

## Increasing Influence of Party Identification on Perceived Scientific Agreement and Support for Government Action on Climate Change in the United States, 2006–12

AARON M. MCCRIGHT

*Lyman Briggs College, Department of Sociology, Environmental Science and Policy Program, Michigan State University, East Lansing, Michigan*

RILEY E. DUNLAP

*Department of Sociology, Oklahoma State University of Agriculture and Applied Science, Stillwater, Oklahoma*

CHENYANG XIAO

*Department of Sociology, American University, Washington, D.C.*

(Manuscript received 19 September 2013, in final form 29 November 2013)

### ABSTRACT

Since the mid-2000s, U.S. conservative leaders and Republican politicians have stepped up efforts to challenge the reality and seriousness of anthropogenic climate change (ACC). Especially with the rise of the Tea Party in 2009, ACC denial has become something of a litmus test for Republican politicians to prove their conservative bona fides. Two recent studies find that misperception of scientific agreement on ACC is associated with lower levels of support for government action to deal with ACC. Using nationally representative survey data from 2006 and 2012, the analytical model developed in those two studies was applied to investigate whether the effect of political orientation on perceived scientific agreement and support for government action to reduce emissions has increased since the heightened ACC denial by Republican politicians beginning in 2009. The results indicated that political ideology and party identification are moderately strong predictors of perceived scientific agreement; beliefs about the timing, human cause, seriousness, and threat of global warming; and support for government action in both 2006 and 2012. Further, as expected, the effect of party identification on perceived scientific agreement and support for government action increased from 2006 and 2012, evidence that rank-and-file Republicans in the general public are more strongly embracing the ACC denial espoused by Republican politicians in recent years. Such increased partisanship poses a formidable barrier to public understanding of ACC.

### 1. Introduction

Since the mid-2000s, U.S. conservative leaders and Republican politicians have stepped up efforts to challenge the reality and seriousness of anthropogenic climate change (ACC) (Dunlap and McCright 2010; McCright and Dunlap 2010; Oreskes and Conway 2010; Powell 2011). The election of President Obama and a Democratic Congress in 2008 stimulated an upsurge in this ACC denial activism as well as lobbying against climate legislation by the conservative movement and

fossil fuels industry (McCright and Dunlap 2011b; Pooley 2010). Even one-time sponsors of bipartisan climate legislation like Republican Senators John McCain and Lindsey Graham backpedaled to appease Republican interest groups and supporters. Especially with the rise of the Tea Party in 2009, ACC denial has become something of a litmus test for Republican politicians to prove their conservative bona fides (Johnson 2010; Dunlap and McCright 2010, 2011; McCright and Dunlap 2010).

Since taking back the House of Representatives in 2010, Republicans who deny the reality and seriousness of ACC increasingly populate, and often chair, key congressional committees and subcommittees dealing with climate science and policy, especially in the current 113th Congress (Germain et al. 2013; see also Spross 2013). For instance, 17 of the 22 Republican members of

---

*Corresponding author address:* Aaron M. McCright, 919 East Shaw Lane, Room E-35, Lyman Briggs College, Michigan State University, East Lansing, MI 48825.  
E-mail: mccright@msu.edu

the House Committee on Science, Space, and Technology espouse ACC denial—including Chair Lamar Smith (R-TX) and Vice Chair Dana Rohrabacher (R-CA). In the Senate, all eight Republican members of the Committee on Environment and Public Works deny the reality and seriousness of ACC—including James Inhofe (R-OK), who is perhaps the most prominent ACC denier in Congress. A broader look at all Republicans in the current House and Senate finds that ACC denial is widespread: 65% of Republican Senators (30 of 46) and 55% of Republican Representatives (128 of 233) are on record as denying the reality and seriousness of ACC (Germain et al. 2013; see also Spross 2013). One of the central strategies of these Republican leaders and other ACC deniers is to challenge the existence of scientific agreement on ACC (Hoggan 2009; McCright and Dunlap 2010; Oreskes and Conway 2010).

The increased political divide on ACC between Democrats and Republicans in Congress over the last decade, facilitated by increasing public reliance upon partisan media (Hmielowski et al. 2014; Iyengar and Hahn 2009), has contributed to political polarization on ACC in the U.S. general public (Hamilton 2011; Malka et al. 2009; McCright and Dunlap 2011b). Given the efforts of conservative movement activists and Republicans in Congress to undermine public understanding of scientific agreement on ACC (Solomon et al. 2007; U.S. National Research Council 2010), scholars have recently examined the role of perceived scientific agreement on personal belief in climate change and support for government action to ameliorate climate change.

