Epistemic Communities and Public Support for Climate Cooperation*

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Abstract

We investigate how—if at all—epistemic communities shape public support for international cooperation. We use a novel experimental manipulation to test whether variation in levels of epistemic consensus among scholars with differing types of domain-specific knowledge can shape public support for a recent and politically-salient international treaty: the UNFCCC COP21 Paris climate agreement. Our results show that the public is broadly deferential to the views of scholars, with respondents reporting increasingly higher levels of support for approving the COP21 agreement as support among scholars increased. In addition, we show that domain expertise matters. When it comes to support for the COP21 agreement, the public is most sensitive to the views of climate scientists, while exposure to the views of international relations and international economics scholars have less dramatic and less consistent effects. A causal mediation analysis shows that the observed treatment effects are mediated through changes in respondent perceptions of the ability of the climate to benefit the U.S. Our findings provide insights into the conditions under which epistemic communities can shape public support for particular policy alternatives.

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Can epistemic communities—groups individuals with an "authoritative claim to policy relevant knowledge" in a given policy domain (Haas 1992)—affect public support for particular policy alternatives? And to what extent does the level of consensus among epistemic community members affect the their ability to do so? The answers to these questions are still undefined despite a burgeoning literature on the role of political elites in shaping public opinion. There is strong evidence, for example, that a long list of societal elites, including religious leaders (Adkins et al. 2013), elected political leaders (Bolsen, Druckman, and Cook 2014b; Broockman and Butler 2017), journalists (Groeling and Baum 2009), political party leaders (Lenz 2013), and celebrities (Marsh, Hart, and Tindall 2010) , can shape and mobilize public opinion on issues for which they may have little or no domain-specific knowledge. We are on much less firm ground when it comes to understanding public reactions to the views of epistemic communities surrounding some of society's most pressing problems. This is, in some ways, ironic since scholars have long-argued that epistemic communities are uniquely situated to provide credible and actionable insight into the causes, consequences, and solutions to intractable issues like reducing nuclear proliferation, protecting the ozone layer, and forestalling anthropogenic climate change.

In this paper, we argue that epistemic communities can have important effects on public support for particular policy alternatives, but that this influence is conditional both on the level of domain-specific knowledge that the public believes the group to have and on the level of agreement among members of the community.

We test this argument using a survey experiment. The experiment is designed to measure the effect of views of different epistemic communities on public opinion in the context of the highly-politicized policy debate over continued U.S. participation in the COP21 climate agreement. We focus on this case for two reasons. First, the agreement is based in an issue area in which different kinds of scholars possess different kinds of specialized knowledge that may cause them to support or oppose the agreement. Climate scientists, for example, have expertise that allows them to better judge the likely ability of the agreement to limit greenhouse gas emissions enough to benefit the global climate, while international relations scholars may have expertise about the design of the agreement that allows them to more accurately judge the agreement's ability to promote voluntary contributions to the production of a public good. A second reason for focusing on the COP21 agreement is that, at the time our survey was in the field, the agreement was politically-salient and

had a genuinely uncertain future. While President Obama had signed the agreement, Congress had yet to consider it. The 2016 Presidential election added to that uncertainty because while Hillary Clinton supported the agreement, Donald Trump vehemently opposed it. This case thus allows us to gauge the effect of exposing the public to information about the views of different types of scholars on support for a politically-salient and strongly-contested international agreement.

We employ a novel experimental manipulation. We present respondents with results from a fictional survey of scholars of either climate science, international relations, or international economics about their support for the U.S. Congress approving the COP21 agreement. We randomly vary the level of support among scholars so that some respondents learn that scholars overwhelmingly support the agreement, while other respondents learn that scholars are overwhelmingly opposed to it. In a third treatment group, respondents learn that scholars are split. We then ask respondents to report their own level of support for the agreement.

The results that we report below show that relative to a control group that received no information about the views of scholars, respondents that learned that scholars are opposed or split on the agreement were less likely to support it, with those in the opposed treatment being least supportive. While those that learned that scholars support the agreement were more supportive of the agreement than those in the control group, the effect was not statistically significant at conventional levels. This step-wise pattern of results is consistent with the public being broadly deferential to the expertise of scholars, though the magnitude of the effects that we identify are relatively modest. We find additionally, that domain expertise appears to matter: The public is most receptive to information about the views of climate scientists.

We make three important contributions. First, we extend theories of epistemic communities and policy change to include public opinion. We argue that endorsements from epistemic communities contain important "knowledge cues" that signal to the public the level of specialized knowledge that members of the EC have about a given policy. Consistent with past work on epistemic communities, we argue that a given EC will be most effective in moving the public when the public perceives them as having domain-specific and policy-relevant knowledge on a given issue and when there is broad agreement among the community on the relative merits of a particular policy option. As disagreement among experts increases, the political predispositions of the public play a relatively larger role. Likewise, the public appears to be somewhat discerning in their willingness to pay attention to the views of different kinds of experts, desiring obvious domain rele-

vant expertise. Information that a group of scholars supports or opposes an action matters most when those scholars can make a credible claim to having domain expertise over the effects of the action.

Second, we show that efforts to educate the public about the views of policy experts can have important effects on support for particular policy alternatives. Increasingly, social scientists are asked to "bridge the gap" between the academy and the public by writing op-eds, blogging, and other forms of public engagement. In general, these calls are premised on the belief that the public and policy makers will respond in favorable and productive ways to learning about the wisdom or folly of particular policy alternatives. The specialized issue-domain knowledge that scholars possess and the relative professional independence that they enjoy ostensibly makes their views and recommendations on public policy questions more reliable and credible than those of partisan actors, industry lobbyists, or other interested parties.

There is concern, however, that perceptions of scholars as ivory tower elites who are out of touch with the practicalities of policy implementation may cause the views of scholars to be discounted or ignored (Mead 2010; Newsom 1995; Walt 2012). Others, like Tom Nichols, have heralded the "death of expertise" and are concerned that the specialized knowledge and expertise that experts have gained through years of study is increasingly being discounted by a public unable to differentiate between "true experts" and people claiming expertise over topics they in reality know little about. Nichols argues in part that the rise of the internet has created a blurry environment where facts are disputed and anyone can post in a public forum and claim expertise (Nichols 2017). The results that we present here suggest that these concerns are overwrought. Instead and consistent with other recent work, we show that informing the public about the views of epistemic communities generally causes the public to update their beliefs in the direction of those views. This effect is most dramatic and consistent when the EC in question has domain-specific knowledge about a given issue.

Third, we provide evidence that even for a politically-salient issue like the COP21 climate agreement in the midst of a presidential election, there is little evidence of "back lash" effects. Indeed, a small but highly-cited literature suggests that attempting to correct misconceptions or mistaken beliefs—especially when those beliefs are motivated by political considerations—can cause the public to rebel against the effects among certain portions of the population (Gollust, Lantz, and Ubel 2009; Nyhan and Reifler 2010; Redlawsk 2002). The results that we present here find little evidence in favor of these kind of dynamics. Instead, and consistent with other recent research on "back lash" effects, we find that endorsements always move the public in a

positive direction.

