

Green Christians? An Empirical Examination of Environmental Concern Within the U.S. General Public

Organization & Environment

XX(X) 1–18

© 2013 SAGE Publications

Reprints and permissions:

sagepub.com/journalsPermissions.nav

DOI: 10.1177/1086026613495475

oe.sagepub.com



John M. Clements¹, Aaron M. McCright¹
and Chenyang Xiao²

Abstract

Since the mid-1960s, many scholars have characterized Western Christianity as at odds with environmentalism and ecological values. Yet since the mid-1990s, many observers claim there has been a “greening of Christianity” in the United States. Using nationally representative data from the 2010 General Social Survey, we analyze how pro-environmental self-identified Christians in the U.S. general public are in their self-reported environmental attitudes, beliefs, and behaviors. Using structural equation modeling, we find that self-identified Christians report lower levels of environmental concern than do non-Christians. Among Christians, religiosity relates positively to pro-environmental behaviors but not to pro-environmental attitudes or beliefs. These results suggest that this presumed greening of Christianity has not yet translated into a significant greening of pro-environmental attitudes, beliefs, and behaviors of rank-and-file Christians in the U.S. general public.

Keywords

Christianity, religiosity, environmental attitudes, willingness to pay, environmental behavior, structural equation modeling

In earlier decades, some scholars, especially White (1967), characterized Western Christianity—with its anthropocentric claim of human dominion over the Earth—at odds with environmentalism as a movement and ecological worldviews more broadly (e.g., Bookchin, 1990; Faricy, 1988; Kinsley, 1994; Leiss, 1994; Merchant, 1980; Passmore, 1974; Worster, 1994). Yet other writers, often in direct response to White (1967), have attempted to demonstrate the compatibility of environmentalism and Christianity (e.g., Climenhaga, 2009; Daly & Cobb, 1994; McFague, 1993; Shenk, 1995; Verwer, 2006). Indeed, since the mid-1990s, there has been increasing attention to what some observers have claimed to be a “greening of Christianity” in the United States (e.g., Hitzhusen, 2007; Van Dyke, Mahan, Sheldon, & Brand, 1996; Wilkinson, 2010).

¹Michigan State University, East Lansing, MI, USA

²American University, Washington, DC, USA

Corresponding Author:

Aaron M. McCright, Lyman Briggs College, Department of Sociology, Environmental Science and Policy Program, Michigan State University, E-185 Holmes Hall, East Lansing, MI 48825-1107, USA.

Email: mccright@msu.edu

Some environmental scholars (e.g., Haluza-Delay, 2000; Hoffman & Sandelands, 2005), religious scholars (e.g., Kearns, 1996; Wallace, 2008), and religious leaders (e.g., Beisner, 1997; Harper & Kennealy, 2009) argue how empathetic care for the environment is actually consistent with, if not demanded by, Christian values. At the same time, prominent Christian figures and organizations are engaging in activities to integrate environmental values and Christian values—or, more accurately, demonstrate how the former are demanded by the latter. These take a variety of forms, with considerable variation in outcomes. For instance, many individual Catholic parishes, dioceses, and convents (e.g., Franciscan Sisters of Mary, United Methodist Church, and Pax Christi) have formally adopted the Earth Charter, requiring them to be much more sustainable in their use of energy and resources and in their waste production. Furthermore, the Evangelical Environmental Network (2011), an organization founded in 1993 to “equip, inspire, disciple, and mobilize God’s people in their effort to care for God’s creation,” and the Southern Baptist Environment & Climate Initiative (2011), which has over 750 signatories, have declared their intent to actively promote “creation care.” Also, the Evangelical Climate Initiative, which was founded in February 2006 by approximately 80 prominent evangelical leaders, has campaigned—even if only for a short while—about the urgent need to deal with climate change (e.g., Goodstein, 2006).

While these newsworthy phenomena have captured public attention, they nonetheless fall short of generalizable evidence of a significantly greener Christianity in the United States in recent years. Indeed, the initiatives may be accurately described as calls to action by religious leaders, with scant evidence that rank-and-file adherents are following these calls. Furthermore, some of the efforts mentioned above, such as the Evangelical Environmental Network and the Evangelical Climate Initiative, have drawn considerable ire from more politically conservative Christian leaders (e.g., James Dobson and Charles Colson) and organizations (e.g., Cornwall Alliance, 2011) and seem to be attracting more opposition than support within Christian America. Our objective is not to analyze the theological basis for the greening of Christianity, review the wealth of existing books that have done so, or focus narrowly on the pro-environmental pronouncements and activities of some religious leaders. Rather, we believe that a better test of how green American Christianity has become is accomplished by examining the pattern of self-reported environmental attitudes, beliefs, and behaviors among rank-and-file church members.

With more than 75% of Americans reporting some affiliation with a Christian religion, the prospect of a greener Christianity may be quite consequential. Investigating a possible change in how members of a religious faith view any important issue may provide insight into likely wider changes in that religious tradition. Also relevant, examining the supposed greening of Christianity in the United States may help us explain subtle changes over time in the influence of religious affiliation and religiosity for causes of and solutions to environmental problems.

Using nationally representative data from the 2010 General Social Survey (GSS), we analyze how pro-environmental self-identified Christians in the U.S. general public are in their self-reported environmental attitudes, beliefs, and behaviors. While we cannot assess the full “greening of Christianity” thesis, which implies increasing environmentalism over time and would require trend data, we are able to determine precisely how environmental self-identified Christians are in 2010—several years into this supposed greening trend. Furthermore, following the lead of other scholars, we also examine cross-denomination variation in environmental attitudes, beliefs, and behaviors to determine which Christians are greener than others.

In the following sections, we first briefly review the relevant literature on the relationships among religious affiliation, fundamentalism, religiosity, and environmental beliefs, attitudes, and behaviors. We then discuss the nature of our data set and describe our selected variables and the statistical techniques to analyze them. After presenting our results, we end with a brief conclusion and suggestions for future research.

Public Opinion Research on Christianity and Environmental Concern

Largely in response to the intellectual debate about the compatibility of Christian beliefs and environmentalism provoked by a social psychological interpretation of White's (1967) macro-historical account, a modest body of public opinion research has emerged since the mid-1980s. Because of our focus on the supposed greening of Christianity in the United States, we limit our review to those key studies that have examined the effects of Christian identity, beliefs, and participation on self-reported environmental concern in the U.S. general public. We identify general patterns across the studies and note that the lack of strong patterns may be due to variation in the nature of the samples and in the dimensions of environmental concern examined. Finally, we emphasize that almost all these published studies use data gathered from the 1980s to the mid-1990s, before the supposed greening of Christianity trend gained steam in the United States.