Ding et al. (2011) and McCright et al. (2013), using nationally representative survey data from 2010 and 2012, respectively, find that misperception of scientific agreement on ACC is associated with lower levels of support for governmental policies to ameliorate ACC. Indeed, both studies report that misperception of scientific agreement is a critical factor for reducing support for climate policy, and that this relationship is mediated by beliefs about the timing, cause, and impacts of global warming.<sup>1</sup> McCright et al. (2013) further document that political orientation has a significant influence on perceived scientific agreement, global warming beliefs, and support for government action. Yet, these two studies leave unanswered whether these effects increased in response to the significant rise in ACC denial by the Right since 2009. We address this issue here.

---

<sup>1</sup> Using small convenience samples of Australian citizens in two experiments, Lewandowsky et al. (2013) also find that perceived scientific consensus is associated with acceptance of related scientific facts.

To investigate whether the effect of political orientation on perceived scientific agreement and support for government action has increased over time, we analyze nationally representative survey data from 2006 and 2012 using the analytical model from McCright et al. (2013), which builds upon that of Ding et al. (2011). Based on those two studies, we expect that 1) perceived scientific agreement on the reality of global warming will be associated with increased support for government action on climate change; and 2) this relationship will be mediated by key beliefs about the timing, human cause, seriousness, and threat of global warming (Fig. 1) in 2006, as was found in 2011 and 2012.

Given the heightened efforts of Republican politicians (and other conservative leaders) to challenge climate science and policy in recent years, we further expect that the effect of party identification on 1) perceived scientific agreement and 2) support for government action will be significantly stronger in 2012 than in 2006. This expectation is in line with evidence of a growing gap between Republican and Democratic party identifiers among the general public over the past decade (McCright and Dunlap 2011b). Documenting an increasing influence of party identification on perception of scientific agreement on ACC is important because it will demonstrate whether Republican politicians' commitment to undermining climate science (and thus support for climate policy) has been effective with their followers.

## 2. The study

Our data come from the Gallup Organization's annual environment poll, conducted each March in anticipation of Earth Day (22 April). The March 2006 and 2012 Gallup surveys are based on telephone interviews with nationally representative samples of 1000 and 1024 adults, respectively. Both surveys include items on perceived environmental problems, support for environmental protection, and global warming beliefs and attitudes. Table 1 shows the global warming questions and response options used in this study. Table 2 describes the measures of respondents' political orientation as well as those of their social and demographic characteristics that other studies find related to climate change views: environmental movement identity, educational attainment, annual income, gender, age, and race (e.g., Hamilton 2011; Leiserowitz 2006; Malka et al. 2009; McCright 2010; O'Connor et al. 1999). We employ the six social and demographic variables as controls.

We use structural equation modeling (SEM) to examine the effect of political orientation on support for government action that is potentially mediated by perceived scientific agreement and global warming beliefs.