We proceed as follows. First, we situate our study in the context of the larger literature on the role of experts and policy elites in shaping public opinion. Second, we draw out several testable implications from this past work. Third, we describe our research design in detail. Fourth, we report the results of our experiment. Finally, we conclude with directions for future research.

1 Epistemic communities and public opinion

Epistemic communities (ECs)—groups of individuals with an "authoritative claim to policy relevant knowledge" in a given policy domain—have played an important role in spurring and shaping the emergence of cooperation in the post-War II era. In the broadest terms, the epistemic communities approach focuses on the role of transnational networks of issue area experts in providing policy makers with actionable and policy-relevant information about issues of which there is little public awareness and/or understanding (Cross 2013; Haas 1992).[1] Indeed, precisely because the topics at hand are so complex even policy makers themselves, which are often thought to have distinct informational advantages over the public, have little conception of the potential policy alternatives let alone the particular policy that would best suit the interests of society. Nearly all the work on the role of epistemic communities focuses on how ECs inform and effect the interests of society through their interactions with incumbent policy makers. But a large literature on the effect that political elites have on public opinion suggests that epistemic communities, and the *information elites* of which they are comprised, can play a similar role with the broader public.

Elites and public opinion

Political elites play a defining role in shaping public opinion on a wide array of public policy issues (Zaller 1992). The public is generally ignorant of all but the most high-profile details of political events and the implications of particular public policies (Galston 2001; Kinder 1998; Lippmann 1946). In large part, this ignorance is a rational response to the high costs of gathering and evaluating information about politics and

[1] Epistemic communities have played important, if not defining roles, in the emergence of cooperation aimed at curbing the spread of nuclear weapons (Adler 1992), reducing ozone depletion (Haas 1992), liberalizing trade in services (Ikenberry 1992), expanding the international human rights regime (Keck and Sikkink 1999), and the spread of central banking institutions (McNamara 2002; Verdun 1999).

public policy (Downs 1957). Political elites thus enjoy informational advantages over the public when it comes to considering public policies. The public appears to appreciate their informational disadvantage, especially in the context of foreign policy (Levendusky and Horowitz 2012). As a result, the public responds to new information provided by elites about the consequences of particular policies by moving their policy preferences to be more consistent with that suggested by the new information (Bullock 2011; Druckman, Peterson, and Slothuus 2013; Nicholson 2011).

The public also seems to be aware of the incentives that political elites have to mislead or misrepresent (Lupia and McCubbins 1998; Popkin 1994). Thus, the public tends to rely on contextual cues to differentiate between information from political elites who share their underlying political values and those that do not (Bolsen, Druckman, and Cook 2014b; Cohen 2003; McCright and Dunlap 2013). Similarly, the public appears to differentiate based on the perceived credibility of the source (Druckman 2001). In the context of foreign policy, Berinsky (2009) shows that partisan cuing had important effects on support the use of force. Guisinger and Saunders (2017) show that the power of informational cues declines dramatically for issue areas in which there are pre-existing partisan divides among the public.

The cuing dynamics described above obtain, to varying degrees, for a variety of other kinds of societal elites. Evidence suggests that from religious leaders (Adkins et al. 2013), journalism outlets (Groeling and Baum 2009), and celebrities (Marsh, Hart, and Tindall 2010) can all have important effects on public support for particular policies. We argue below that members of epistemic communities—and the *information elites* that inhabit them—are another elite constituency that holds sway over public opinion.

Domain Expertise: The epistemic advantage

Securing information about the implications of policy alternatives is costly. The costs of securing enough information to make informed policy decisions rise as uncertainty about the scope of the problem and the structure of potential solutions increases. To avoid paying these costs directly, policy makers turn to EC members and rely on them to provide information about "social or physical processes, their interrelation with other processes, and the likely consequences of actions that require application of considerable scientific or technical expertise" (Adler 1992). The domain-relevant expertise of EC members help outline the limits of a given policy problem, define the set of alternative policy options, and to suggest an optimal path forward.

Epistemic communities thus enjoy an important informational advantages over both policy makers and the public.

The members of epistemic communities also have important markers that distinguish them from other kinds of elites. EC members tend to be highly educated. During public appearances, for example, the EC member might be identified as holding an advanced degree in an issue-relevant topic. Similarly, the EC member might be affiliated with issue-specific think tanks or research institutes or with an issue-relevant department at a college or university. Just as important, the EC member is likely not identified as being affiliated with a partisan or ideological group and so some semblance of political independence is implied. These markers should act as "knowledge cues" or indicators that the individual has specialized and credible knowledge about the topic at hand and is using that knowledge, rather than political or ideological motives to inform their policy commentary or recommendations.

Scientists have long been afraid of engaging in advocacy for fear they would lose credibility to the public. However, a number of studies indicate that the opposite is true; when academics engage in varying levels of advocacy there is no reduced perceived scientific credibility (Kotcher et al. 2017). As a result, advocacy and targeted messaging can be an important tool in spreading information to the general public. For example, research suggests that climate scholars should focus on conveying how climate issues will specifically negatively impact the lives of smaller, targeted groups of voters (Egan and Mullin 2012). Informing legislators and the public about how climate change will directly impact them is an effective tool to improve belief in the existing scholarly consensus (Bolsen, Druckman, and Cook 2014a).

However, the power of experts to impact public opinion may be limited in an environment filled with uncertainty. Often the public is unaware of the high degree of EC consensus around many issues. This environment is exacerbated by a U.S. news media that focuses largely on scientific uncertainty. This is particularly evident when it comes to climate change (Anderegg et al. 2010; Antilla 2005; Boykoff 2008; 2009; Malka et al. 2009). Over the past few decades when covering global climate change the U.S. media over-enforces a norm of balancing even if doing so is inconsistent with scientific consensus (Boykoff 2008).[2] This explains the biased manner in which U.S television media portray the climate change issue, preferring to emphasize

[2] Boykoff notes in his study that "results show that 70% of U.S. television news segments have provided 'balanced' coverage regarding anthropogenic contributions to climate change" (Boykoff 2008, 1).

it as a largely uncertain issue rather than one with a large scientific consensus.[3] Greater uncertainty harms expert credibility with knowledge that scientific issues can be politicized reducing support (Schuck, Vliegenthart, and De Vreese 2016).[4] Through norms of balancing the United States media greatly impacts public approval for issues and agreements of a scientific or complex nature (Boykoff 2008).

Testable implications

In this paper, we wish to apply recent theoretical work on the ability of elite cues to shape public opinion to a new set of elites: epistemic communities. While most studies in the climate change communication literature focus on messaging over the existence of climate change, we are concerned specifically with how EC cues shape support for a particular international agreement. Information that a given epistemic community supports or opposes an action should matter most when those scholars can make a credible claims to having some specialized expertise over the effects of the policy. The public can thus use the views of ECs as informational shortcuts. By aligning their views with those of ECs on a given topic, they can avoid paying the costs of gathering information about the topic, while still reaping the benefit of supporting polices that will have broadly beneficial effects and opposing policies that will have broadly negative effects.