While no studies present relatively clear and consistent evidence that Christian identity, beliefs, or behaviors are positively related to environmental concern, several present such evidence of a negative relationship (e.g., Eckberg & Blocker, 1989, 1996; Hand & Van Liere, 1984; Kanagy & Nelsen, 1995; Wolkomir, Futreal, Woodrum, & Hoban, 1997a, 1997b). A few studies find that Christian identity, beliefs, or behaviors simultaneously have positive effects on some indicators of environmental concern and negative effects on others (e.g., Boyd, 1999; Guth, Green, Kellstedt, & Schmidt, 1995; Kanagy & Willits, 1993). Yet others find that Christian identity, beliefs, or behaviors are not related to environmental concern at all (e.g., Greeley, 1993; Hayes & Marangudakis, 2000; Woodrum & Hoban, 1994). Shifting from such general patterns to the specific results of these studies reveals some interesting patterns.

Those public opinion studies examining the relationship between Christianity and environmental concern tend to focus on three sets of religious indicators: the acceptance of dominion beliefs, the degree of fundamentalism or conservatism in religious beliefs, and the extent of respondents' religiosity. Scholars offering a social psychological interpretation of White's (1967) macro-historical thesis claim that environmental concern relates inversely to dominion beliefs, or the beliefs that God gave humans dominion over the Earth and all of its creatures. While Woodrum and Hoban (1994) report no relationship between mastery-over-nature beliefs and environmental concern, Wolkomir et al. (1997a, 1997b) find that mastery-over-nature beliefs are negatively related to environmental concern, and Sherkat and Ellison (2007) discover that stewardship beliefs relate positively to environmental concern.

Other studies examine the effect of fundamentalist or conservative religious beliefs or traditions on environmental concern. For the most part, these studies find relatively consistent evidence of an inverse relationship. While Woodrum and Hoban (1994) find no relationship between fundamentalist beliefs and environmental concern, several studies find that environmental concern relates inversely with fundamentalist beliefs or tradition (e.g., Boyd, 1999; Eckberg & Blocker, 1996; Kanagy & Nelsen, 1995), evangelical self-identification (e.g., Guth et al., 1995; Kanagy & Nelsen, 1995), and conservative eschatology (e.g., Guth et al., 1995). Also, while several studies find no relationship between biblical literalism and environmental concern (e.g., Boyd, 1999; Greeley, 1993; Wolkomir et al., 1997a, 1997b; Woodrum & Hoban, 1994), a few find an inverse relationship (e.g., Eckberg & Blocker, 1989; Sherkat & Ellison, 2007).

Studies in this literature also consider the role of religiosity, or how religious people are as indicated by their performance of religious behaviors (e.g., attending church and praying) and by the salience of religion in their lives (e.g., self-reported importance of religion). Overall, such religiosity indicators have mixed effects in the literature, yielding no clear pattern of results. Most often investigated is the effect of attending religious services on environmental concern. Most studies find no relationship between the frequency of going to church and environmental concern (e.g., Boyd, 1999; Eckberg & Blocker, 1996; Greeley, 1993; Guth et al., 1995; Hayes &

Marangudakis, 2000; Woodrum & Hoban, 1994). Others find a positive relationship (e.g., Sherkat & Ellison, 2007) or a negative relationship (e.g., Kanagy & Nelsen, 1995). Kanagy and Willits (1993) report that church attendance relates negatively to environmental beliefs and attitudes but positively to environmental behaviors. Also, Hand and Van Liere (1984) discover that the effect of church attendance on environmental concern varies across Protestant denominations. Among liberal Protestant denominations (e.g., Episcopal), there is a small positive effect for church attendance on environmental concern; among conservative, fundamentalist Protestant denominations (e.g., Baptist), there is a negative effect, likely due to a stronger commitment to a mastery-over-nature orientation (Hand & Van Liere, 1984). Boyd (1999) finds that the frequency of praying has no effect on the perceived dangerousness of environmental problems and people's willingness to pay for environmental quality, but it does have a positive effect on the performance of environmental behaviors. Finally, most studies find that self-reported religious salience is not related to environmental concern (e.g., Eckberg & Blocker, 1989; Wolkomir et al., 1997a, 1997b; Woodrum & Hoban, 1994), though Wolkomir et al. (1997b) do find that religious salience relates positively with environmental behaviors (see also Guth et al., 1995).

Several studies also examine variation in environmental concern across Christian denominations. While Allitt (1998) argues that Catholics are greener than Protestants, the empirical evidence from public opinion studies is not so clear. Guth et al. (1995) report no significant difference between Catholics and Protestants, but Greeley (1993) finds that Catholics have stronger pro-environmental attitudes than do Protestants because their view of God is more "gracious" than is Protestants' view of God. Also, while Hayes and Marangudakis (2000) report that Catholics perform more environmental behaviors than do liberal Protestants, they further find that liberal Protestants are more favorable toward government protection of the environment than are Catholics.

The conflict between conservative and liberal Protestant leaders on the issue of climate change that we discussed in the introduction suggests a similar tension among Protestants in the general public (e.g., McCammack, 2007). While Guth et al. (1995) discover no significant differences between Evangelical Protestants and mainline Protestants on environmental concern, other studies do find consistent differences between conservative Protestant denominations and more mainline or liberal Protestant denominations. A few studies find that liberal Protestants have greater environmental concern than do other Protestants (e.g., Hand & Van Liere, 1984; Hayes & Marangudakis, 2000), while others find that conservative Protestants have lesser environmental concern than do other Protestants (e.g., Eckberg & Blocker, 1989; Hand & Van Liere, 1984; Sherkat & Ellison, 2007). Wolkomir et al. (1997a) report that Black Protestants have lesser environmental concern than do liberal Protestants. Finally, Hunter and Toney (2005) find that while Mormons express stronger support for environmental protection than do non-Mormons, the former nevertheless are less willing to sacrifice for the environment and are less likely to perform public environmental behaviors than the latter.

The challenge of finding robust patterns in this literature is compounded by a few prominent shortcomings shared by several studies. While more recent studies tend to use data from large, nationally representative samples (e.g., Sherkat & Ellison, 2007), many earlier studies used more limited samples of state residents (e.g., Hand & Van Liere, 1984; Kanagy & Willits, 1993; Woodrum & Hoban, 1994), samples of city or county residents (e.g., Eckberg & Blocker, 1989; Hunter & Toney, 2005), or national samples that excluded non-Whites (e.g., Guth et al., 1995; Kanagy & Nelsen, 1995). Furthermore, while some studies use widely recognized indicators of multiple dimensions of environmental concern (e.g., Hayes & Marangudakis, 2000), others employ rather limited or poor measures of environmental concern (e.g., Greeley, 1993; Guth et al., 1995). Finally, several studies (e.g., Hand & Van Liere, 1984; Kanagy & Nelsen, 1995; Kanagy & Willits, 1993) fail to statistically control for the well-known effect of political ideology on environmental concern (see, e.g., Dunlap, Xiao, & McCright, 2001). This is important

since the inverse relationship between Christian beliefs and environmental concern may be a spurious result from the influence of conservative political ideology.

