faith traditions, began developing in the agricultural era of

human history, initially in the 10th Century BCE (Christian, 2004). The interface between ancient religious doctrine and climate change ideation will be discussed and evaluated in following paragraphs, and a methodology proposed for classifying various aspects of the relationship.

To investigate the link between religion and climate change indifference we analyze data from the US General Social Survey (NORC, 2021), a repeat cross-section, nationally representative study of the English-speaking population age 18 and over. The survey includes a comparable set of questions on attitudes toward climate change repeated over five years, along with a relevant set of demographic, economic, and religious variables.

1.1 Current Knowledge About Religion and Climate Change Indifference

When studies of climate change attitudes include religion as a covariate, the theoretical status of religion is normally specified either as a control variable or a causal variable. Religion is neither control nor causal in a meta-analysis synthesizing climate change attitudes over 171 studies and 25 polls across 56 countries, however the findings are suggestive of the possibility for religious causality (Hornsey et al., 2016). The meta-analysis indicates that peoples' climate change beliefs and knowledge are 'searched, remembered, and assimilated in a way that dovetails with peoples' own political loyalties and their worldviews, the latter defined by "values" and "ideologies." The authors further note that worldviews and political ideologies tend to out-perform psychological and demographic variables in predicting climate change beliefs (ibid: 625). We would add that the likelihood of religious influences on values and ideologies is a function of nationality, including the history of interactions between religion, the state and civil society (Gorski & Altinordu, 2008). One example is the US where the Protestant tradition has exerted distinct influences on the development of the state and civil society (Kramnick & Moore, 2005).

McCright and Dunlap (2011) ask whether climate change concern is subject to ideological and political polarization in an analysis of ten Gallop polls over the period 2001 to 2010. The analysis yields positive affirmation for the polarization hypothesis; second, that "religiosity" is found to be a negative determinant of climate change concern. Religiosity is defined by a scale measuring church attendance, from 1 ("never attend") to 5 ("once per week"), and this measure sustains predictive power as climate change attitudes polarized over the study period.

In a study of the belief mechanism explaining religious opposition to addressing global climate change, Barker and Bearce (2013) test for an effect of professing belief in "end times," interpreted as events related to the second coming of Christ. The authors hypothesize that this would lead believers to discount the need for mitigating climate change because the future duration of the social world is unknown and is destined to end. The study authors find support for their hypothesis and corroborate the end times variable with a Pew Research Center (Barker & Bearce, 2019: 268) study reporting that "41 percent of respondents expressed belief that the Second Coming 'probably' or 'definitely'" will happen by 2050. In the Barker and Bearce (2012: 270) study sample 56 percent "believe in the Second Coming of Jesus Christ." In a multivariate test controlling for demographic, political, family and a set of additional religious measures, the variable "second coming" exerts a significant negative effect on support for government action to curb global climate change.

In a broadly designed empirical effort addressing White's (1967) religiously rationalized human dominion over nature thesis, Guth et al. (1995) estimate empirical effects of factor scores measuring environmental concern on a range of religious measures. The estimates are performed across a set of six subsamples derived from four different data sets ranging from clergy, religious activists, and a random population sample divided into subsets termed "attentive, activist and voting publics" (ibid: 371). The bivariate effects of religion on environmental concern are statistically significant and in the expected direction (negative), however the multivariate effects are mostly nonsignificant. The multivariate effects of religious tradition (five groups ranging from evangelical Protestant to secular) and religious commitment (attendance and subjective religious salience) are mostly statistically nonsignificant, whereas the effects of theological belief (biblical literalism, end times belief and evangelical identification) are statistically significant and negative.

In a study that attempts to explain contradictory empirical findings on the relationship between religion and environmental attitudes, Sherkat and Ellison (2007) estimate a system of structural equations using the 1993 General Social Survey. The religious variables are faith tradition (Conservative Protestant versus all other groups), biblical literalism and church attendance. The final model includes direct and indirect effects of these variables on a set of environmental variables including stewardship beliefs, political environmental activism, problem seriousness and willingness to sacrifice for the environment. Biblical literalism had negative, statistically significant effects on two of the four environmental variables, whereas conservative Protestant had negative effects on three out of four. The authors interpret their findings with reference to "structuration theory" where "the interrelationships among religious, environmental and political structures imply complex structuration processes occurring over time...to make sense of seemingly divergent findings from prior research" (Sherkat & Ellison, 2007: 81-2). The authors infer a dynamic relationship between religion and environmental concern from data measured at one point in time.