From the above discussion, we get the following hypotheses:

Hypothesis 1: *Epistemic influence: Expert opinion on international agreements will move the public in the direction of that opinion.*

Hypothesis 2: *Domain-relevance: The public will distinguish between experts with domain-specific knowledge and those without domain-specific knowledge.*

Hypothesis 3: *Informational shortcuts: Learning about the level of support among ECs for given policy will affect beliefs about the costs and benefits of that policy.*

[3] Research by Anderegg et al. identified that 97-98% of actively publishing climate scholars support human caused climate change.

[4] Informing people about even the possibility of politicization decreases support for various issues with a scientific basis (Bolsen, Druckman, and Cook 2014a). This observed decrease in percentage of support further highlights the media's ability to shape public opinion (Bolsen, Druckman, and Cook 2014a).

2 Research Design

We test these hypotheses using cuing experiments embedded in a web-based survey. We hired Survey Sampling International (SSI) to recruit a sample of 2,695 Americans. The survey was in the field in the Summer of 2016. While we rely on a convenience sample, we did put quotas on race, income, region, and education to ensure that our sample included a broad cross-section of the American public.[5] Given the high levels of political knowledge exhibited by respondents in online labor pools like Amazon.com's Mechanical Turk and the central role that political knowledge plays in theories of elite cuing, one might be concerned about the generalizability of our results. Berinsky, Margolis, and Sances (2014) show that SSI samples respond to experimental manipulations in ways that are very similar to that of probability-based samples. Additionally, members of the SSI panel exhibit levels of political knowledge that are remarkably similar to that of probability-based sample providers like YouGov.[6]

We explore the role of epistemic communities in generating support or opposition to particular cooperative agreements for two reasons. First, it generates space for plausible disagreements among scholars. While many respondents are likely aware that there is widespread agreement among climate scientists about the need to address anthropogenic climate change, it is plausible that they might not agree that a particular treaty aimed at addressing climate change should be enacted. Second, we want to explore how epistemic support for a policy affects support among the public when it is likely that the EC is better equipped to make predictions about the likely effects than policy makers themselves.

Our experimental design is summarized in Figure 1. All respondents received a common introduction that read, "The U.S. Congress is currently debating whether or not to approve the COP21 Climate Change Agreement. The agreement is between the United States and a number of other countries. It is designed to help the member countries slow climate change."

[5] A comparison between the distribution of these variables in our sample and in the 2010 U.S. Census is given in Table 1. SSI is an increasingly popular sample provider among political scientists. Studies employing SSI samples have recently appeared in prominent political science journals including American Journal of Political, Journal of Politics, and Political Analysis. See, for example, Barker, Hurwitz, and Nelson (2008), Berinsky, Margolis, and Sances (2014), Healy and Lenz (2014), Kertzer and Brutger (2016), Kertzer and Zeitzoff (2017), and Malhotra, Margalit, and Mo (2013).

[6] Berinsky, Huber, and Lenz (2012) explain, "subjects were asked to identify the political office held by a person mentioned in a story they had just read. The format of this question was a multiple-choice item with five possible responses. On the MTurk study, 60% of the respondents answered the question correctly. An identical question concerning the same article was also included on experiments run through Polimetrix/YouGov (another high-quality Internet panel) and with a sample collected by Survey Sampling International (SSI). The correct answer rates on these platforms were markedly lower than in the MTurk sample—49% on Polimetrix/YouGov and 46% on SSI."

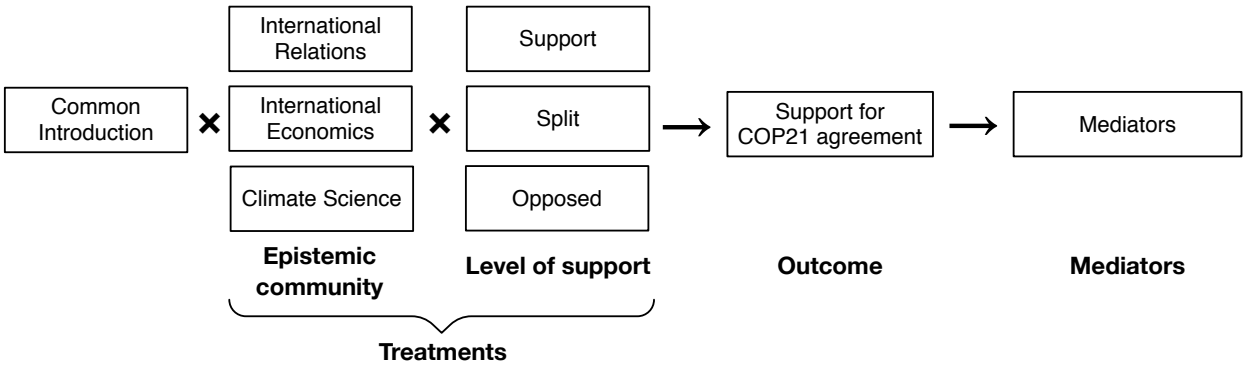

Figure 1: Experimental design

We then randomly assigned respondents to either a control condition or one of nine treatment conditions. We presented respondents in the treatment conditions with the results of a fictional survey of scholars at U.S. colleges and universities and randomly varied two aspects of the fictional survey results. First, we varied the level of consensus among scholars over the question of whether or not the United States should approve the COP21 Climate Agreement. We randomly set the level of consensus among scholars as high in favor of the agreement, high in opposition to the agreement, or split over the agreement. In the control condition, respondents saw no information regarding scholar support for the agreement. Second, we varied the identity of the scholars represented in the survey results. We told respondents that the results represented the views of scholars of climate science, international economics, or international relations. Examples of the manipulations presented to respondents can be seen in Figure 2. Following the manipulation, we asked respondents, "Do you support or oppose the United States joining the proposed agreement?" The response options formed a seven point scale ranging from "support a great deal" to "oppose a great deal" with "neither support nor oppose" anchoring the center.