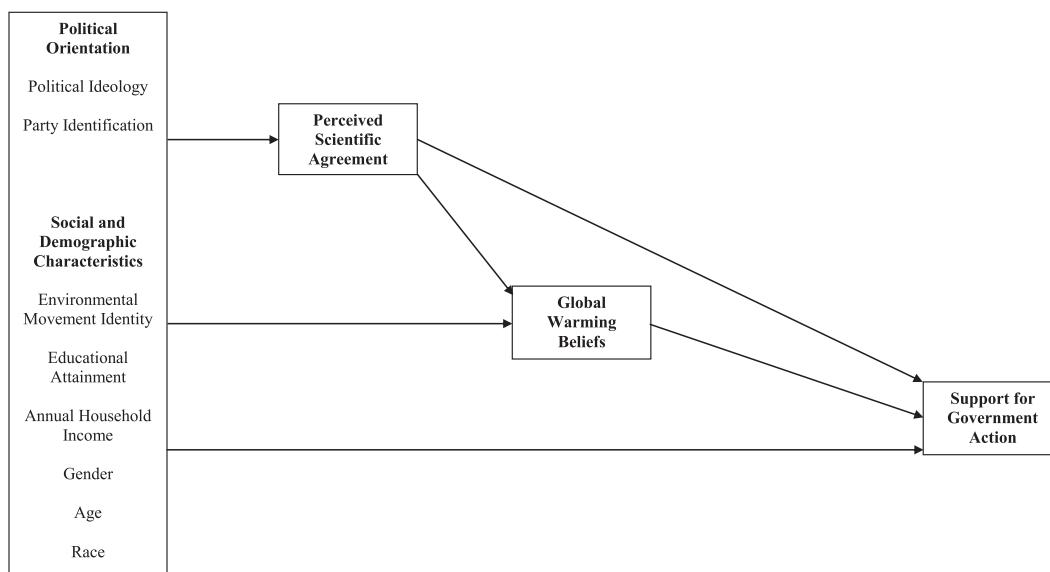


FIG. 1. Analytical model of the relationship of political, social, and demographic variables, and support for government action through mediators (perceived scientific agreement and global warming beliefs).

More specifically, we estimate the direct effects of political orientation on support for government action as well as the indirect effects of the former on the latter that are mediated by (channeled through) perceived scientific agreement and global warming beliefs. We use SEM for its ability to simultaneously estimate both direct and indirect effects while controlling for other relevant variables in our model—ideal for modeling mediating effects (Dietz et al. 2007). We performed the SEM analyses with Amos 16.0.

One distinctive feature of SEM is the ability to incorporate measurement modules [confirmatory factor analysis (CFA) models] for complex constructs in the overall structural model. We took advantage of this feature by including two CFA models: multi-item measures of global warming beliefs (five items) and support for government action to reduce emission (three items). CFA results show that these items have factor loadings ranging from 0.49 to 0.74 in the 2006 data and from 0.50 to 0.77 in the 2012 data, indicating adequate-to-strong measurement reliability. Therefore, in the structural model (Fig. 1), all predictors and the single-item measure of perceived scientific agreement are observed variables, while global warming beliefs and support for government action are latent factors. Both the 2006 and 2012 structural models generally have good fits, as shown by a greater-than-0.95 goodness-of-fit index (GFI), a greater-than-0.90 incremental fit index (IFI), comparative fit index (CFI), and adjusted goodness-of-fit index (AGFI), and a reasonably small root-mean-square error of approximation (RMSEA = 0.06).

Missing data for both years were imputed using the built-in maximum likelihood imputation tool of Amos 16.0. To account for the categorical nature of many items, we examined the robustness of our maximum likelihood (ML) estimation by applying the Weighted Least Squares technique (Bollen 1989; Kline 2011) as well as 5000 cycles of bootstrapping (Hayes 2009). Since we found no problems, we report ML results here. Significance tests for indirect effects are based on bias-corrected bootstrap standard errors.

### 3. Results and discussion

Tables 3 and 4 report the standardized direct, indirect, and total effects from structural equation models, predicting perceived scientific agreement, global warming beliefs, and support for government action for 2006 and 2012, respectively. Given our primary focus on the influence of political orientation, we hold off on discussing the performance of the social and demographic variables in our models until the end of this section.

We first describe the effects of political ideology and party identification on each mediating and outcome variable in both years, before explicitly discussing how the effect of party identification changed over time. Political ideology (2006 standardized total effect = 0.11; 2012 standardized total effect = 0.13) and party identification (2006 = 0.11; 2012 = 0.25) are significant and moderately powerful predictors of perceived scientific agreement in the first column of each table. Self-identified liberals and Democrats more accurately perceive the

TABLE 1. Measures of key variables in the model.