Smith and Leiserowitz (2013) analyzed a nationally representative sample to model the determinants of evangelical and

non-evangelical attitudes toward climate change and the environment, as well as the demand for policies to mitigate climate change. They found that evangelicals are less concerned with environmental issues compared to non-evangelicals, are less likely to believe global warming is happening, and less convinced that human activity is the cause. Although these differences are statistically significant and substantial, large numbers of evangelicals (often less than 50 percent) believe that climate change is happening and is human caused. In interpreting this pattern in the study results, the authors note that evangelicals are a diverse group politically and economically, and that ideation about climate change attitudes correlate with these compositional differences. They conclude that evangelicals do not share “monolithic views” (Smith & Leiserowitz, 2013: 1016) about climate change and the environment. A related finding is noted in an analysis of the Cooperative Congressional Election Study (N=55,000) (Arbuckle & Konisky, 2015: 1244), that religious attitudes toward the environment “reveal variation across and within religious traditions,” and that the effect of political ideology on climate concern is moderated by membership in some religious denominations, but not in others (Arbuckle 2017).

In a panel study designed to identify what religious variables affect beliefs about the causes and consequences of climate change, Kilburn (2014) initially finds evidence that religious affiliation, operationalized as mainline Protestant, evangelical Protestant and Catholic, affect beliefs about both causes and consequences of climate change. However, when biblical literalism is introduced into the model the affiliation effects become statistically nonsignificant (ibid: 481 and 484). Kilburn (2014: 481) surmises that “after controlling for biblical literalism..., there is little evidence of nominal affiliation directly affecting climate beliefs; affiliations are likely mediated through religious beliefs.” The study author surmises that religious beliefs have “led Americans to view climate change as mostly natural and to express less concern over its consequences” (ibid: 473).

2. Applying Durkheim's Model

We derive a theory about religion and politics from Durkheim's (1912/2001) classical model where religion functions to integrate individuals into a community based on sacred beliefs. Christianity, the dominant religion within the US, entails a specific set of sacred concepts including monotheism, the holy trinity, and the belief that God created humanity (“man”) along with all other life (Nelson, 1988: Book of Genesis). These concepts are described and defined by the Bible, therefore one way to measure an individual's sacred belief is to assess belief about the Bible. This has substantive import for attitudes about climate change because anthropogenic climate change poses man as a modifier of nature. To accommodate this conceptual frame, sacred causation must either be severely modified or eschewed.

The General Social Survey asks respondents whether they feel that the Bible is the literal word of God, the inspired word of God, or a book of fables. Each of these statements has differing implications for attitudes toward anthropogenic climate change. For instance, White (1967: 1205) hypothesizes that the tendency for Christians to be climate change indifferent is derived from a literal reading of the Bible that supports human exploitation of the natural environment with minimal concern for its consequences. This interpretation is from Genesis where God created all things, yet only humans are created in God's image, and entitled to “dominion over the fish in the sea, over the fowl in the air, and over the cattle, and over all the earth...” (Nelson, 1988: 7). Others have interpreted these same words as support for climate concern given that Christians ought to care for all things created by the creator (Relevant Magazine, 2011; Wilkinson, 2012). Hiebert (1996) finds that White's perspective is based on a misreading of the Bible fueled by modern dualisms that have been read back into the ancient texts. Hiebert (1996) further contends that the creation narrative that White criticizes portrays humanity and nature as being deeply connected and that this alternative interpretation can be supported by additional passages in Proverbs, Deuteronomy, Exodus, Luke, and Matthew.

These contradictory interpretations are not unexpected among the followers of Abrahamic religions who interpret sacred texts using various worldviews (Riesebrodt, 1993). Some believe sacred texts are written by humans inspired by the deity, whereas others believe the deity literally wrote, or dictated the words, that became the sacred texts. We would anticipate, therefore, a connection between religion and views about climate change that is belief driven, specifically by the worldview used to interpret sacred text.

“Biblical worldview” is therefore our proposed empirical referent for the individual's construction of sacred conceptualization, the substantive component of Durkheim's (1912/2001) substantive and functional definition of religion. We hypothesize that Biblical literalists will be inclined to be climate change indifferent versus those who believe that the deity inspired the Bible, or that the Bible is a book of fables. Those who agree with the two non-literalist biblical interpretations should be more likely to accept the scientific consensus that human activity is modifying the environment. These differences are consequential for how individuals conceptualize climate change, a science concept that embodies human causation in altering the biophysical environment.