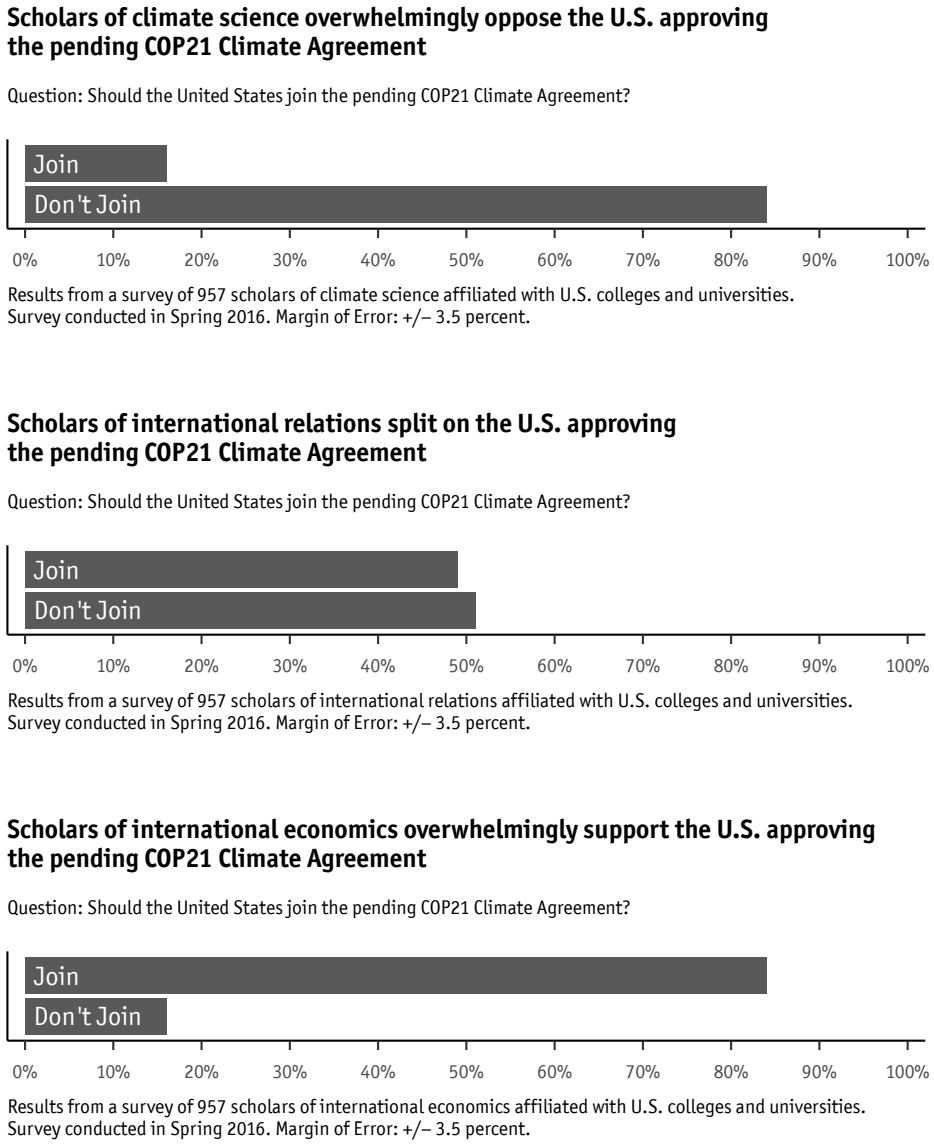

Figure 2: Three examples of how respondents learned about the results of our fictional survey.

3 Results

3.1 Was the manipulation successful?

The argument above depends critically on respondents internalizing the information with which they have been presented and updating their beliefs about support for COP21 among members of the treatment EC. To

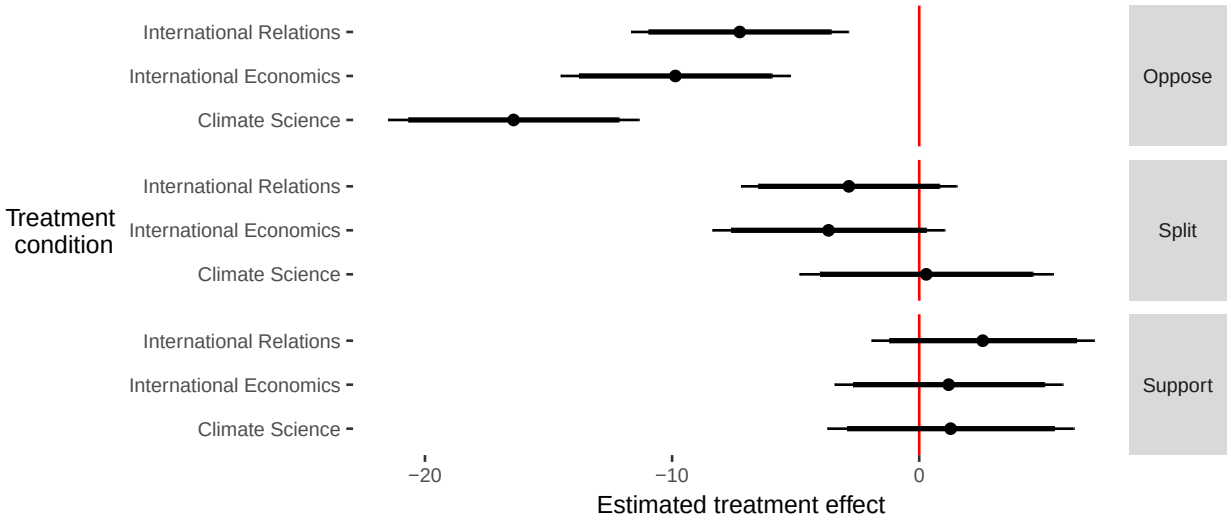

Figure 3: Estimated effect of treatment on perceptions of support for COP21 among scholars of climate science, international relations, and international economics.

measure the extent to which the treatment affected beliefs among respondents about support for the COP21 climate agreement among each of the EC communities, we followed treatment with a set of questions about support for joining the agreement among different types of elites. The groups included each of the treatment ECs. The question read, "What is your best guess as to how the following groups of individuals feel about joining the pending international COP21 agreement? Use the slider scale to indicate the percentage of individuals in each group that you think support the U.S. joining the agreement." The slider allowed respondents to select any integer between 0 and 100. We plot the estimated effect of treatment on perceptions of support in Figure 3. The results show that while manipulation was successful in the oppose treatments, this was not the case in either the split or support treatment. While the support treatments do modestly increase perceptions of support, the effects are no where near conventional levels of statistical significance. Notably, the manipulation failed in both split and support for all three epistemic communities.

We plot the distribution of beliefs about support for the COP21 agreement among respondents in each treatment group in Figure 4. With respect to respondent beliefs about the level of support for COP21 among Scholars of Climate Science, it is likely that in the support condition, we ran into ceiling effects. That is to say that respondents generally viewed climate scholars as supporting COP21 prior to our intervention. As such, it may not be surprising that we failed to manipulate those beliefs. What is less clear, however, is why