|                                | Survey items   | Coded responses   |
|--------------------------------|--|---|
| Dependent variable             |  |   |
| Support for government action  | Next, I am going to read some specific proposals. For each one please say whether you generally favor or oppose it: (three items; factor loadings in parentheses)<br>Setting higher auto emissions standards for automobiles (2006 = 0.66; 2012 = 0.71)<br>Setting higher emissions and pollution standards for business and industry (2006 = 0.70; 2012 = 0.77)<br>Imposing mandatory controls on carbon dioxide emissions and other greenhouse gases (2006 = 0.65; 2012 = 0.75)  | 1 = oppose; 2 = favor   |
| Mediator variables             |  |   |
| Perceived scientific agreement | Just your impression, which one of the following statements do you think is most accurate:   | Three-point scale: (1) most scientists believe that global warming is occurring, (0) most scientists believe that global warming is not occurring, or (0.5) most scientists are unsure about whether global warming is occurring or not   |
| Global warming beliefs         | (five items; factor loadings in parentheses)<br>Which of the following statements reflects your view of when the effects of global warming will begin to happen: (2006 = 0.69; 2012 = 0.71)<br><br>And from what you have heard or read, do you believe increases in the earth's temperature over the last century are due more to: (2006 = 0.64; 2012 = 0.68)<br>I'm going to read you a list of environmental problems. How much do you personally worry about . . . global warming? (2006 = 0.74; 2012 = 0.77)<br>Do you think that global warming will pose a serious threat to you or your way of life in your lifetime? (2006 = 0.49; 2012 = 0.50)<br>Thinking about what is said in the news, in your view is the seriousness of global warming: (2006 = 0.68; 2012 = 0.71) | Five-point scale: (1) they have already begun to happen; (0.75) they will start happening within a few years; (0.5) they will start happening within your lifetime; (0.25) they will not happen within your lifetime, but they will affect future generations; (0) or they will never happen<br>(1) the effects of pollution from human activities, or (0) natural changes in the environment that are not due to human activities<br>five-point scale: (1) a great deal, (0.67) a fair amount, (0.33) only a little, or (0) not at all<br>0 = no<br>1 = yes<br>(0) Generally exaggerated, (0.5) generally correct, or is it (1) generally underestimated |

scientific consensus on global warming than do their political counterparts.

Turning to the next three columns of both tables, the most powerful predictor of global warming beliefs—that is, beliefs about the timing, human cause, seriousness, and threat of global warming—is perceived scientific agreement (2006 and 2012 standardized total effect = 0.44), a finding consistent with [Ding et al. \(2011\)](#) and [McCright et al. \(2013\)](#). Similar to what we saw earlier, political ideology (2006 = 0.25; 2012 = 0.21) and party identification (2006 = 0.29; 2012 = 0.27) are moderately powerful predictors of global warming beliefs.

In the final three columns of both tables, global warming beliefs is the most powerful predictor of support for government action to reduce emissions (2006 standardized total effect = 0.53; 2012 standardized total effect = 0.69), consistent with existing research ([Bostrom](#)

[et al. 2012](#); [Bord et al. 2000](#); [Dietz et al. 2007](#); [Krosnick et al. 2006](#); [McCright 2009](#); [O'Connor et al. 1999, 2002](#); [Zahran et al. 2006](#)). These final three columns confirm [Ding et al.'s \(2011\)](#) finding that the relationship between perception of scientific agreement on global warming and climate policy support (2006 standardized total effect = 0.30; 2012 standardized total effect = 0.21) is mediated by global warming beliefs, partially in 2006 (standardized indirect effect = 0.23) and fully in 2012 (standardized indirect effect = 0.30).

These earlier results from 2006 further confirm the validity of the analytical model established by [Ding et al. \(2011\)](#) with 2010 data and replicated by [McCright et al. \(2013\)](#) with 2012 data. In all three years, perceived scientific agreement on the reality of ACC is associated with increased support for government action on climate change, and this relationship is mediated by key beliefs

TABLE 2. Descriptive statistics of the study sample. Standard deviation is given in parentheses.

|   | 2006 sample<br>( <i>N</i> = 1000) | 2012 sample<br>( <i>N</i> = 1024) |
|---|-----------------------------------|-----------------------------------|
| Political ideology (1–5 scale:<br>very conservative–very liberal)                   | 2.85 (0.95)                       | 2.78 (1.07)                       |
| Party identification (1–5 scale:<br>Republican–Democrat)                            | 3.15 (1.64)                       | 3.08 (1.61)                       |
| Environmental movement identity<br>(1–4 scale: unsympathetic–active<br>participant) | 2.70 (0.79)                       | 2.65 (0.88)                       |
| Educational attainment (bachelor's<br>degree %)                                     | 30.30                             | 31.20                             |
| Annual household income (1–5<br>scale: less than \$20 000–\$75 000<br>and more)     | 3.38 (1.31)                       | 3.40 (1.35)                       |
| Gender (female %)   | 51.90                             | 51.00                             |
| Age (years)   | 48.44 (17.21)                     | 46.83 (17.72)                     |
| Race (white %)  | 81.60                             | 82.20                             |

about the timing, human cause, seriousness, and threat of global warming.