The connection between biblical belief and climate belief may not be direct, but rather could be filtered by the individual's faith tradition. Durkheim's hypothesis concerns sacred conceptualization within a broader process of individual socialization involving social interactions, interpretation, and sacred rituals. Faith traditions have different attitudes and

rituals regarding sacred texts as well as different public policy positions regarding climate change. Given this, religious leaders and followers may be inclined to hold similar views relative to those within their respective faith tradition versus other traditions. We therefore cross-classify faith tradition with biblical belief to account for different understanding about what's in the Bible. Biblical belief results from a combination about what's actually in the Bible and interpretation of that belief. A faith tradition's political and social activity holds the potential to influence what individuals experience in relation to biblical belief, and how that knowledge interfaces with secular concepts regarding anthropogenic climate change. Over the past several decades Catholic leaders have tended to support climate change concern, whereas Protestant leaders have tended to be climate change indifferent, although there is evidence that beginning in the 1990s, Protestant leaders have divided around the issue of climate.

In a study of evangelical religious leadership over the period 1990 to 2010, Wilkinson (2012) demonstrates a widening split between evangelical leaders attempting to steer their faith tradition toward supporting stricter government regulation of greenhouse gas emissions, versus another set of evangelical Protestant leaders resisting this policy orientation. Examples are opposition to the 'Evangelical Climate Initiative' (ECI) from the "Cornwall Alliance for the Stewardship of Creation," and the pressure applied on Richard Cizik to remove his name from the ECI's 2006 "Call to Action" (ibid: 67). It is also the case that a split in religious leadership on an issue is no guarantee of a split within church membership on that issue. Evangelical congregations tend to be loosely connected to coordinated mechanisms of national leadership and policy messaging, thus a significant separation between leadership opinion and membership opinion is possible and even commonplace (Bean, 2014; Smith & Leiserowitz, 2013).

In the present analysis we endeavor to estimate the level of climate change indifference for Protestants, Catholics, and all others, cross-classified by biblical belief. This approach is distinct from the existing literature where biblical belief enters empirical models *sui generis* (Arbuckle, 2017; Guth et al., 1995; Kilburn, 2014; Sherkat & Ellison, 2007). We are skeptical of this approach and hypothesize that biblical belief is a product of socialization by the individual's faith tradition. This socialization will tend to modify how the Bible is interpreted. This methodology is logically consistent with a study of US Presidential voter choice over the period 1980 - 2000 where Protestant biblical literalists were found to be strong Republican Party voters versus Catholic biblical literalists who were found to be net Democratic voters (Hirschl, et al., 2012). Finally, the proposed methodological approach is distinct from approaches that rely on faith tradition measured by denomination, apart from biblical interpretation (Steensland et al., 2000).

2.1 Unmediated and Mediated Effects of Religion on Climate Change Indifference

The empirical model estimates two pathways from religion to climate change indifference. The first is a direct effect of religion on indifference (Ellingson, Woodley and Paik, 2012; White, 1967; Wilkinson, 2012). Many have hypothesized that religion directly determines climate indifference, including White's (1967) claim that biblical scripture inclines Christians toward climate change indifference. A reverse example of a direct effect is a self-report from a climate scientist stating that her faith in evangelical Christianity led her to reject climate change indifference in favor of environmentalism (Ottesen, 2021).

A second, mediated effect, is hypothesized through the variable 'political ideology' that indirectly links the independent and dependent variables through a conservative to liberal scale. We define ideology as a belief system following the definition articulated by Williams and Demerath (1991:426-7; also cited in Williams 1996):

Ideologies are belief systems - articulated sets of ideas that are primarily cognitive... primarily articulated by a specific social class/group, that function primarily in the interests of that class or group, and yet are presented as being in the 'common good' or as generally accepted...

The path from religion to political ideology is consistent with research findings indicating that religious identities are linked to the conservative to liberal spectrum, as evident in the growing political and ideological polarization of religious communities beginning in the 1970s, as noted by Wuthnow (1988) and others (Kohut et al., 2000; Layman, 2001). More broadly, religion has been found to be an enduring source of identity for many in American society, and this identity is empirically linked to ideological beliefs and behaviors (Billings and Scott, 1994; Kramnick and Moore, 2005; McCarthy et al., 2016).