Regardless of these limitations in the literature, we can identify a few general patterns from analyses of data from the late 1980s and early 1990s. No studies present relatively clear and consistent evidence that Christian identity, beliefs, or behaviors are positively related to environmental concern, but several present such evidence of a negative relationship. Still others show either no relationship or mixed effects of Christianity on environmental concern. With some exceptions, dominion beliefs and conservative or fundamentalist beliefs and traditions are negatively related to environmental concern. Religiosity has a mixed effect on environmental beliefs and behaviors. Also, liberal Protestants report greater environmental concern than do Evangelical or conservative Protestants and Black Protestants.

Given the supposed greening of Christianity in recent years, we now analyze how green self-identified Christians in the U.S. general public are in their self-reported environmental concern. Following from the greening of Christianity thesis, we expect that *Christian respondents express at least the same level of environmental concern as do non-Christian religious respondents and non-religious respondents* (Hypothesis 1). While the greening of Christianity thesis makes no clear claims about a shift in the effect of fundamentalism on environmental concern, it does imply that—among Christians—a positive relationship between religiosity and environmental concern should become clearer. Thus, we expect that *religiosity is positively related to environmental concern among Christians* (Hypothesis 2). We also examine cross-denomination variation in environmental concern to determine which Christians are greener than others. Given the results of past research in this area, we expect that *Mainline Protestants and Catholics express greater environmental concern than do Evangelical and Black Protestants* (Hypothesis 3). In the next section, we discuss the nature of our data set and describe our selected variables and the statistical techniques to analyze them.

The Study

Data Set

In this study, we use the 2010 GSS data set (Smith, Marsden, Hout, & Kim, 2011). In addition to a set of core questions, this survey contains a topical module on the environment that was administered to two of the three randomly split parallel subsamples, with an applicable sample size of 1,430 (out of 2,044 total new cross-sectional cases). This survey with the environment module contains many items we used to form measures of environmental concern, religious affiliation, and religiosity, as well as key social, demographic, and political variables that we use as statistical controls.

Variables

We follow Dunlap and Jones's (2002) lead in conceptualizing environmental concern as "the degree to which people are aware of problems regarding the environment and support efforts to solve them and/or indicate a willingness to contribute personally to their solution" (p. 485). As so defined, environmental concern is clearly a multifaceted construct. In this study, using the 2010 GSS data set, we create composite indicators to measure three facets of environmental concern: perceived dangerousness of environmental problems, willingness to pay or sacrifice for environmental reasons, and private environmental behaviors. For each indicator, greater values represent stronger environmental concern.

For these three environmental concern measures—and two religion indicators we discuss later—we first examined the relevant survey items through both confirmatory factor analysis (CFA) and a Cronbach's alpha reliability test. In each case, we found that the items loaded onto

one factor, and Cronbach's alpha tests indicate good reliability. We used factor score weights (as results of CFA) to form our composite indicators of environmental concern, religiosity, and evangelical fundamentalism. Table 1 lists the names of the original GSS variables and our coding scheme as well as additional details for the variables we use in this study.

We use six items to create our "perceived environmental dangerousness" indicator (CFA factor loadings between .39 and .87; $\alpha = .79$), which measures how dangerous respondents believe the following are for the environment: air pollution caused by cars; pesticides and chemicals used in farming; modifying the genes of certain crops; air pollution caused by industry; nuclear power stations; and pollution of America's rivers, lakes, and streams. We use three items to create our "willingness to pay or sacrifice" indicator (CFA factor loadings between .70 and .87; $\alpha = .84$), which measures how willing respondents are to pay much higher prices to protect the environment, pay much higher taxes to protect the environment, and accept cuts in their standard of living to protect the environment. Finally, we use six items to create our "private environmental behaviors" indicator (CFA factor loadings between .45 and .72; $\alpha = .76$), which measures how often respondents perform the following household or consumer behaviors for environmental reasons: make a special effort to buy fruits and vegetables grown without pesticides or chemicals; cut back on driving a car; choose to save or reuse water; avoid buying certain products; make a special effort to sort glass or cans or plastic or papers and so on for recycling; and reduce the energy or fuel you use at home.

To examine how green Christians are and which Christians are greener than others in 2010, we created two sets of religious affiliation dummy variables. With the entire sample ($N = 1,430$), we distinguish those identifying with a non-Christian religion ("non-Christian") and those who identify with no religion ("non-religious") from self-identified Christians ("Christian"). To examine variation within Christianity ($N = 1,083$), we follow the directions offered by Steensland et al. (2000) to create the following dummy variables: "Catholic" ($n = 342$), "Mainline Protestant" ($n = 357$), "Evangelical Protestant" ($n = 254$), and "Black Protestant" ($n = 130$).

Past research examining the relationship between Christianity and environmental concern tends to focus on three additional sets of religious indicators: the acceptance of dominion beliefs, the degree of fundamentalism or conservatism of religious beliefs, and the extent of respondents' religiosity. While the 2010 GSS has no items measuring the acceptance of dominion beliefs, it does nevertheless have multiple items we used to create composite measure of religiosity and evangelical fundamentalism.

We use seven items to create our religiosity indicator (CFA factor loadings between .54 and .81; $\alpha = .85$), which measures how religious respondents are: how religious you consider yourself; the strength of your religious group identification; the strength of your belief in God; how hard you try to carry your religious beliefs over into all other dealings in life; how often you attend religious services; how often you pray; and how often you take part in the activities and organizations of a church or place of worship other than attending service.

We use four items to create our "evangelical fundamentalism" indicator (CFA factor loadings between .51 and .78; $\alpha = .73$), which measures how fundamentalist and evangelical respondents' beliefs and identities are: the liberalism or fundamentalism of your religion; the strength of your belief in the literal interpretation of the Bible; whether or not you have been "born again;" and whether or not you have ever tried to encourage someone to believe in Jesus Christ or accept Jesus Christ as his or her savior. Again, we used the factor score weights provided by the CFA results to create our composite indicators.

We measure political orientation both with an indicator of "political ideology" ("extremely conservative" to "extremely liberal") and one of political "party identification" ("strong Republican" to "strong Democrat"). Finally, we employ the following six social and demographic variables as controls in our multivariate analyses: gender ("female"), race ("non-White"), "age", "educational attainment", annual household "income", and employment status ("full-time"). See

Table 1. General Social Survey (GSS) Variables Used in the Study.