Focusing on political orientation, similar to earlier studies (Dietz et al. 2007; Krosnick et al. 2006; McCright 2009; O'Connor et al. 2002; Zahran et al. 2006) we find that self-identified liberals (2006 standardized total effect = 0.12; 2012 standardized total effect = 0.17) and

Democrats (2006 = 0.15; 2012 = 0.24) express stronger support for government action on climate change than do their political counterparts. Crucially, while the effects of political ideology on support for government actions are fairly similar in 2006 and 2012, the effects of party identification are noticeably stronger in 2012.

The changing effects of party identification between 2006 and 2012 deserve further elaboration. First, the effect of party identification on perceived scientific agreement more than doubles over the time period, from 0.11 in 2006 to 0.25 in 2012 (statistically significant at  $\alpha = 0.05$ ), presumably a result of the heightened rejection of scientific agreement on ACC promoted publicly by Republican politicians after Obama's inauguration and the rise of the Tea Party (Dunlap and McCright 2011; Pooley 2010).

Second, the total effect of party identification on support for government action increases significantly ( $\alpha = 0.05$ ), from 0.15 in 2006 to 0.24 in 2012. The 2006 total effect is fully mediated by perceived agreement and global warming beliefs—with a majority of it by the latter. Yet, in 2012 party identification has a statistically significant, positive direct effect (0.08) on support for government action after accounting for both mediating factors. Also, an examination of the indirect effect of party identification on support for government action

TABLE 3. Standardized direct, indirect, and total effects from structural equation models predicting perceived scientific agreement, global warming beliefs, and support for government action in 2006 (*N* = 1000). Missing data were imputed using the built-in ML imputation tool of Amos 16.0. To account for the categorical nature of many items, we examined the robustness of the ML estimation by applying the weighted least squares technique (Bollen 1989; Kline 2011) as well as 5000 cycles of bootstrapping (Hayes 2009). No issues were found; ML results are reported here. Significance tests for indirect effects are based on bias-corrected bootstrap standard errors. The asterisk means that  $p < .05$ .

| Predictors                             | Perceived scientific<br>agreement<br>Total | Global warming beliefs |          |        | Support for government action |          |        |
|--|--|------------------------|----------|--------|-------------------------------|----------|--------|
|  |  | Direct                 | Indirect | Total  | Direct                        | Indirect | Total  |
| Political orientation                  |  |                        |          |        |                               |          |        |
| Political ideology                     | 0.11*                                      | 0.20*                  | 0.05*    | 0.25*  | −0.02                         | 0.14*    | 0.12*  |
| Party identification                   | 0.11*                                      | 0.24*                  | 0.05*    | 0.29*  | −0.01                         | 0.16*    | 0.15*  |
| Social and demographic characteristics |  |                        |          |        |                               |          |        |
| Environmental movement identity        | 0.18*                                      | 0.25*                  | 0.08*    | 0.33*  | 0.13*                         | 0.19*    | 0.32*  |
| Educational attainment                 | 0.03                                       | 0.03                   | 0.01     | 0.04   | 0.08*                         | 0.02     | 0.10*  |
| Annual household income                | 0.01                                       | −0.02                  | 0.00     | −0.02  | 0.06*                         | −0.01    | 0.05*  |
| Gender                                 | 0.04                                       | 0.00                   | 0.02     | 0.02   | 0.08*                         | 0.01     | 0.09*  |
| Age                                    | −0.03                                      | −0.06*                 | −0.01    | −0.07* | 0.04                          | −0.04*   | 0.00   |
| Race                                   | −0.04                                      | 0.02                   | −0.02    | 0.00   | −0.08*                        | 0.00     | −0.08* |
| Mediators                              |  |                        |          |        |                               |          |        |
| Perceived scientific agreement         |  | 0.44*                  | N/A      | 0.44*  | 0.07*                         | 0.23*    | 0.30*  |
| Global warming beliefs                 |  |                        |          |        | 0.53*                         | N/A      | 0.53*  |
| $R^2$                                  | 0.10                                       |                        | 0.61     |        |                               | 0.44     |        |
| GFI                                    |  |                        | 0.96     |        |                               |          |        |
| AGFI                                   |  |                        | 0.93     |        |                               |          |        |
| IFI                                    |  |                        | 0.94     |        |                               |          |        |
| CFI                                    |  |                        | 0.94     |        |                               |          |        |
| RMSEA                                  |  |                        | 0.06     |        |                               |          |        |