The hypothesized link from political ideology to climate change indifference is consistent with the proposition that the range of climate change attitudes correlate with the package of cognitive beliefs defined by conservative versus liberal ideology (Feinberg and Willer, 2013). Conservative political ideology has been found to predict climate change indifference (McCright and Dunlap, 2011), and this is consistent with the proposition that a carbon intensive lifestyle is normative, whereas climate change mitigation advocated by liberal thinkers constitutes a challenge to this norm (Supran and Oreskes, 2020).

2.2 Data

We use data from the General Social Survey (GSS) (Smith et al., 2018) for the years 1993, 1994, 2000, 2016 and 2018. These surveys contained a question in the module on Environment, Science Knowledge and Attitudes related to climate change (*tempgen*), one related to religion (*relig*), and one on attitudes towards the Bible (*bible*).

tempgen: In general, do you think a rise in the world's temperature caused by the 'greenhouse effect' is Extremely dangerous, Very dangerous, Somewhat dangerous, Not very dangerous, or Not dangerous. (In our analysis we convert these responses to a numerical 5-point Likert scale measuring 'climate indifference' where 5='Not dangerous'.)

relig: What is your religious preference? Is it Protestant, Catholic, Jewish, some other religion, or no religion?

bible: Which of these statements come closest to describing your feelings about the Bible?

- a. The Bible is the actual word of God and is to be taken literally, word for word.
- b. The Bible is the inspired word of God but not everything in it should be taken literally, word for word.
- c. The Bible is an ancient book of fables, legends, history, and moral precepts recorded by men.

In our analysis all categories other than Protestant and Catholic are collapsed into a single 'Other' category. This approach conforms to the constraints of sample size and our interest in focusing upon the two largest faith traditions. Note that the question regarding Bible belief asks the respondent to describe 'feelings' about the Bible. It is not necessary that the person has read the Bible, and incorrect information about what's in the Bible is commonplace. Given this, there is the likelihood that individual belief about what's in the Bible is socially influenced, including influences emanating from the individual's faith tradition.

The observed counts of respondents in the five response categories for the climate question are given in Table I, and the sample distribution indicates the importance of the middle category for characterizing climate change indifference. If the marginal probabilities for climate change indifference are computed using those only those respondents stating that the greenhouse effect it is "not dangerous" plus "not very dangerous," then 15 percent of the sample is climate change indifferent. However, when the middle category "somewhat dangerous" is included, climate change indifference rises to 50 percent. The latter method could be considered the preferred one because it is more consistent with the scientific consensus, e.g., the threat of climate change is generally understood to be far more dangerous than "somewhat dangerous." Our analytical resolution to this issue is to preserve the Likert scale metric in the multivariate analysis, and our quantitative interpretations reflect the understanding that small differences matter greatly because much of the sample is clustered in the middle of the distribution.

Table II is a cross-tabulation of the religion and Bible responses among white respondents in which we have combined all the respondents other than Protestant and Catholic into a single Other category. The *tempgen* and *bible* questions were only asked of (overlapping but not the same) subsets of the respondents in the five survey years which results in a sample size of 3,728 respondents with complete data on all variables, of whom 3,004 are white, the only race for which there is sufficient sample size for multivariate analysis.

As noted by the Steensland et al. (2000) religious classification rationale, the Black Protestant church developed its own distinctive religious tradition apart from white Protestant denominations. We would add that the experience of race also created significant distinctions in the way that politics and religion function in American society (Hirschl et al., 2012). All of this demands separate analysis for Blacks and whites, and unfortunately the Black sample size is insufficient to do this.

Our religious analysis classifies individuals based on broad faith tradition (Catholic versus Protestant versus all others), cross-classified by three forms of biblical belief (a, b & c), yielding nine religious subgroups. Catholicism versus Protestantism is a historic distinction within Christianity, symbolized by a centralized authority in the Vatican versus an individual relation with the deity through Bible study. This distinction begins with the Reformation and continues to the present (Weber, 1958). Our proposed Durkheimian methodology of combining broad religious tradition with the individual's biblical belief is distinct from a measurement approach that is based on classifying fine grained religious denominations to separate Protestants into subcategories (Steensland et al. 2000). One weakness of this approach is that the cultural meaning and nominal status of denominations tend to change over time (Woodberry et al., 2012:66). Durkheim's theory of religion leads us to propose that religious influences pertinent to environmental attitudes are more effectively measured by combining the individual's biblical belief with the individual's faith tradition. Climate change presents an epistemic dilemma for religious worldviews, and this dilemma is not validly measured by membership in this or that denomination. This proposition is consistent with empirical research (see literature review in prior paragraphs)

indicating that individual belief tends to be a stronger predictor of environmental attitudes compared to church membership.