Variable	Original GSS Item ^a	Coding	Factor loadings		
Environmental concern indicators					
Perceived environmental dangerousness ($\alpha = .79$)					
	CARSGEN	1 = not dangerous at all to 5 = extremely dangerous	.76		
	CHEMGEN	1 = not dangerous at all to 5 = extremely dangerous	.60		
	GENEGEN	1 = not dangerous at all to 5 = extremely dangerous	.39		
	INDUSGEN	1 = not dangerous at all to 5 = extremely dangerous	.87		
	NUKEGEN	1 = not dangerous at all to 5 = extremely dangerous	.43		
	WATERGEN	1 = not dangerous at all to 5 = extremely dangerous	.57		
Willingness to pay or sacrifice ($\alpha = .84$)					
	GRNPRICE	1 = not at all willing to 5 = very willing	.81		
	GRNSOL	1 = not at all willing to 5 = very willing	.70		
	GRNTAXES	1 = not at all willing to 5 = very willing	.87		
Private environmental behaviors ($\alpha = .76$)					
	RECYCLE	1 = never to 4 = always	.45		
	CHEMFREE	1 = never to 4 = always	.57		
	DRIVLESS	1 = never to 4 = always	.64		
	REDCEHME	1 = never to 4 = always	.66		
	H2OLESS	1 = never to 4 = always	.57		
	NOBUYGRN	1 = never to 4 = always	.72		
				Mean	SD
Religious affiliation indicators					
Christian	RELIG	0 = not a Christian to 1 = Christian	.76	.43	
Non-Christian	RELIG	0 = all others to 1 = non-Christian religion	.05	.21	
Non-religious	RELIG	0 = all others to 1 = not religious	.18	.39	
Catholic	RELIG, DENOM, OTHER	0 = not Catholic to 1 = Catholic	.24	.43	
Mainline Protestant	RELIG, DENOM, OTHER	0 = not Mainline Protestant to 1 = Mainline Protestant	.13	.41	

(continued)

Table 1. (continued)

Variable	Original GSS Item ^a	Coding	Mean	SD
Evangelical Protestant	RELIG, DENOM, OTHER	0 = <i>not Evangelical Protestant</i> to 1 = <i>Evangelical Protestant</i>	.25	.43
Black Protestant	RELIG, DENOM, OTHER	0 = <i>not Black Protestant</i> to 1 = <i>Black Protestant</i>	.08	.27
			Factor loadings	
Other religion indicators				
Religiosity ($\alpha = .85$)				
	RELITEN	1 = <i>no religion</i> to 4 = <i>strong</i>	.75	
	ATTEND	1 = <i>never</i> to 9 = <i>more than once a week</i>	.70	
	PRAY	1 = <i>never</i> to 6 = <i>several times a day</i>	.76	
	REACTIV	1 = <i>never</i> to 11 = <i>several times a day</i>	.54	
	RELLIFE	1 = <i>strongly disagree</i> to 5 = <i>strongly agree</i>	.76	
	RELPERSN	1 = <i>not religious</i> to 4 = <i>very religious</i>	.81	
	GOD	1 = <i>don't believe</i> to 6 = <i>know God exists</i>	.72	
Evangelical fundamentalism ($\alpha = .73$)				
	FUND	1 = <i>respondent's religion is liberal</i> to 3 = <i>respondent's religion is fundamentalist</i>	.51	
	BIBLE	1 = <i>Bible is an ancient book of fables, legends, history, and moral precepts recorded by men</i> to 3 = <i>Bible is the actual word of God and is to be taken literally</i>	.59	
	SAVESOUL	1 = <i>no</i> to 3 = <i>has tried to convince others to accept Jesus</i>	.77	
	REBORN	1 = <i>no</i> to 3 = <i>has had a born again experience</i>	.78	
			Mean	SD
Political orientation indicators				
Political ideology	POLVIEWS	1 = <i>extremely conservative</i> to 7 = <i>extremely liberal</i>	3.90	1.46
Party identification	PARTYID	1 = <i>strong Republican</i> to 7 = <i>strong Democrat</i>	3.84	2.40

(continued)

Table 1. (continued)

Variable	Original GSS Item ^a	Coding	Mean	SD
Sociodemographic controls				
Female	SEX	0 = male to 1 = female	0.58	0.50
Non-White	RACE	0 = White to 1 = non-White	0.25	0.43
Age	AGE	Actual age in years	48.10	17.80
Education	EDUC	Number of years of school completed	13.41	3.15
Income	REALINC	Family income in constant dollars	30596.42	29005.92
Full-time	WRKSTAT	0 = not employed full-time to 1 = employed full-time	0.44	0.50

a. Variable names from Smith, Marsden, Hout, and Kim (2010).

Table 1 for detailed coding information and the original GSS items. Appendices A and B display the zero-order correlations for the full sample and the Christian sample, respectively.

Statistical Analyses

We conducted our analyses in two stages. In our first stage, we ran a structural equation model (SEM) for each of our three environmental concern indicators to compare nonreligious respondents and religious non-Christians to Christians. This allows us to examine just how green Christians are compared with non-Christians, while accounting for religiosity, evangelical fundamentalism, political ideology, party identification, and our six sociodemographic variables. In our second stage, we only included Christian respondents in our models. Here we investigated within-Christian variation to see which Christians are greener than others by examining the performance of our dummy variables for Catholics, Evangelical Protestants, and Black Protestants (with Mainline Protestants as the reference category).

To account for the potential mediating effects of the two political orientation variables, religiosity, and evangelical fundamentalism that are suggested in the studies we reviewed above, we modeled these four variables as mediating factors in between the set of sociodemographic variables and our three environmental concern indicators. We chose SEM for its superior ability to simultaneously estimate both direct and indirect effects while controlling for the correlations between mediating variables—ideal for modeling mediating effects (e.g., Xiao & Hong, 2012). Figure 1 displays the analytical model we tested with SEM.

Results and Discussion

We ran three SEMs, one for each of the three environmental concern indicators, first for the entire sample ($N = 1,430$) and then another three identical models for the subsample of Christians ($N = 1,083$). We first discuss the results that bear upon our three hypotheses (Hypotheses 1-3), before we briefly discuss the results for other variables. Appendices C and D present the standardized path coefficients of the independent and control variables on the four mediating variables for the full sample (Appendix C) and for the Christian sample (Appendix D). These coefficients are generally in the direction and magnitude as expected in the relevant literatures.