TABLE 4. Standardized direct, indirect, and total effects from structural equation models predicting perceived scientific agreement, global warming beliefs, and support for government action in 2012 ( $N = 1024$ ). Missing data were imputed using the built-in ML imputation tool of Amos 16.0. To account for the categorical nature of many items, we examined the robustness of the ML estimation by applying the weighted least squares technique (Bollen 1989; Kline 2011) as well as 5000 cycles of bootstrapping (Hayes 2009). No issues were found; ML results are reported here. Significance tests for indirect effects are based on bias-corrected bootstrap standard errors. The asterisk means that  $p < .05$ .

| Predictors                             | Perceived scientific agreement | Global warming beliefs |          |        | Support for government action |          |        |
|--|--------------------------------|------------------------|----------|--------|-------------------------------|----------|--------|
|  | Total                          | Direct                 | Indirect | Total  | Direct                        | Indirect | Total  |
| Political orientation                  |                                |                        |          |        |                               |          |        |
| Political ideology                     | 0.13*                          | 0.16*                  | 0.06*    | 0.21*  | 0.03                          | 0.13*    | 0.17*  |
| Party identification                   | 0.25*                          | 0.17*                  | 0.11*    | 0.27*  | 0.08*                         | 0.17*    | 0.24*  |
| Social and demographic characteristics |                                |                        |          |        |                               |          |        |
| Environmental movement identity        | 0.17*                          | 0.30*                  | 0.07*    | 0.37*  | 0.17*                         | 0.24*    | 0.41*  |
| Educational attainment                 | 0.08*                          | -0.01                  | 0.03*    | 0.02   | -0.01                         | 0.01     | 0.00   |
| Annual household income                | 0.00                           | -0.07*                 | 0.00     | -0.08* | 0.06*                         | -0.05*   | 0.01   |
| Gender                                 | 0.05                           | 0.09*                  | 0.02     | 0.11*  | 0.03                          | 0.07*    | 0.10*  |
| Age                                    | -0.11*                         | -0.04                  | -0.05*   | -0.09* | -0.03                         | -0.05*   | -0.09* |
| Race                                   | -0.04                          | 0.05*                  | -0.02    | 0.04   | -0.02                         | 0.03     | 0.01   |
| Mediators                              |                                |                        |          |        |                               |          |        |
| Perceived scientific agreement         |                                | 0.44*                  | N/A      | 0.44*  | -0.09*                        | 0.30*    | 0.21*  |
| Global warming beliefs                 |                                |                        |          |        | 0.69*                         | N/A      | 0.69*  |
| $R^2$                                  | 0.22                           |                        | 0.66     |        |                               | 0.65     |        |
| GFI                                    |                                |                        | 0.97     |        |                               |          |        |
| AGFI                                   |                                |                        | 0.92     |        |                               |          |        |
| IFI                                    |                                |                        | 0.96     |        |                               |          |        |
| CFI                                    |                                |                        | 0.95     |        |                               |          |        |
| RMSEA                                  |                                |                        | 0.06     |        |                               |          |        |

reveals that the indirect pathway via global warming beliefs decreased and the indirect pathway via perceived scientific agreement increased substantially from 2006 to 2012.

The increasing influence of party identification over this time period is further evidence of political polarization on ACC in the U.S. general public, and specifically suggests that denying ACC has become part of Republican identity over and above questioning scientific agreement on ACC. Past research documents political polarization on a range of beliefs about climate science and concern about ACC since 2001 (McCright and Dunlap 2011b), and this study extends evidence of growing divergence between Republicans and Democrats to their perception of scientific agreement regarding ACC and support for climate policies.

Finally, the social and demographic variables perform mostly as expected based on existing research (see McCright 2009). An especially strong predictor of perceived scientific agreement, global warming beliefs, and support for government action in both years is environmental movement identity—confirming the findings of earlier studies (Dietz et al. 2007; Leiserowitz 2006; O'Connor et al. 2002, 1999; Zahran et al. 2006). Compared to their respective male and older counterparts, females

(McCright 2010; Zahran et al. 2006) and young adults (Krosnick et al. 2006) report slightly stronger beliefs in the reality and seriousness of global warming and support for government action. As in other studies, the effects of educational attainment (McCright and Dunlap 2011b; O'Connor et al. 1999), income (O'Connor et al. 2002; Zahran et al. 2006), and race (Krosnick et al. 2006; McCright and Dunlap 2011b) on climate change views and policy support are neither strong nor consistent.