Table I. Cross-Classification of "Tempgen" Response by Race

(ED=Extremely Dangerous, VD=Very Dangerous, SV=Somewhat Dangerous NV=Not Very Dangerous ND=Not Dangerous)

<u>Response</u>	<u>Race</u>			Total
	Black	Other	White	
ED	127	76	634	837
VD	130	85	805	1020
SD	157	77	1071	1305
NV	48	12	386	446
ND	8	4	108	120
Total	470	254	3004	3728

Table II. Cross-Tabulation of White Respondents by Religion and Response to the 'Bible' Question

<u>Religion</u>	<u>Response to 'Bible' Question</u>			Total
	Fables	Inspired	Literal	
Catholic	94	543	134	771
Other	345	192	48	585
Protestant	162	808	678	1648
Total	601	1543	860	3004

To tease apart the direct and indirect effects of religion and attitudes towards the Bible on climate change indifference among white respondents we propose a structural equation model in which political views is a mediator, using the GSS variable 'polviews' (measured on a seven-point Likert scale from 1=extremely liberal to 7=extremely conservative). Three other variables in the GSS data thought to be related to climate change indifference are sex (male/female), age (in years) and education (in years). Thus, we fit two regression models: Model 1: Response = tempgen, scored 1 through 5. Independent variables: polviews, sex, age, educ, relig x bible. Model 2: Response = polviews, scored 1 through 7. Independent variables: sex, age, educ, relig x bible. In both models the 'relig' and 'bible' variables interact so that there are nine combinations of the crossed categorical factor.¹ The analysis was conducted using the *svy* package in Stata (StataCorp, 2021) to allow for sampling weights and design factors used in the surveys.

For consistency with the mediation analysis literature, we denote the primary response variable (tempgen) by Y , and the mediator (polviews) by M . Typically, in mediation analyses, the independent variable is denoted by X and is continuous. However, in our setting we are interested in a categorical independent variable with categories formed by the responses to the relig and Bible questions. We follow the methods and terminology for mediation analysis with a multi-category independent variable described in Hayes and Preacher (2014).

Survey participants who were Protestants and gave response "a" (Literal) to the Bible question are in category PL (Protestant literal), and Catholics who gave response "c" (Fables) are in category CF (Catholic fables), and similarly for the Other group and response "b" (Inspired). Let \bar{Y}_{PL} and \bar{M}_{PL}^* denote the mean response and mediator for the PL category after adjusting for sex, age, and education, and let \bar{Y}_{PL}^* denote the mean response after also adjusting for political views. The difference, $\bar{Y}_{CI}^* - \bar{Y}_{PL}^*$, represents the estimated direct effect on the mean response of being in the CI category *relative* to the PL category. The coefficients in Table III in the c'-column can all be interpreted in this way, with PL always being the reference category. Similarly, the difference, $\bar{M}_{CI} - \bar{M}_{PL}$, represents the estimated effect on the mean of the mediator of being in the CI category relative to the PL category. These relative effects are the coefficients in the a-column of Table III. The relative indirect effects of the religion/Bible categories on the climate change indifference variable (tempgen) are represented by the product, $(\bar{M}_{CI} - \bar{M}_{PL})b$, where b is the partial slope coefficient for political views (polviews) from the Model 1 fit. The relative total effects are the sums of the relative direct and indirect effects:

$$\bar{Y}_{CI} - \bar{Y}_{PL} = \bar{Y}_{CI}^* - \bar{Y}_{PL}^* + (\bar{M}_{CI} - \bar{M}_{PL})b.$$

The total effects can also be obtained from fitting Model 1 without the mediator variable.

3. Empirical Findings

As expected, the Model 1 fit shows significant effects of sex, age and education with males and older people having

higher scores on the climate indifference response scale, and those with more education having lower scores, after accounting for political views, religion, and views about the Bible. Our primary focus here though is on the direct and indirect effects of religion and views about the Bible on climate change indifference after accounting for sex, age, and education, with political views as a mediator.