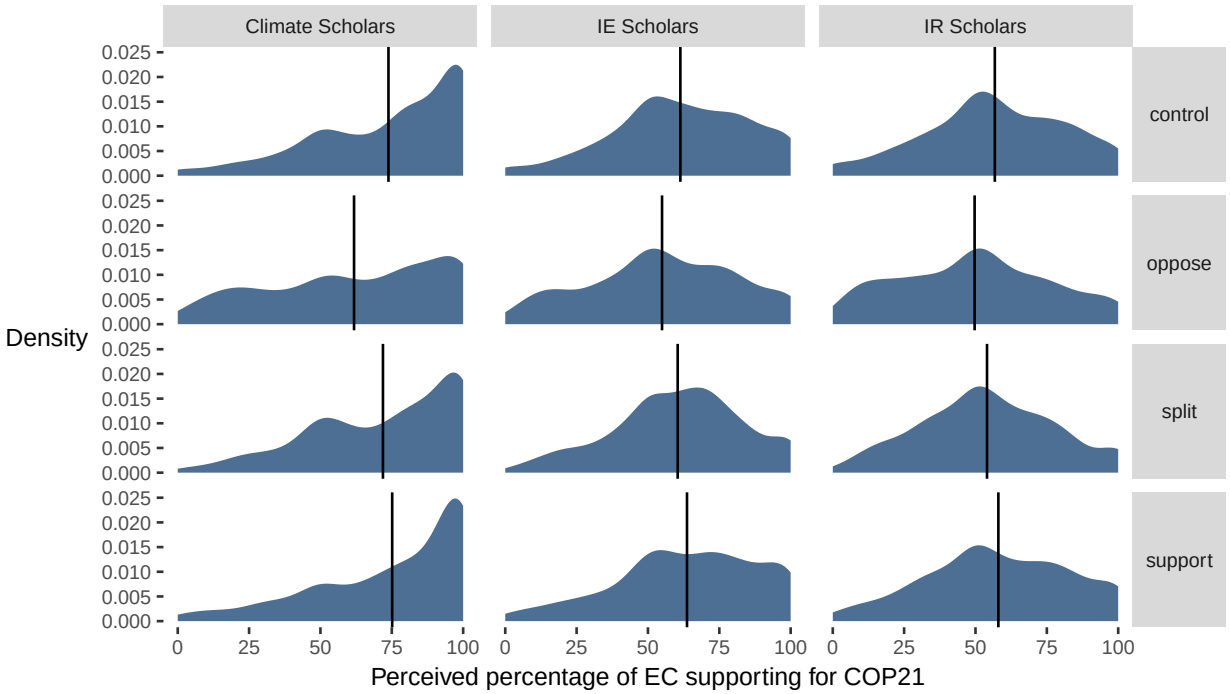

Figure 4: Perceptions of support for COP21 among scholars of climate science, international relations, and international economics.

manipulation failed for Climate Scholars Split condition. With respect to scholars of international economics and scholars of international relations, the story is also quite puzzling. Respondents likely did not have strong ex ante beliefs about the level of support for COP21 among these groups of scholars, so we anticipated that their views would be easily manipulated.

Effect of treatment on respondent support for COP21

Having seen where we are best able to manipulate beliefs, we now estimate the effect of respondents learning about the level of support for the COP21 agreement among scholars on the support for the COP21 agreement among respondents. We present the results graphically (Figure 5) and in the form of a regression analysis (Table 2 and Table 3). The results are broadly in line with our expectations. The Scholars Oppose and Scholars Split treatments decreased support for the agreement. Among those in the oppose treatment, support for COP21 was about .6 (95% CI: .76, .41) units lower than among those assigned to the control group. This represents an 8 percentage point reduction in the number of respondents reporting that they support the

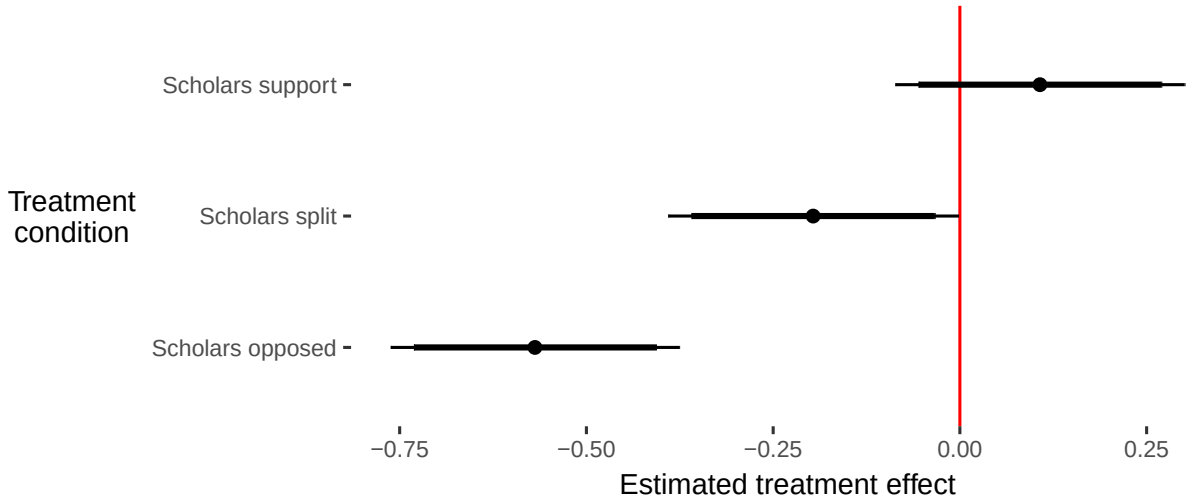

Figure 5: Estimated treatment effect of scholar views on support for COP21 Climate Agreement.

COP21 agreement a great deal, a moderate amount, or a little ($t = 3.764$, $p < .000$). Support for COP21 among those assigned to the Scholars Split treatment was about .2 (95% CI: 0.4, 0) units lower than among those in the control on our seven point scale. This represents an 3 percentage point reduction in the number of respondents reporting that they support the COP21 agreement a great deal, a moderate amount, or a little ($t = 1.45$, $p < .145$). While the estimated effect of the Scholars Support treatment is positive, it is not statistically significant at conventional levels. These initial results suggest that the public is broadly responsive to the views of scholars on international policy issues when they express opposition, but are less responsive to their views when they express support or are divided over a given issue.

Next, we study the effect that expert type has on the magnitude of the treatment effects. The estimated treatment effects for each combination of the manipulations relative to the control group are presented graphically in Figure 6 and the in regression form in Table 2. Consistent with the expectations, the treatment effects are most dramatic and most consistent when the experts in question have specialized knowledge over the issue area in question. That is to say that respondents are most responsive to the views of Climate Scholars. These scholars have credible claims to policy-relevant expertise on the issue of climate change. In the Oppose treatment condition, for example, respondents were substantially less supportive of the agreement relative to both the control condition and to the other scholar conditions. Respondents in the Climate Scholars Oppose condition were about .79 units less supportive of the COP21 climate agreement than those in the control

