Supplementary Analyses for
"Religion and foundations of American public opinion toward global climate change"

Wording of questions on climate change:

Occurrence and origins of climate change "You may have heard about the idea that the worlds temperature may have been going up slowly over the past 100 years." Most Americans in February (84 percent) believed that global temperature is "probably rising". These aggregate percentages have changed little over the past decade. In polls with equivalently worded questions over 1997-1998, 76 percent, and in 2006-2007, 84 percent of Americans held these beliefs (Krosnick, Holbrook and Visser 2000, Nisbet and Myers 2007). Respondents were then asked, "Do you think a rise in the world's temperatures is being caused mostly by things people do, mostly by natural causes, or about equally by things people do and by natural causes?".

Consequences of climate change The question began, "Scientists use the term global warming to refer to the idea that the world's average temperature may be about five degrees Fahrenheit higher in 75 years than it is now". The question followed, "Overall, would you say that global warming would be good, bad, or neither good nor bad? [If good or bad] Would you say it would be (extremely good [bad]; moderately good [bad]; slightly good [bad]".

Policy Issue Attitudes Americans were asked about the extent to which they supported emission restrictions on power plants, stricter fuel efficiency standards for automakers, and an increased gasoline (petrol) tax, along a seven point scale ranging from "oppose a great deal" to "favor a great deal".

"Next we'd like to ask whether you favor or oppose a series of ways that the federal government might try to reduce future global warming." "Power plants put gases into the air that could cause global warming. Do you favor, oppose, or neither favor nor oppose the federal government lowering the amount of these gases that power plants are allowed to put into the air? Do you favor [oppose] that (a great deal, moderately, or a little)?". "Do you favor…the federal government requiring automakers to build cars that use less gasoline?" and 3) "Do you favor…increasing taxes on gasoline so people either drive less or buy cars that use less gas?"

Of the three sets of policies, support for stricter automobile fuel efficiency standards was the highest, followed by stronger power plant emissions restrictions, while a gasoline tax drew nearly a mirror image of opposition. In October, scaled from strongly oppose (1) to neither (4) and strongly support (7), the arithmetic mean support for stricter fuel economy standards was 6.07 (along a 95 percent confidence interval ranging from 5.86 to 6.28), followed by power plant emissions at 5.55 (5.33 to 5.78), and a gasoline sales tax at 2.41 (2.18 to 2.63).

Biblical Literalism
"Which of these statements comes closest to describing your feelings about the Bible?", with responses ranging from "The Bible is a book written by men and is not the word of God.", to "The Bible is the word of God but not everything in it should be taken literally, word for word.", and "The Bible is the actual word of God and is to be taken literally." All survey respondents, regardless of their religious affiliation, were asked this question.

Control in Policy Issue Attitude Models
In addition, the models of policy issue attitudes include a standard measure of trust in government, found in two prior studies to structure support for climate change mitigation policies (Konisky *et al.* 2008; Dietz *et al.* 2007).
Variables, Coding, and Descriptive Statistics

All measures, as scaled and analyzed in the multivariate analyses, appear in Table 1. The table display the variable name and coding along with two descriptive statistics for each one.

Table 1. Coding, mean, and standard deviation of variables in multivariate analyses

Variable	Coding	Mean	SD
Attitude toward climate change	Seven point scale ranging from 1 (Extremely good) 4 (Neither) 7 (Extremely Bad)	5.49	1.40
Belief in the origins of climate change	1 (Mostly nature) 2 (About equally both) 3 (Mostly people	2.19	.71
Evangelical Protestant affiliation	0 (Not Evangelical affiliation) 1 (Evangelical)	.27	.44
Roman Catholic affiliation	0 (Not Roman Catholic affiliation) 1 (Catholic)	.23	.42
Mainline Protestant affiliation	0 (Not Mainline Protestant affiliation) 1 (Mainline Protestant)	.17	.38
Biblical literalism	0 ("The Bible is a book written by men and is not the word of God.") .5 ("The Bible is the word of God but not everything in it should be taken literally, word for word.") 1 ("The Bible is the actual word of God and is to be taken literally.")	.57	.35
Religious service attendance	0 (less than weekly) 1 (at least weekly)	.33	.47
Minority Race	0 (White Hispanic or Non-Hispanic White) 1 (All others)	.24	.43
Female gender	0 (male) 1 (female)	.52	.50
Age	Year categories: (18-29)	.21	.40
	(30-49)	.38	.49
	(50-64)	.24	.43
Household Income	0 (less than $5,000 per year) 1 ($175,000 or more)	.59	.23
Formal educational attainment	Five point scale ranging from 0 (less than a high school diploma) to 1 (a post Baccalaureate degree)	.47	.28
Party Identification	Seven point scale ranging from 0 (strong Democrat) .5 (Independent) to 1 (Strong Republican)	.47	.35
Policy Issue Attitudes	Seven point scale ranging from 1 (strongly oppose) 4 (neither) to 7 (strongly support)		
Power plant emissions restrictions		5.55	1.79
Gasoline sales tax		2.41	1.93
Automobile mileage standards		6.07	1.62

Note: Entries are variable coding, weighted mean and standard deviation for multivariate models, measured in February 2008, policy issue attitudes measured in October 2008.