Table III. Relative Direct Effects for Bible#Relig Response Categories from Model 1 are in the c'-column. The a-Column Gives Corresponding Coefficients from Model 2. The Coefficient b is the Partial Slope for 'Polviews' from Model 1. The ab Products are the Relative Indirect Effects. The z.Sobel Column is the Sobel (1982) z-statistic, $z=ab/se(ab)$, and the Final Column Lists the Total Relative Effects. All Effects Are Relative to the Literal#Protestant Category

Bible#Relig	Statistic					
	c'	a	b	ab	z.Sobel	c'+ab
Fables#C	-0.209	-0.727	0.197	-0.143	-4.897	-0.353
Fables#O	-0.357	-1.655	0.197	-0.326	-9.723	-0.684
Fables#P	-0.088	-1.060	0.197	-0.209	-6.891	-0.297
Inspired#C	-0.192	-0.519	0.197	-0.102	-5.688	-0.294
Inspired#O	-0.127	-1.259	0.197	-0.248	-8.641	-0.375
Inspired#P	-0.021	-0.379	0.197	-0.075	-4.958	-0.096
Literal#C	-0.344	-0.464	0.197	-0.091	-3.353	-0.436
Literal#O	-0.397	-0.294	0.197	-0.058	-1.157	-0.455
(Literal#P)						

In Table III we see that the direct effects of religious tradition/Bible response groups (in the c'-column) are all negative, indicating lower levels of climate change indifference among all groups relative to PL, although some of these effects are not statistically significant (see the full results for Model 1 in Table IV). In particular, the coefficients for two Protestant groups (PF and PI) are very small, suggesting the direct effect is similar for all Protestants. The indirect effects through the political views mediator are also all negative, and all significant except for the OL group (see the full results for Model 2 in Table V).

The relative indirect effects and direct effects for all groups are displayed in Figure I and are arranged by biblical worldview. The OF responders have the largest total relative effect with roughly equal direct and indirect effect differences from the reference PL group. The OI responders also have similar direct and indirect deviations from the PL group albeit with somewhat smaller effect sizes. In contrast, as noted above, the PF responders and, to a lesser extent, the PI responders mostly differ from the PL group in terms of their indirect effects suggesting that these group differences in climate change indifference are largely mediated through political views and not a direct effect of religion. Interestingly, this is not true for the corresponding Catholic responders (i.e., CF and CI) whose differences relative to the PL group are a mix of both direct and indirect effects. The most striking comparisons are among the literalist categories, where the Catholic and Other religious groups have large direct effects relative to Protestant literalists and small relative indirect effects. This suggests that Protestants who believe the Bible is the literal word of God have a different interpretation of what it means vis-à-vis climate change from Catholics and all others. Catholics and Others who believe the Bible is the literal word of God are significantly less likely to be climate change indifferent relative to Protestants in the same bible category, and the difference is governed largely by a direct effect rather than a mediated effect based on political views. Thus, there are distinctly differing biblical interpretations within the total set of biblical literalists.

If we compare biblical literalists to the rest of the sample, several characteristics are evident. First, biblical literalists are divided in their interpretation of the bible. This is evident when comparing CL and OL to PL, the black portions of the two right most bars in Figure I. Second, biblical literalism overall presents a predominant direct relationship between climate change indifference and religious belief, i.e., the mediated political effects among literalists tend to be minimal (the gray portions of the two right most bars in Figure I). If we compare all biblical literalists to all other Catholics and all Others, we see that these non-literalist groups tend to have relatively higher levels of mediated political effects of religion on climate change indifference. This is not the case for the two non-literalist Protestant groups who are similar to PL. One implication of these findings is that the effect of biblical belief on climate change indifference is not *sui generis*, but rather is contingent on the faith tradition from which it originates.