#### 4. Conclusions

While not the sole driver, ACC denial activism by the conservative movement, Republican politicians, and the fossil fuels industry has been effective in generating within the American public the perception that scientists do not agree about ACC (Dunlap and McCright 2011; McCright and Dunlap 2010, 2011b; Oreskes and Conway 2010; Powell 2011), and this perception influences (both directly and indirectly) support for government action on ACC (Ding et al. 2011; McCright et al. 2013). We show that the effect of party identification on perceived scientific agreement and support for government action increased substantially from 2006 to 2012,

evidence that rank-and-file Republicans in the general public are more strongly embracing the ACC denial espoused by Republican politicians in recent years. Such a pattern of influence via elite cues has been documented by others (Brulle et al. 2012; McCright and Dunlap 2011a,b).

Those scientists, journalists, and policy makers communicating ACC to the general public should identify opportunities and employ techniques to effectively counter the efforts by ACC denial activists, who challenge the scientific agreement on the reality and seriousness of ACC. Overcoming the recent success of ACC denial activists in generating belief that scientists do not agree about ACC seems to be crucial for increasing public support for emissions reduction policies, since it is a key factor influencing support. Doing so in a fashion that does not trigger motivated cognition, and thus rejection of the efforts by Republicans and conservatives, will be a major challenge (Mooney 2012). Yet, we find promising recent statements by Republicans who held leadership positions in past decades that dealing with ACC is consistent with conservative principles (Biello 2013; Ruckelshaus et al. 2013).

*Acknowledgments.* The authors thank the Gallup Organization for making the data available for analysis.