Explaining policy support for mitigating climate change

Table 5 displays models of support for three policy issues, measured in October 2008. Each model is specified with a lagged dependent variable (measured in February), to control for opinion change from February to October. Other covariates are measured during the February or introductory January survey wave.

[Insert Table 5 here.]

Across the models, there is little evidence of a systematic relationship between policy issue attitudes and prior beliefs about the causes of climate change or concern over the consequences of it. Out of the six tests, only for increased automobile fuel efficiency standards (mileage standards) does belief in the human origins of climate change predict stronger support for the standards. In the absence of a significant effect throughout the other models, however, this result appears anomalous.

Other factors appear inconsistently related to policy support, with the exception of a significant interaction between party identification and educational attainment. Trust in government is unrelated to support for the three policies, while demographic characteristics are inconsistently related. Another anomalous result is the statistically significant relationship between support for biblical literalism and fuel efficiency standards. Each of the other measures of religion appears indirectly related to policy issue support, only through the beliefs and attitudes toward climate change itself, as demonstrated in prior tables. This result is not surprising, given that among the major religious traditions, cues toward the climate are about the climate itself and not specific policy responses to it.

A consistent result appears across the first two policy issues within the table. Party identification and education exercise a sharply interactive influence. In contrast to the influence of education in beliefs and attitudes toward climate change, the direction of the influence of education for policy issues strongly depends upon an individual's party identification.

The table entry for education within each of these two policy issues indicates the influence among "Strong" Democrats, displaying a significant increase in support for each policy issue given an increase in educational attainment along the range of the education scale. For partisan independents, the influence of education is null for emissions restrictions (β =.18, (.32), p = 0.56), yet retains significance for mileage standards (β =.72, (.36), p = 0.04). Among Republicans, however, the direction of influence for formal educational attainment switches signs and is not consistently significant. For example, on emissions restrictions, more formal educational attainment yields less support among "Strong" Republicans Republicans (β =-1.20, (.47), p = 0.01), but not on mileage standards (β =-.66, (.46), p=0.15). Overall, while among Democrats education leads to stronger support, the influence of education is much more subtle among Republicans.

Table 5. Models of attitudes toward climate change policy response, October 2008

	Policy Issue Attitudes					
	Increased Power Plant Emissions Restrictions		Increased Auto Mileage Standards		Increased Gasoline Sales Tax	
Lagged Policy Attitude	2.96***	(.44)	3.62***	(.61)	2.01***	(.33)
Cause of Climate Change	.50	(.28)	.45*	(.21)	.33	(.36)
Attitude toward Climate Change	.59	(.59)	.10	(.42)	-.30	(.60)
Age 18-29	.04	(.38)	-.31	(.31)	.05	(.49)
Age 30-49	.18	(.30)	-.61**	(.19)	-1.05**	(.36)
Age 50-64	.15	(.33)	-.38*	(.19)	-.77*	(.36)
Minority Race	.02	(.27)	.28	(.19)	.38	(.35)
Female Gender	.33*	(.17)	.01	(.17)	.52*	(.21)
Income	.34	(.41)	-.06	(.42)	.33	(.59)
Education	1.58**	(.54)	2.12**	(.69)	.82	(.65)
Trust in Government	.57	(.47)	-.02	(.32)	-.42	(.39)
Party Identification	1.48**	(.53)	1.52*	(.63)	.70	(.69)
Party Identification X Education	-2.76***	(.71)	-2.46**	(.92)	-1.34	(.99)
Evangelical Prot. Identification	.05	(.28)	.03	(.26)	.41	(.41)
Mainline Prot. Identification	.04	(.27)	-.01	(.25)	-.21	(.32)
Roman Catholic Identification	-.26	(.37)	-.01	(.34)	.60	(.33)
Biblical Literalism	.33	(.35)	.83***	(.23)	-.42	(.44)
High Service Attendance	-.61	(.39)	-.11	(.28)	.63	(.54)
Evangelical X Attendance	.14	(.49)	-.01	(.37)	.97	(.67)
Mainline X Attendance	.76	(.45)	.09	(.37)	-.67	(.66)
Catholic X Attendance	.45	(.64)	.11	(.37)	-1.27	(.70)
Intercept	1.11	(.77)	1.29	(.83)	1.85**	(.61)
N	516		516		521	
R^2	.35		.38		.23	

Note: †< .10; *p < .05; ** p < .01 Entries are the survey weighted, OLS regression coefficients, Taylor-series (linearized) standard errors in parentheses. Policy issue attitudes are measured on a 1 ('strongly oppose') to 7 ('strongly support') scale. All covariates rescaled to range from 0 to 1, party identification toward Strong Republican (1), left-right placement toward strong conservative, and trust in government toward stronger trust. Demographic controls for age, statistically insignificant across each model, are excluded from the table.

References

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