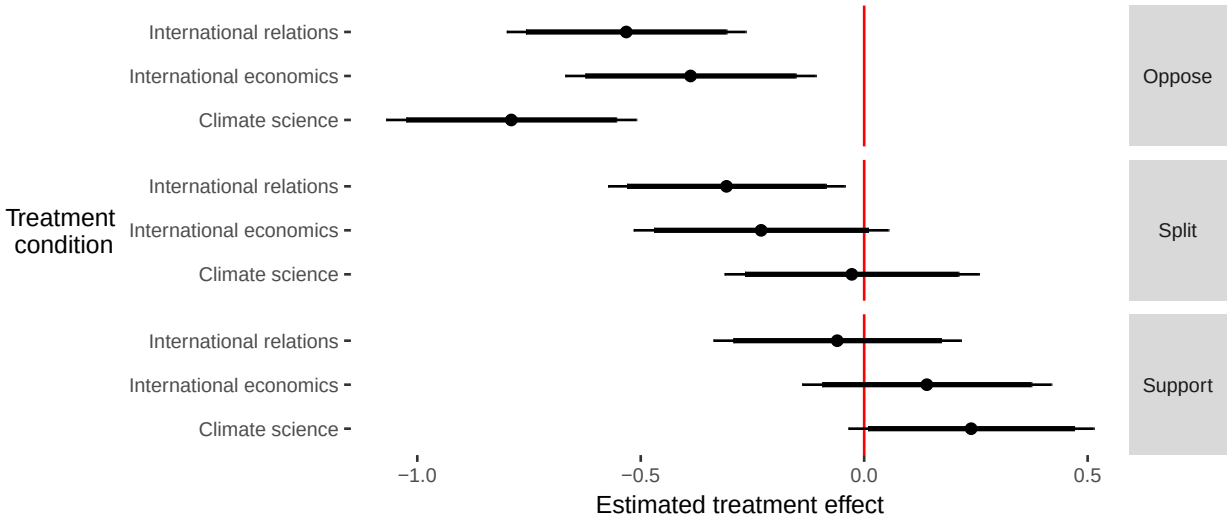

Figure 6: Estimated effect of scholar type and level of support on COP21 approval among respondents.

condition, while those in the Climate Scholars Support condition were about .23 points more supportive of the COP21 climate agreement compared to those in the control condition. Respectively, this is about an 12 percentage point decline ($t = 2.98, p < .000$) and an 8 percentage point increase ($t = 2.215, p = .0272$) in respondents reporting that they support joining COP21 a little, a moderate amount, or a great deal. Respondents were less responsive to the views of scholars of international relations and international economics. While the oppose treatments generated negative and statistically significant effects for both groups of scholars, the support treatment did not.

Why is the public responsive to the views of ECs?

To this point we have demonstrated that the public appears responsive to the views of epistemic communities when those communities are opposed to a given policy and that this is especially the case when the EC has policy-relevant expertise on a given policy in question. But why is the public responsive to the views of epistemic communities? At the outset we argued that the public may rely on the views of epistemic communities as informational shortcuts. That is to say that the public perceives epistemic communities as having knowledge and expertise advantages over the general public and other elites and thus their support or opposition to a given policy proposal provides information to the public about the likely benefits or costs of that proposal. Following treatment and our measurement of the dependent variable, we asked two other questions

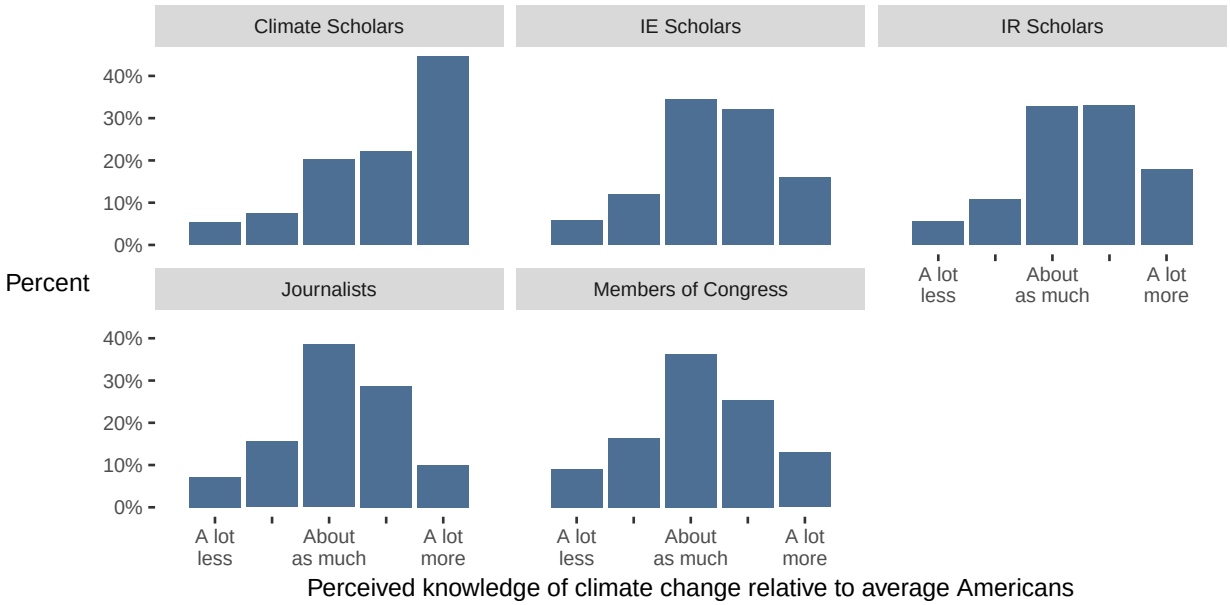

Figure 7: Perceived knowledge of climate change by knowledge elite grouping. We asked respondents, "Compared to the average American, what is your best guess as to how much knowledge the following groups of individuals have about the COP21 Climate Agreement?" Response options were on a five-point scale from ''A lot less than..." to "A lot more than..."

that enable us to test this argument directly.

First, we asked respondents to report their perceptions of how much different groups of elites likely know about the COP21 Climate Agreement. The question read, "Compared to the average American, what is your best guess as to how much knowledge the following groups of individuals have about the COP21 Climate Agreement?" We allowed responses on a five-point scale from "a lot less than the average American" to A lot more than the average American." We asked respondents to report their perceptions for scholars of climate science, international relations, and international economics. We also asked respondents the same question about two other important sets of elites: Members of Congress and journalists. We plot the results in Figure 7. Overall, the public believes that scholars have a higher level of knowledge about COP21 than the general public, Members of Congress, and journalists. The average level of perceived scholarly knowledge is 3.6 on our five point scale (95% CI: 3.60, 3.64). This is over a point higher than would be expected if respondents perceived scholars as having the same level of knowledge about COP21 as the average American. Further, the public views scholars as more knowledgeable about COP21 than both members of Congress and journalists. Average perceptions of scholarly knowledge of COP21 are .43 points higher ($t = 21.00$, $p < .000$) than

perceptions of the level of knowledge of Members of Congress and .41 points higher ($t = 23.15, p < .000$) than perceptions of the level of knowledge of journalists.

In addition, the public appears to differentiate among scholars with different kinds of expertise. The public perceives Climate Scholars as having have the highest level of knowledge about COP21. On our five point scale, Climate Scholars received an average score of 3.92 (95% CI: 3.88, 3.98). This was .52 points higher than the average score for scholars of International Economics ($t = 24.21, p < .000$) and .45 units higher than Scholars of International Relations ($t = 22.55, p < .000$). These results are consistent with our argument that the public perceives some types of ECs as having knowledge that is relevant to particular kinds of policy questions.