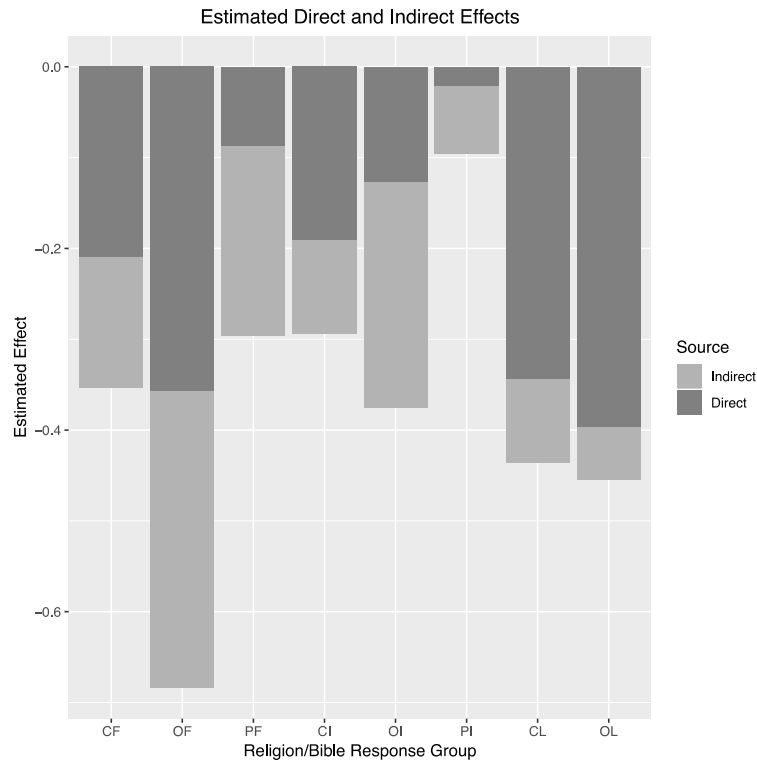


Figure 1.

Table IV. Direct Effects Model: Climate Response Regressed on Political Views, Control Variables, and Religious Tradition by Religious Belief Subsets (Table V about here)

Independent Variable	Coefficient	Standard Error	t-value
Political views	0.197	0.016	12.69***
Male=1; Female=0	0.255	0.040	6.42***
Age (years)	0.003	0.001	2.69**
Education (years)	-0.019	0.008	-2.34*
Fables#C	-0.209	0.121	-1.74
Fables#O	-0.357	0.083	-4.32***
Fables#P	-0.088	0.104	-0.84
Inspired#C	-0.192	0.067	-2.86**
Inspired#O	-0.127	0.104	-1.23
Inspired#P	-0.021	0.061	-0.34
Literal#C	-0.344	0.093	-3.69***
Literal#O	-0.397	0.169	-2.35*
(Literal#P)			
Constant	-1.200	0.146	-8.23***

*.05 probability that coefficient is zero, two-tailed test;

** .01 probability coefficient is zero, two-tailed test;

***.001 probability coefficient is zero, two-tailed test.

Table V. Indirect Effects Model: Political Views Regressed on Control Variables and Religious Tradition by Religious Belief Subsets

Independent Variable	Coefficient	Standard Error	t-value
Male=1; Female=0	0.352	0.052	6.83***
Age (years)	0.005	0.002	2.93**
Education (years)	0.014	0.009	1.46
Fables#C	-0.727	0.137	-5.31***
Fables#O	-1.655	0.109	-15.13***
Fables#P	-1.060	0.129	-8.21***
Inspired#C	-0.519	0.082	-6.36***
Inspired#O	-1.259	0.107	-11.80***
Inspired#P	-0.379	0.070	-5.39***
Literal#C	-0.464	0.133	-3.48**
Literal#O (Literal#P)	-0.294	0.253	-1.16
Constant	4.167	0.169	24.69***

*.05 probability that coefficient is zero, two-tailed test;

** .01 probability coefficient is zero, two-tailed test;

***.001 probability coefficient is zero, two-tailed test.

Table VI. Total Effects Model: Climate Response Regressed on Control Variables and Religious Tradition by Religious Belief Subsets

Independent Variable	Coefficient	Standard Error	t-value
Male=1; Female=0	0.325	0.041	7.99***
Age (years)	0.004	0.001	3.47**
Education (years)	-0.016	0.008	-1.93
Fables#C	-0.353	0.122	-2.90**
Fables#O	-0.684	0.079	-8.60***
Fables#P	-0.297	0.107	-2.78**
Inspired#C	-0.294	0.068	-4.35
Inspired#O	-0.375	0.099	-3.78***
Inspired#P	-0.096	0.062	-1.55
Literal#C	-0.436	0.095	-4.58***
Literal#O (Literal#P)	-0.455	0.163	-2.79**
Constant	-0.379	0.139	-2.72**

*.05 probability that coefficient is zero, two-tailed test;

** .01 probability coefficient is zero, two-tailed test;

***.001 probability coefficient is zero, two-tailed test.

5. Discussion

This study proposes a Durkheimian methodology to measure the effect of religion on climate change indifference. The proposed model builds on the idea that climate change attitudes have become subject to political discourse in the US, and that religiously minded individuals may be inclined to develop climate change attitudes through political affinity, or directly in relation to their faith. We measure religion by cross-classifying faith tradition with the individual's biblical worldview, a model inspired by Durkheim's (1912/2001) functional and substantive definition of religion. The model is estimated with five cross sections from the General Social Survey for the years 1993 to 2018. Before summarizing the results, we first describe one potential limitation to the study findings.