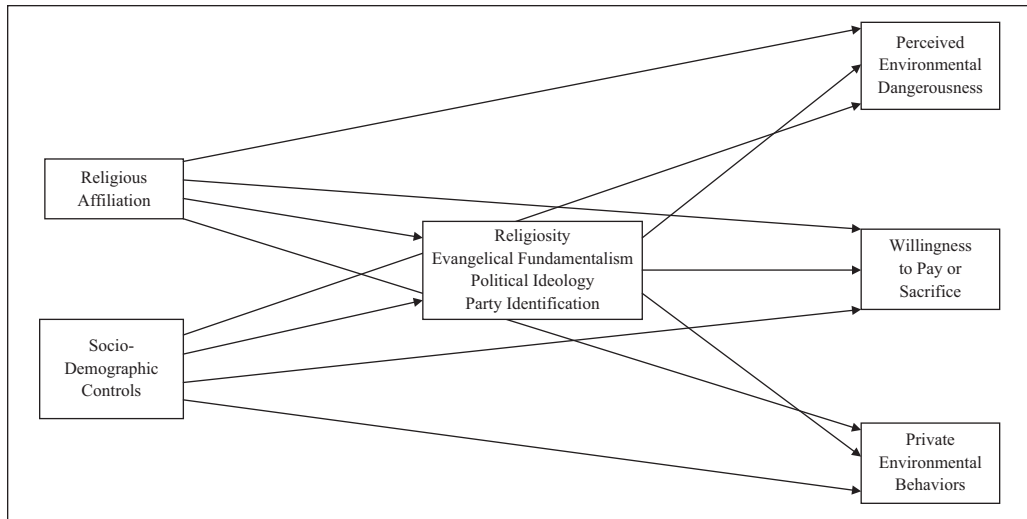


Figure 1. Analytical model for this study.

Table 2 presents the results of SEMs for the entire sample, which enable us to test the first hypothesis (Hypothesis 1) that expects that Christian respondents report at least the same level of environmental concern as do non-Christian religious respondents and nonreligious respondents. Since we have included mediating variables (and the mediated effects are not spurious as in the case of two correlated variables sharing common causes), we focus on the total effects of our independent variables on the environmental concern indicators.

Our results do not support Hypothesis 1. Compared with Christians, nonreligious respondents tend to report stronger perceived environmental dangerousness, greater willingness to pay or sacrifice for the environment, and performing more private environmental behaviors, even when we account for both political variables, religiosity, and evangelical fundamentalism, and the set of six sociodemographic controls. In addition, with these variables in the models, we find that religious non-Christians report greater willingness to pay or sacrifice for the environment and performing more private environmental behaviors than do Christians, although the differences are small.

These results in Table 2 indicate that there is very little evidence to support the idea that rank-and-file Christians are as green as non-Christians or nonreligious individuals, approximately two decades into the supposed greening of Christianity trend. In fact, these results are consistent with the finding of earlier studies that Christian identity, beliefs, and behaviors are negatively related to environmental concern (e.g., Eckberg & Blocker, 1989, 1996; Hand & Van Liere, 1984; Kanagy & Nelsen, 1995; Wolkomir et al., 1997a, 1997b).

Table 3 presents the results of the three SEMs for the subsample of self-identified Christians. We find mixed results for Hypothesis 2, which expects that religiosity is positively related to environmental concern among Christians. While religiosity is not related to perceived environmental dangerousness or reported willingness to pay or sacrifice for the environment, it is positively related to reported private environmental behaviors as hypothesized. Regarding the latter, Christians who are more religious report engaging in more private environmental behaviors than do less religious Christians.

The results of the first two models in Table 3 are consistent with earlier studies that found no relationship between the frequency of attending church (a component of religiosity) and environmental concern (e.g., Boyd, 1999; Eckberg & Blocker, 1996; Greeley, 1993; Guth et al., 1995; Hayes & Marangudakis, 2000; Woodrum & Hoban, 1994). The positive effect of religiosity in

Table 2. Structural Equation Models Predicting Selected Environmental Attitudes, Beliefs, and Behaviors Among All Respondents ($N = 1,430$).

Independent variables	Perceived environmental dangerousness			Willingness to pay or sacrifice			Private environmental behaviors		
	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
Nonreligious	.09*	-.02	.07*	.08*	.04	.12*	.08*	-.03	.06*
Non-Christian (Reference category is Christian)	.04	.01	.04	.04	.02	.06*	.06*	.01	.06*
Religiosity	.08	N/A	.08	.01	N/A	.01	.13*	N/A	.13*
Evangelical fundamentalism	.06	N/A	.06	.00	N/A	.00	-.05	N/A	-.05
Political ideology	.15*	N/A	.15*	.14*	N/A	.14*	.14*	N/A	.14*
Party identification	.22*	N/A	.22*	.12*	N/A	.12*	.06*	N/A	.06*
Female	.08*	.05*	.13*	.02	.03	.04	.06*	.03	.09*
Non-White	-.01	.09*	.08*	.00	.05	.05	-.01	.04*	.03
Age	-.01	.01	.00	-.01	-.01	-.02	.05	.01	.06
Education	-.04	.01	-.04	.07*	.01	.08*	.10*	.01	.11*
Income	-.06*	-.03*	-.09*	.06	-.01	.05	-.01	-.01	-.02
Full-time	.03	-.01	.02	.00	-.01	-.01	-.03	-.01	-.04
Adjusted R^2			.13			.08			.06

Note. Entries are standardized coefficients. Missing data were imputed using the build-in maximum likelihood imputation tool of AMOS 16.0. All models are saturated models and use composite measures and observed variables; no model fit statistics are needed.

* $p < .05$.

Table 3. Structural Equation Models Predicting Selected Environmental Attitudes, Beliefs, and Behaviors Among Christian Respondents ($N = 1,083$).

Independent variables	Perceived environmental dangerousness			Willingness to pay or sacrifice			Private environmental behaviors		
	Direct	Indirect	Total	Direct	Indirect	Total	Direct	Indirect	Total
Catholic	.04	.00	.04	.04	.02	.06	.05	.00	.05
Evangelical Protestant	.02	.01	.03	.01	-.01	.00	-.06	.00	-.06
Black Protestant (Reference category is Mainline Protestant)	-.02	.05*	.03	-.12*	.02	-.10*	-.15*	.02	-.13*
Religiosity	.08	N/A	.08	.05	N/A	.05	.10*	N/A	.10*
Evangelical fundamentalism	.05	N/A	.05	-.03	N/A	-.03	.01	N/A	.01
Political ideology	.11*	N/A	.11*	.09*	N/A	.15*	.11*	N/A	.11*
Party identification	.21*	N/A	.21*	.13*	N/A	.09*	.05	N/A	.05
Female	.06*	.04*	.11*	.00	.02	.03	.06	.03	.09*
Non-White	.03	.08*	.11*	.11*	.04	.15*	.07	.05	.12*
Age	-.05	.01	-.04	-.03	.00	-.03	.04	.01	.05
Education	-.05	.00	-.04	.07*	.00	.07*	.11*	.01	.12*
Income	-.08*	-.03	-.11*	.06	-.01	.04	-.03	-.02	-.05
Full-time	.00	-.01	-.01	-.04	-.01	-.05	-.05	.01	-.06
Adjusted R^2			.13			.06			.07

Note. Entries are standardized coefficients. Missing data were imputed using the build-in maximum likelihood imputation tool of AMOS 16.0. All models are saturated models and use composite measures and observed variables; no model fit statistics are needed.

* $p < .05$.

the third model in Table 3 is consistent with earlier studies that found that church attendance (Kanagy & Willits, 1993) and frequency of prayer (Boyd, 1999) relate positively to reported environmental behavior (Guth et al., 1995; Wolkomir et al., 1997b).