A final point is worth making with respect to perceptions of EC knowledge: The perceived level of knowledge did not depend on treatment assignment. In Table 4 and Table 5 we regress treatment assignment on respondent perceptions of the level of knowledge that each EC has about COP21. The results show that respondents did not update their beliefs about the level of expertise or knowledge that a given group had on the topic. When we sub-sample by party ID, we get similar results, as Table 6 shows for Climate Scientists.

Second, we asked respondents about the effect that joining the COP21 Climate Agreement would have on the U.S. In principle, there are numerous inferences that the public might draw about the implications of the COP21 agreement after learning that particular ECs support or oppose it. For example, support for COP21 among Climate Scholars might cause some to believe that the agreement would be effective at mitigating global warming or that the agreement would be in the interests of the U.S. To make comparisons across ECs tractable, we focus on broad instrumentalist implications for the U.S. The question read, "If the United States approves the pending COP21 Climate Agreement, do you think it would help or hurt the United States?" The response options were a seven point scale that ranged from "Help a great deal" to "Hurt a great deal." This allows for the particular causal logic about why the agreement would help or hurt the U.S. to vary across respondents and treatments, while still allowing us to measure changes in beliefs about the instrumentalist effect of the agreement on the U.S. in a consistent manner. We plot the estimated effect of treatment on perceptions of COP21's effect on the U.S. in Figure 8. The results show that the Oppose treatment substantially reduced expectations that the COP21 agreement would help the U.S. Given the failure of our manipulation check for the split and support treatments, it is perhaps not surprising that the treatment did not have consis-

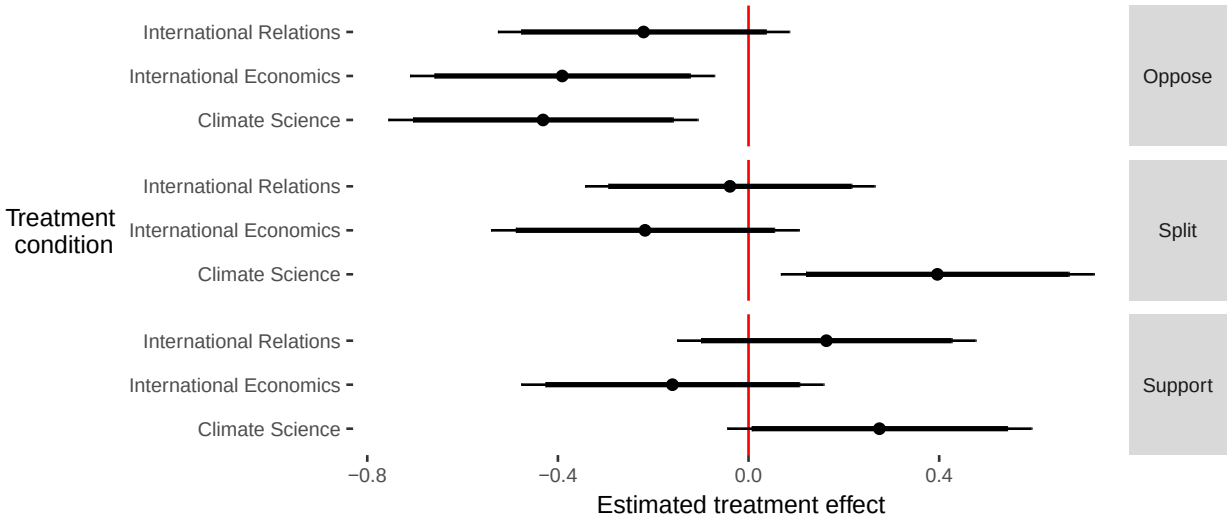

Figure 8: Estimated effect of treatment on expectations that the COP21 agreement will benefit the U.S. by scholar type.

tent effects on expectations about COP21's effects in the split and support treatments. Still, it is notable that in both the Climate Scholars Split and Climate Scholars Support, respondents were more optimistic about the agreement's ability to help the U.S. than in the control group.

Causal mediation analysis

While we showed both that the treatments affected the level of public support for COP21 in the expected directions and that the magnitude of those effects was generally consistent with the level of support expressed by scholars, we have yet to systematically test whether the effect of treatment was actually mediated through changes in beliefs about the implications of the agreement. To do this, we turn to casual mediation methods developed by (Imai et al. 2011). CMA is a powerful technique designed to "decompose the causal effect of a treatment into the indirect effect, which represents the hypothesized causal mechanism, and the direct effect, which represents all the other mechanisms" (Imai et al. 2011, 768). To estimate the effect of changing perceptions of scholarly support for the agreement on respondent support for the agreement, we must estimate the average causal mediation effect of the respondent's perceptions the COP21 agreement's ability effect on the U.S. This quantity of interest is an estimate of the degree to which the respondent's support for COP21 would change if we could assign the respondent to a given treatment, but fix the respondent's perception of

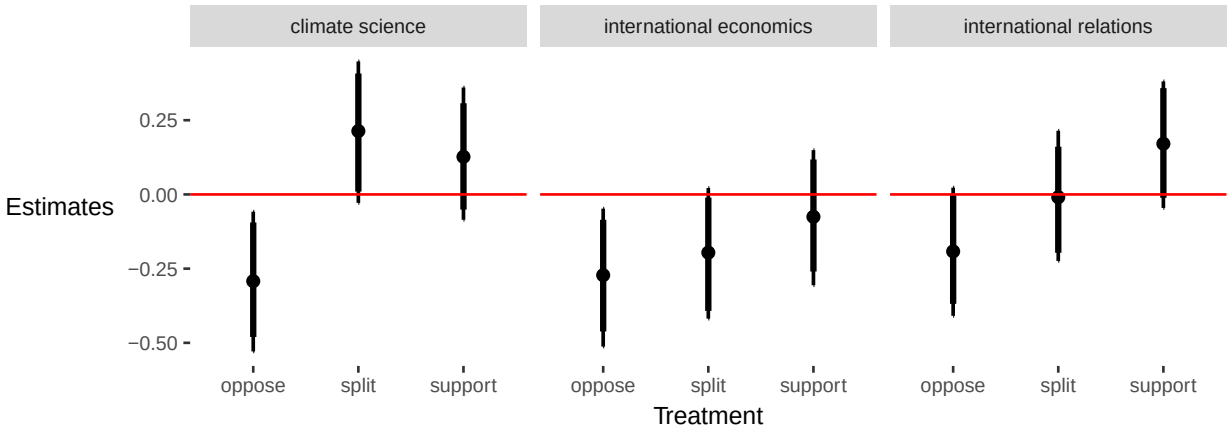

Figure 9: Estimated ACME of expected effect of COP21 on U.S. on support for COP21 by treatment condition.

the effect of COP21 on the U.S. to the level that we would observe had the respondent been assigned to the control group.[7] We do this while controlling for pre-treatment characteristics that might be correlated with both perceptions of COP21 to help/hurt the U.S. and support for COP21. These include age, income, education level, race, and ideology. We present the results of this analysis in Figure 9 The estimated ACME of expectations about the agreement's affect on the U.S. consistently mediates the relationship between the oppose treatments and the observed change in support for COP21 agreement. This suggests that the treatments in which we told respondents that different types of scholars overwhelmingly oppose the COP21 agreement lowered support for the agreement among respondents by changing their beliefs about the likely implications for the U.S. While the magnitude of the effect varies somewhat for the other expert types, the ACME of perceptions for scholarly support of the agreement is negative and statistically significant for all of the oppose treatments.