The analysis finds statistically significant indirect and direct effects of religion on climate change indifference. However, the magnitude of these effects is not great; the larger total mean effects are between 0.4 and 0.7 on a five-point Likert scale, for example. One could argue that this magnitude barely moves the needle relative to the full range of the variable. However, the effect is statistically significant indicating that religious ideation is causally linked to climate change indifference. The small effect magnitudes are consistent with the shape of the sample distribution where there is clustering in the middle ranges of the belief scales. Small magnitude differences loom large when measuring climate change indifference.

The evidence for direct and indirect effects leads us to the proposition that the total effect is not fully accounted for when religion is modeled as a control variable. The present study finds that religion exerts a causal influence on climate change indifference and that some fraction of this total effect is mediated by political ideology. If investigators choose to model religion as a control variable, we advise they conduct appropriate tests for mediated and unmediated causality and observe whether doing so changes the character of other effects within their empirical model. Investigators may find that the direct effect alone understates the full effect of religion on climate change attitudes.

The effect of biblical belief on climate change indifference is found to vary by religious tradition. Catholic biblical literalists are relatively inclined to be concerned about climate change versus Protestant biblical literalists who are inclined to be indifferent to climate change. These variations suggest that the Bible is subject to differing and even contradictory interpretations that are influenced by the respective religious tradition from which they originate. The effect of biblical belief on climate change indifference is not *sui generis*, but rather is contingent on faith tradition.

Religious worldviews pertain to existential questions, and climate change poses an existential threat to humanity. The study finding that biblical belief and religious tradition are determinants of climate change indifference is therefore logical, and for a religiously influenced society such as the US, perhaps it could be no other way. We surmise that religious differences regarding climate change indifference are indicative a political divide reinforced by religious belief. It is reminiscent of President Lincoln's comment near the end of the Civil War that both sides in the conflict "read the same Bible and pray to the same God; and each invokes His aid against the other" (Library of Congress 1865). In the US, religious dialogue relevant to long-standing, salient social questions are a familiar phenomenon.

The finding that Catholic biblical literalists versus Protestants are inclined to reach opposing positions regarding climate change indifference suggests there are tradition-based influences on biblical interpretation, and that these influences are socially determined in the manner described by Durkheim. For Durkheim, sacred belief systems function to integrate individuals into a community, and religion serves to integrate individuals into the social order. This would appear to be the case even for the socially divisive issue climate change indifference.

In this study we confirm the expectation that conservatives tend to be climate change indifferent relative to liberals. However, climate change is an existential threat to everyone and can be defined apart from political ideology. The existential threat of climate change is the same for the religious and the non-religious, conservatives and liberals, Republicans and Democrats, and is particularly salient for the young and unborn generations. Policy choices that stop or reverse climate change hold the potential to become a cause that unites humanity in its quest for survival and for a better way of life. This unity is not enhanced by negating peoples' religious worldviews, but rather could fruitfully develop by appealing to all parties regardless of religious worldview.

In this study we find evidence that individuals who believe the Bible is the literal word of God and who practice the Protestant faith are climate change indifferent. If this attitude is indeed socially influenced as Durkheim proposes, then it will change if and when the pertinent social influences change. For Durkheim, religion is a belief system based in sacred concepts, however these concepts are disseminated and socially concretized through religious practices that serve to bring people together into community. In theory, communities are free to reinterpret their beliefs and practices, and the finding of oppositional views about climate within the total set of biblical literalists suggests that this could indeed happen sometime in the future.

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Endnote

1. Since the "polviews" question is present on all surveys there is a much larger sample size available for fitting Model 2. Using all the available data for fitting Model 2 has a small effect on the coefficients and their standard errors but does not change the results in a qualitative way. We chose to use the same sample for both models in our analysis in part because the direct and indirect effects then sum exactly to the total obtained from a regression without "polviews."

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