We also find mixed results for Hypothesis 3, which expects that Mainline Protestants (and Catholics) express greater environmental concern than do Evangelical and Black Protestants. We find no statistically significant difference in environmental concern among Mainline Protestants, Catholics, and Evangelical Protestants, consistent with Guth et al. (1995). Yet we also find that Black Protestants report lesser willingness to pay or sacrifice for the environment and lesser performance of private environmental behaviors than Mainline Protestants, consistent with Wolkomir et al. (1997a).

The results in Tables 2 and 3 contain small effect sizes and R^2 values, which are nevertheless comparable with common findings in the environmental concern literature. However, our goal is not to describe large or small differences between Christians and non-Christians, or between different Christian faiths, but to detect any differences in environmental concern should they exist.

We now discuss the effects of the remaining variables in the three models predicting environmental concern within the entire sample (in Table 2). As with the Christian-only subsample in Table 3, religiosity has a positive effect on private environmental behaviors in the entire sample. Contrary to the results of several earlier studies (e.g., Boyd, 1999; Eckberg & Blocker, 1996; Guth et al., 1995; Kanagy & Nelsen, 1995), we find that evangelical fundamentalism is not related to environmental concern (see Woodrum & Hoban, 1994).

Across all of our models, political ideology is the most powerful predictor of environmental concern. Self-identified liberals express greater environmental concern than do their conservative counterparts, consistent with much of the environmental concern literature (e.g., Dunlap et al., 2001). As we discussed earlier, several studies of the relationship between religion and environmental concern do not account for the effect of political ideology (e.g., Hand & Van Liere, 1984; Kanagy & Nelsen, 1995; Kanagy & Willits, 1993). We argue that all future research in this area should account for the effect of political ideology, especially given its likely relationship with religious affiliation and evangelical fundamentalism. Also, political party identification is a statistically significant predictor of willingness to pay or sacrifice for the environment, with self-identified Democrats reporting greater willingness than their Republican counterparts.

Consistent with much research on gender and environmental concern (e.g., Hunter, Hatch, & Johnson, 2004), women report performing more private environmental behaviors than do men. Also, consistent with much research on environmental risk perceptions (Slovic, 2001), women, non-Whites, and individuals with lower incomes perceive a range of environmental problems to be more dangerous than do their respective counterparts. Furthermore, consistent with the general environmental concern literature (e.g., Dunlap & Jones, 2002), educational attainment has a positive effect on willingness to pay or sacrifice for the environment and performance of private environmental behaviors. Finally, age and full-time employment status have no statistically significant effect in any of our models.

Conclusion

Since the mid-1990s, there has been increasing attention to what some observers have claimed to be a “greening of Christianity” in the United States (e.g., Hitzhusen, 2007; Van Dyke et al., 1996; Wilkinson, 2010). With approximately three fourths of U.S. citizens reporting some Christian affiliation, it is important to examine if supposed changes in Christianity and patterns of affiliation influence the relationship between religious affiliation and religiosity on one side and environmental concern on the other. While there are many examples of pro-environmental pronouncements and activities by some Christian leaders and organizations professing a “green” Christianity, we argued for the need to examine the current level of environmental concern among rank-and-file church members. Using nationally representative data from the 2010 GSS, we

analyzed how pro-environmental self-identified Christians in the U.S. general public are in their environmental attitudes, beliefs, and behaviors.

We found that self-identified Christians report lower levels of environmental concern than do non-Christian and nonreligious respondents. Approximately two decades into the supposed greening of Christianity trend, Christians' pro-environmental attitudes, beliefs, and behaviors are lesser than those of non-Christians. Among Christians, more religious individuals do report engaging in more private environmental behaviors than do less religious ones—though there are no differences on perceived environmental dangerousness or reported willingness to pay or sacrifice for the environment. Also, while there are no statistically significant differences in environmental concern among Mainline Protestants, Catholics, and Evangelical Protestants, we did find that Black Protestants are less willing to pay or sacrifice for the environment and perform fewer private environmental behaviors than are Mainline Protestants.

The upshot of these findings is that we found no clear evidence of a green Christianity among rank-and-file Christians in the general public. Indeed, the patterns of our results are quite similar to those from earlier decades, which documented that U.S. Christians were less pro-environmental than non-Christians, all other things equal. This does not mean, however, that such a greening of rank-and-file Christians may not occur and even gain momentum in the near future. Indeed, if the greening trend among Christian leaders and organizations deepens and broadens, we expect a measurable shift to be evident eventually in the general populace. To this end, we close by suggesting a few fruitful avenues for further research in this area: variable-oriented studies, case-oriented studies, and experimental studies.

First, future research should further systematically examine the pro-environmental attitudes, beliefs, and behaviors not only of rank-and-file Christians in the general public but also of Christian leaders and authority figures. Perhaps most important, scholars should explicitly investigate the complex relationships among religion, political ideology, cultural values, and environmental concern. To do so, we need access to nationally representative survey data that includes reliable and valid measures of key concepts (e.g., religious affiliation, religiosity, religious fundamentalism, political ideology, cultural values, and environmental concern). Furthermore, we should employ sophisticated statistical techniques, such as SEM and CFA, which allow us to test mediating models and examine the direct and indirect effects of key variables.

Second, an alternative to a variable-oriented survey approach that maximizes generalizability is a case-oriented ethnographic approach that maximizes depth of understanding. In this latter approach, scholars may select a small number of cases (e.g., parishes, congregations, convents, etc.) known to vary along a "green Christian" continuum. Through in-depth ethnographic work (e.g., participant observation, key informant interviews, etc.), scholars can identify and examine those factors that facilitate or inhibit the diffusion of green Christianity within the cases. One fruitful avenue of investigation here is examining the likely role that concern about end times and the afterlife, especially among more conservative traditions, plays in supplanting concern for earthly matters—such as environmental protection.

Third, scholars may perform a series of experiments designed to systematically examine those factors expected to facilitate or inhibit the diffusion of green Christianity from religious leaders and organizations to rank-and-file members. Key here may be three types of characteristics: the messenger, the message, and the mode of delivery. For instance, future experimental studies may help us determine if a leader of a local congregation or a well-known Christian spokesperson is more influential in changing the attitudes, beliefs, and behaviors of rank-and-file Christians. We may be able to determine if different characteristics (e.g., the use of Holy Scripture, the invocation of different values, etc.) of a message matter in influencing attitudes and behaviors. Finally, experimental studies may also determine how the mode of delivery (e.g., in a church newsletter, in a homily, via bible study, etc.) influences the effectiveness of a message to embrace green Christianity.

Appendix A

Zero-Order Correlation Matrix for the Full Sample (N = 1,430).