#### REFERENCES

- Biello, D., 2013: A Republican secretary of state urges action on climate change. *Scientific American*, 24 July. [Available online at <http://www.scientificamerican.com/article.cfm?id=questions-and-answers-with-george-shultz-on-climate-change-and-energy>.]
- Bollen, K., 1989: *Structural Equations with Latent Variables*. Wiley, 514 pp.
- Bord, R. J., R. E. O'Connor, and A. Fischer, 2000: In what sense does the public need to understand global climate change? *Public Understanding Sci.*, **9**, 205–218.
- Bostrom, A., and Coauthors, 2012: Causal thinking and support for climate change policies: International survey findings. *Global Environ. Change*, **22**, 210–222.
- Brulle, R. J., J. Carmichael, and J. C. Jenkins, 2012: Shifting public opinion on climate change: An empirical assessment of factors influencing concern over climate change in the U.S., 2002–2010. *Climatic Change*, **114**, 169–188.
- Dietz, T., A. Dan, and R. Shwom, 2007: Support for climate change policy: Social psychological and social structural influences. *Rural Sociol.*, **72**, 185–214.
- Ding, D., E. W. Maibach, X. Zhao, C. Roser-Renouf, and A. Leiserowitz, 2011: Support for climate policy and societal action are linked to perceptions about scientific agreement. *Nat. Climate Change*, **1**, 462–466.
- Dunlap, R. E., and A. M. McCright, 2010: Climate change denial: Sources, actors, and strategies. *Routledge Handbook of Climate Change and Society*, C. Lever-Tracy, Ed., Routledge Press, 240–259.
- , and —, 2011: Organized climate change denial. *Oxford Handbook of Climate Change and Society*, J. Dryzek, R. Norgaard, and D. Schlosberg, Eds., Oxford University Press, 144–160.
- Germain, T., R. Koronowski, and J. Spross, cited 2013: The Anti-Science Climate Denier Caucus: 113th Congress edition. [Available online at <http://thinkprogress.org/climate/2013/06/26/2202141/the-anti-science-climate-denier-caucus-113th-congress-edition/>.]
- Hamilton, L. C., 2011: Education, politics, and opinions about climate change: Evidence for interaction effects. *Climatic Change*, **104**, 231–242.
- Hayes, A. F., 2009: Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Commun. Monogr.*, **76**, 408–420.
- Hmielowski, J. D., L. Feldman, T. A. Myers, A. Leiserowitz, and E. Maibach, 2014: An attack on science? Media use, trust in scientists, and perceptions of global warming. *Public Understanding Sci.*, doi:10.1177/0963662513480091, in press.
- Hoggan, J., 2009: *Climate Cover-up: The Crusade to Deny Global Warming*. Greystone Books, 240 pp.
- Iyengar, S., and K. S. Hahn, 2009: Red media, blue media: Evidence of ideological selectivity in media use. *J. Commun.*, **59**, 19–39.
- Johnson, B., cited 2010: Grand old deniers—Nearly all GOP Senate candidates deny global warming. [Available online at <http://thinkprogress.org/2010/09/13/warming-deniers-gop-caucus/>.]
- Kline, R. B., 2011: *Principles and Practices of Structural Equation Modeling*. 3rd ed. Guilford Press, 427 pp.
- Krosnick, J. A., A. L. Holbrook, L. Lowe, and P. S. Visser, 2006: The origins and consequences of democratic citizens' policy agendas: A study of popular concern about global warming. *Climatic Change*, **77**, 7–43.
- Leiserowitz, A., 2006: Climate change risk perception and policy preferences: The role of affect, imagery, and values. *Climatic Change*, **77**, 45–72.
- Lewandowsky, S., G. E. Gignac, and S. Vaughan, 2013: The pivotal role of perceived scientific consensus in acceptance of science. *Nat. Climate Change*, **3**, 399–404.
- Malka, A., J. A. Krosnick, and G. Langer, 2009: The association of knowledge with concern about global warming. *Risk Anal.*, **29**, 633–647.
- McCright, A. M., 2009: The social bases of climate change concern, knowledge, and policy support in the U.S. general public. *Hofstra Law Rev.*, **37**, 1017–1047.
- , 2010: The effects of gender on climate change knowledge and concern in the American public. *Popul. Environ.*, **32**, 66–87.
- , and R. E. Dunlap, 2010: Anti-reflexivity: The American conservative movement's success in undermining climate science and policy. *Theory Cult. Soc.*, **27**, 2–3, 100–133.
- , and —, 2011a: Cool dudes: The denial of climate change among conservative white males in the United States. *Global Environ. Change*, **21**, 1163–1172.
- , and —, 2011b: The politicization of climate change and polarization in the American public's views of global warming, 2001–2010. *Sociol. Quart.*, **52**, 155–194.
- , —, and C. Xiao, 2013: Perceived scientific agreement and support for government action on climate change in the USA. *Climatic Change*, **119**, 511–518.
- Mooney, C., 2012: *The Republican Brain: The Science of Why They Deny Science—And Reality*. Wiley, 336 pp.

- O'Connor, R. E., R. J. Bord, and A. Fisher, 1999: Risk perceptions, general environmental beliefs, and willingness to address climate change. *Risk Anal.*, **19**, 461–471.
- , —, B. Yarnal, and N. Wiefek, 2002: Who wants to reduce greenhouse gas emissions? *Soc. Sci. Quart.*, **83**, 1–17.
- Oreskes, N., and E. M. Conway, 2010: *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*. Bloomsbury Press, 368 pp.
- Pooley, E., 2010: *The Climate Wars*. Hyperion, 481 pp.
- Powell, J. L., 2011: *The Inquisition of Climate Science*. Columbia University Press, 272 pp.
- Ruckelshaus, W. D., L. M. Thomas, W. K. Reilly, and C. T. Whitman, 2013: A Republican case for climate action. *New York Times*, New York ed., 2 August, A21. [Available online at <http://www.nytimes.com/2013/08/02/opinion/a-republican-case-for-climate-action.html>.]
- Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K. Averyt, M. Tignor, and H. L. Miller Jr., Eds., 2007: *Climate Change 2007: The Physical Science Basis*. Cambridge University Press, 996 pp.
- Spross, J., cited 2013: The anti-science climate denier caucus. [Available online at <http://thinkprogress.org/climate-denier-caucus/>.]
- U.S. National Research Council, 2010: *Advancing the Science of Climate Change*. National Academies Press, 528 pp.
- Zahran, S., S. D. Brody, H. Grover, and A. Vedlitz, 2006: Climate change vulnerability and policy support. *Soc. Nat. Resour.*, **19**, 771–789.