	Not religious	Not Christian	Female	Non-White	Age	Education	Income	Full-time	Political ideology	Party identification	Religiosity	Evangelical fundamentalism	Perceived environmental dangerousness	Willingness to pay or sacrifice	Private environmental behaviors
Not religious	1.00														
Not Christian	-.12*	1.00													
Female	-.07*	-.05*	1.00												
Non-White	-.04	.06*	.03	1.00											
Age	-.18*	-.01	.03	-.15*	1.00										
Education	.11*	.06*	.00	-.15*	-.04	1.00									
Income	.04	.02	-.12*	-.20*	.08*	.43*	1.00								
Full-time	.09*	.03	-.14*	-.03	-.22*	.20*	.22*	1.00							
Political ideology	.19*	.06*	.08*	.08*	-.09*	.05	-.02	-.01	1.00						
Party identification	.11*	.06*	.11*	.29*	-.02	-.05	-.11*	-.06*	.49*	1.00					
Religiosity	-.70*	-.04	.18*	.15*	.20*	-.13*	-.12*	-.12*	-.30*	-.13*	1.00				
Evangelical fundamentalism	-.41*	-.12*	.12*	.20*	.03	-.19*	-.21*	-.09*	-.25*	-.07*	.68*	1.00			
Perceived environmental dangerousness	.04	.03	.13*	.11*	-.03	-.07*	-.13*	-.02	.25*	.30*	.01	.05	1.00		
Willingness to pay or sacrifice	.12*	.05	.03	.03	-.04	.11*	.07*	.03	.22*	.19*	-.12	-.10*	.30*	1.00	
Private environmental behaviors	.04	.06*	.09*	.01	.05	.10*	.00	-.04	.17*	.13*	-.01	-.05	.32*	.33*	1.00

*p < .05.

Appendix B

Zero-Order Correlation Matrix for the Christian Sample (N = 1,083).

	Catholic	Evangelical Protestant	Black Protestant	Female	Non-White	Age	Education	Income	Full-time	Political ideology	Party identification	Religiosity	Evangelical fundamentalism	Perceived environmental dangerousness	Willingness to pay or sacrifice	Private environmental behaviors
Catholic	1.00															
Evangelical Protestant	-.38*	1.00														
Black Protestant	-.25*	-.20*	1.00													
Female	-.04	-.03	.09*	1.00												
Non-White	-.06	-.15*	.62*	.04	1.00											
Age	-.07*	.04	-.06*	.02	-.14*	1.00										
Education	-.05	-.09*	-.06	-.02	-.16*	-.04	1.00									
Income	.06*	-.11*	-.16*	-.15*	-.24*	.05	.44*	1.00								
Full-time	.06	.01	.00	-.14*	.01	-.24*	.20*	.23*	1.00							
Political ideology	.09*	v.15*	.12*	.08*	.18*	-.08*	-.03	-.08*	-.03	1.00						
Party identification	.00	-.10	.32*	.12*	.34*	-.01	-.10*	-.17*	-.07*	.48*	1.00					
Religiosity	-.19*	.12*	.18*	.23*	.19*	.13*	.00	-.13*	-.07*	-.19*	-.05	1.00				
Evangelical fundamentalism	-.37*	.32*	.25*	.11*	.21*	-.05	-.11*	-.23*	-.03	-.18*	.00	.59*	1.00			
Perceived environmental dangerousness	.01	.00	.12*	.13*	.17*	-.06	-.12*	-.19*	-.04	.21*	.29*	.09*	.11*	1.00		
Willingness to pay or sacrifice	.07*	-.04	-.02	.02	.07*	v.03	.06	.03	-.02	.15*	.15*	-.01	-.05	.28*	1.00	
Private environmental behaviors	.08*	-.07	-.06	.10*	.03	.05	.08*	-.04	-.06*	.13*	.09*	.08*	-.01	.29*	.30*	1.00

* $p < .05$.

Appendix C

Standardized Path Coefficients of Independent Variables on Four Mediating Variables Among All Respondents (N = 1,430).

Independent variables	Religiosity	Evangelical fundamentalism	Political ideology	Party identification
Nonreligious	-.68*	-.41*	.19*	.15*
Non-Christian (Reference category is Christian)	-.12*	-.17*	.07*	.06*
Female	.12*	.07*	.08*	.11*
Non-White	.13*	.15*	.08*	.28*
Age	.09*	-.01	-.05	.05
Education	.00	-.06*	.05	.00
Income	-.06*	-.13*	-.02	-.05
Full-time	.00	.00	-.03	-.02
Adjusted R ²	.54	.27	.06	.13

*p < .05.

Appendix D

Standardized Path Coefficients of Independent Variables on Four Mediating Variables Among Christians (N = 1,083).

Independent variables	Religiosity	Evangelical fundamentalism	Political ideology	Party identification
Catholic	-.09*	-.21*	.06	.07*
Evangelical Protestant	.12*	.28*	-.11*	.01
Black Protestant (Reference category is Mainline Protestant)	.06	.16*	.02	.17*
Female	.21*	.08*	.06	.08*
Non-White	.17*	.10*	.14*	.23*
Age	.15*	-.05	-.06	.03
Education	.08*	-.02	.01	-.01
Income	-.08*	-.13*	-.05	-.07
Full-time	.00	.01	-.02	-.03
Adjusted R ²	.15	.27	.06	.16

*p < .05.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

Allitt, P. (1998). American Catholics and the environment, 1960-1995. *Catholic Historical Review*, 84, 263-280.

- Beisner, E. C. (1997). *Where garden meets wilderness: Evangelical entry into the environmental debate*. Grand Rapids, MI: Eerdmans.
- Bookchin, M. (1990). *Remaking society: Pathways to a green future*. Boston, MA: South End.
- Boyd, H. H. (1999). Christianity and the environment in the American public. *Journal for the Scientific Study of Religion*, 38, 36-44.
- Climenhaga, D. R. (2009). Towards a theology of the environment. *Didaskalia*, 20, 79-96.
- Cornwall Alliance for the Stewardship of Creation. (2011). *An evangelical declaration on global warming*. Retrieved from <http://www.cornwallalliance.org/articles/read/an-evangelical-declaration-on-global-warming>
- Daly, H. E., & Cobb, J. B., Jr. (1994). *For the common good: Redirecting the economy toward community, the environment and a sustainable future* (2nd ed.). Boston, MA: Beacon.
- Dunlap, R. E., & Jones, R. E. (2002). Environmental concern: Conceptual and measurement issues. In R. E. Dunlap & W. Michelson (Ed.), *Handbook of environmental sociology* (pp. 482-524). Westport, CT: Greenwood Press.
- Dunlap, R. E., Xiao, C., & McCright, A. M. (2001). Politics and environment in America: Partisan and ideological cleavages in public support for environmentalism. *Environmental Politics*, 10, 23-48.
- Eckberg, D. L., & Blocker, T. J. (1989). Varieties of religious involvement and environmental concerns: Testing the Lynn White thesis. *Journal for the Scientific Study of Religion*, 28, 509-517.
- Eckberg, D. L., & Blocker, T. J. (1996). Christianity, environmentalism, and the theoretical problem of fundamentalism. *Journal for the Scientific Study of Religion*, 35, 343-355.
- Evangelical Environmental Network. (2011). *Home page*. Retrieved from <http://www.creationcare.org>
- Faricy, R. J. (1988). The person-nature split: Ecology, women, and human life. *Irish Theological Quarterly*, 53, 203-218.
- Goodstein, L. (2006, February 8). Evangelical leaders join global warming initiative. *The New York Times*. Retrieved from <http://www.nytimes.com/2006/02/08/national/08warm.html>
- Greeley, A. M. (1993). Religion and attitudes toward the environment. *Journal for the Scientific Study of Religion*, 32, 19-28.
- Guth, J. L., Green, J. C., Kellstedt, L. A., & Schmidt, C. E. (1995). Faith and environment: religious beliefs and attitudes on environmental policy. *American Journal of Political Science*, 39, 364-382.
- Haluza-Delay, R. (2000). Green fire and religious spirit. *Journal of Experiential Education*, 23, 143-149.
- Hand, C. M., & Van Liere, K. D. (1984). Religion, mastery-over-nature, and environmental concern. *Social Forces*, 63, 555-570.
- Harper, F., & Kennealy, S. (2009). Greening our faith: Putting belief into action. *Anglican Theological Review*, 91, 619-625.
- Hayes, B. C., & Marangudakis, M. (2000). Religion and environmental issues with Anglo-American democracies. *Review of Religious Research*, 42, 159-174.
- Hitzhusen, G. E. (2007). Judeo-Christian theology and the environment: Moving beyond skepticism to new sources for environmental education in the United States. *Environmental Education Research*, 13, 55-74.
- Hoffman, A. J., & Sandelands, L. E. (2005). Getting right with nature: Anthropocentrism, ecocentrism, and theocentrism. *Organization & Environment*, 18, 141-162.
- Hunter, L. M., Hatch, A., & Johnson, A. (2004). Cross-national gender variation in environmental behaviors. *Social Science Quarterly*, 85, 677-694.
- Hunter, L. M., & Toney, M. B. (2005). Religion and attitudes toward the environment: A comparison of Mormons and the general U.S. population. *Social Science Journal*, 42, 25-38.
- Kanagy, C. L., & Nelsen, H. M. (1995). Religion and environmental concern: Challenging the dominant assumptions. *Review of Religious Research*, 37, 33-45.
- Kanagy, C. L., & Willits, F. K. (1993). A greening of religion? Some evidence from a Pennsylvania sample. *Social Science Quarterly*, 74, 674-683.
- Kearns, L. (1996). Saving the creation: Christian environmentalism in the United States. *Sociology of Religion*, 57, 55-70.
- Kinsley, D. (1994). *Ecology and religions*. Englewood Cliffs, NJ: Prentice Hall.
- Leiss, W. (1994). *The domination of nature*. Montreal, Quebec, Canada: McGill-Queen's University Press.

- McCammack, B. (2007). Hot damned America: Evangelicalism and the climate change policy debate. *American Quarterly*, 59, 645-668.
- McFague, S. (1993). *The body of God: An ecological theology*. Philadelphia, PA: Augsburg Fortress.
- Merchant, C. (1980). *The death of nature: Women, ecology, and the scientific revolution*. New York, NY: Harper & Row.
- Passmore, J. (1974). *Man's responsibility for nature: Ecological problems and western traditions*. New York, NY: Scribner.
- Shenk, D. (1995). *Global gods: Exploring the role of religions in modern societies*. Scottsdale, PA: Herald Press.
- Sherkat, D. E., & Ellison, C. G. (2007). Structuring the religion-environment connection: Identifying religious influences on environmental concern and activism. *Journal for the Scientific Study of Religion*, 46, 71-85.
- Slovic, P. (Ed.). (2001). *The perception of risk*. London, England: Earthscan.
- Smith, T. W., Marsden, P. V., Hout, M., & Kim, J. (2010). *General social surveys, 1972-2010: Cumulative codebook*. Chicago, IL: National Opinion Research Center.
- Smith, T. W., Marsden, P. V., Hout, M., & Kim, J. (2011). *General social surveys, 1972-2010* [machine-readable data file]. Chicago, IL: National Opinion Research Center.
- Southern Baptist Environment & Climate Initiative. (2011). *Home page*. Retrieved from <http://www.baptistcreationcare.org>
- Steenland, B., Park, J. Z., Regnerus, M. D., Robinson, L. D., Wilcox, W. B., & Woodbery, R. D. (2000). The measure of American religion: toward improving the state of the art. *Social Forces*, 79, 291-318.
- Van Dyke, F. H., Mahan, D. C., Sheldon, J. K., & Brand, R. H. (1996). *Redeeming creation: The biblical basis for environmental stewardship*. Downer's Grove, IL: IVP Academic.
- Verwer, G. V. (2006). *Seven people lying at the side of the road*. Retrieved from <http://www.georgeverwer.com/sevenPeople.php>
- Wallace, M. I. (2008). The new green Christianity: Why the church is vital to saving the planet. *Word and World*, 28, 75-85.
- White, L. (1967). The historical roots of our ecological crises. *Science*, 155, 1203-1207.
- Wilkinson, K. K. (2010). Climate's salvation? Why and how American evangelicals are engaging with climate change. *Environment*, 52, 47-57.
- Wolkomir, M., Futreal, M., Woodrum, E., & Hoban, T. (1997a). Denominational subcultures of environmentalism. *Review of Religious Research*, 38, 325-343.
- Wolkomir, M., Futreal, M., Woodrum, E., & Hoban, T. (1997b). Substantive religious belief and environmentalism. *Social Science Quarterly*, 78, 96-108.
- Woodrum, E., & Hoban, T. (1994). Theology and religiosity effects on environmentalism. *Review of Religious Research*, 35, 193-206.
- Worster, D. (1994). *Nature's economy: A history of ecological ideas* (2nd ed.). Cambridge, England: Cambridge University Press.
- Xiao, C., & Hong, D. (2012). Gender and concern for environmental issues in urban China. *Society & Natural Resources*, 25, 468-482.

Author Biographies

John Clements is a doctoral candidate in the Department of Sociology and the Environmental Science and Policy Program at Michigan State University. His main research interest is the relationship among religion, science, and the environment.

Aaron M. McCright is associate professor of sociology in Lyman Briggs College, the Department of Sociology, and the Environmental Science and Policy Program at Michigan State University. His research investigates how interrelationships among scientific developments, political processes, and social dynamics influence society's capacity for recognizing and dealing with environmental degradation and technological risks.

Chenyang Xiao is assistant professor of sociology at American University. His main research interests include environmental beliefs, attitudes, and behaviors; China-USA cross-national comparative research; and quantitative research methodology.