[7] The algorithm that estimates these effects proceeds as follows. First, estimate an outcome model that predicts COP21 approval as a function of treatment assignment, mediator, and any relevant pre-treatment covariates such as education. Second, estimated a mediator model that predicts the mediator as a function of treatment assignment and the same relevant pre-treatment covariates. The algorithm then uses these models to predict the respondent's beliefs about the level of support for COP21 in both the treatment and control conditions and to predict the level of respondent support for COP21 in the control and in the treatment condition while holding perceptions of scholarly support at the level that would have been observed in the control group.

4 Conclusion

Understanding public reactions to the views of experts and, in particular, those affiliated with colleges and universities is critical in light of burgeoning efforts to increase engagement between the public, scholars, and policy makers. We provide evidence here that scholars can have modest and useful impacts on public opinion even in the context of a highly-politicized public policy question like the Paris climate agreement. We were able to move respondent support for the COP21 Climate Agreement in the direction of scholarly views by sharing the views of scholars with the public. Using a novel survey experimental manipulation, we showed that the effect of scholarly views are most dramatic when the scholars in question are identified as having domain knowledge and when scholars are united in their opposition to a proposed policy. Like wise, scholars with more oblique knowledge can have measurable impacts on support for policy proposals. That being said, we found little evidence that sharing the views of scholars can affect the public's views when they are divided in their opinions or when they are expressing support for the agreement.

While the data that we present here is instructive, it would be useful to know the extent to which these results generalize across cases and issue areas. While climate change is a highly politicized issue area, it is also one in which the costs and benefits of action are, in relative terms, easy to describe. Policy goals in other issue areas can be more abstract and this might have implications for the ability of scholars to shape public opinion. On the one hand, more abstract or complex issues may suggest a larger role for individuals with specialized knowledge, it may also lead the public to be less trusting of scholarly expertise since the policy outcomes are harder to observe or quantify. To this end, we are currently analyzing the results of an additional survey experiment that fixes the level of support among scholars, but varies their identity and the issue area covered by the agreement. We anticipate adding those results to this paper during the next set of revisions.

References

Adkins, Todd, et al. 2013. "Religious group cues and citizen policy attitudes in the United States". *Politics and Religion* 6 (2): 235–263.

Adler, Emanuel. 1992. "The Emergence of Cooperation: National Epistemic Communities and the International Evolution of the Idea of Nuclear Arms Control". *International Organization* 46 (1): 101–145.

Anderegg, William RL, et al. 2010. "Expert Credibility in Climate Change". *Proceedings of the National Academy of Sciences* 107 (27): 12107–12109.

Antilla, Liisa. 2005. "Climate of Scepticism: US Newspaper Coverage of the Science of Climate Change". *Global Environmental Change* 15 (4): 338–352.

Barker, David C, Jon Hurwitz, and Traci L Nelson. 2008. "Of crusades and culture wars:"Messianic" militarism and political conflict in the United States". *The Journal of Politics* 70 (2): 307–322.

Berinsky, Adam J. 2009. *In Time of War: Understanding American Public Opinion From World War II to Iraq*. University of Chicago Press.

Berinsky, Adam J, Gregory A Huber, and Gabriel S Lenz. 2012. "Evaluating online labor markets for experimental research: Amazon. com's Mechanical Turk". *Political Analysis* 20 (3): 351–368.

Berinsky, Adam J, Michele F Margolis, and Michael W Sances. 2014. "Separating the shirkers from the workers? Making sure respondents pay attention on self-administered surveys". *American Journal of Political Science* 58 (3): 739–753.

Bolsen, Toby, James N Druckman, and Fay Lomax Cook. 2014a. "How Frames Can Undermine Support for Scientific Adaptations: Politicization and the Status-Quo Bias". *Public Opinion Quarterly* 78 (1): 1–26.

— . 2014b. "The Influence of Partisan Motivated Reasoning on Public Opinion". *Political Behavior* 36 (2): 235–262.

Boykoff, Maxwell T. 2008. "Lost in Translation? United States Television News Coverage of Anthropogenic Climate Change, 1995–2004". *Climatic Change* 86 (1): 1–11.

— . 2009. "We Speak for the Trees: Media Reporting on the Environment". *Annual Review of Environment and Resources* 34:431–457.

Broockman, David E, and Daniel M Butler. 2017. "The Causal Effects of Elite Position-Taking on Voter Attitudes: Field Experiments with Elite Communication". *American Journal of Political Science* 61 (1): 208–221.

Bullock, John G. 2011. "Elite Influence on Public Opinion in an Informed Electorate". *American Political Science Review* 105 (3): 496–515.

Cohen, Geoffrey L. 2003. "Party Over Policy: The Dominating Impact of Group Influence on Political Beliefs." *Journal of Personality and Social Psychology* 85 (5): 808.

Cross, Mai'a K. Davis. 2013. "Rethinking Epistemic Communities Twenty Years Later". *Review of International Studies* 39 (1): 137–160.

Downs, Anthony. 1957. "An Economic Theory of Political Action in a Democracy". *Journal of Political Economy* 65 (2): 135–150.

Druckman, James N. 2001. "On the limits of framing effects: Who can frame?" *Journal of Politics* 63 (4): 1041–1066.

Druckman, James N, Erik Peterson, and Rune Slothuus. 2013. "How Elite Partisan Polarization Affects Public Opinion Formation". *American Political Science Review* 107 (01): 57–79.

Egan, Patrick J, and Megan Mullin. 2012. "Turning Personal Experience Into Political Attitudes: The Effect of Local Weather on Americans' Perceptions About Global Warming". *The Journal of Politics* 74 (3): 796–809.

Galston, William A. 2001. "Political Knowledge, Political Engagement, and Civic Education". *Annual Review of Political Science* 4 (1): 217–234.

Gollust, Sarah E, Paula M Lantz, and Peter A Ubel. 2009. "The Polarizing Effect of News Media Messages About the Social Determinants of Health". *American Journal of Public Health* 99 (12): 2160–2167.

Groeling, Tim, and Matthew A Baum. 2009. "Journalists' incentives and media coverage of elite foreign policy evaluations". *Conflict Management and Peace Science* 26 (5): 437–470.

Guisinger, Alexandra, and Elizabeth N Saunders. 2017. "Mapping the Boundaries of Elite Cues: How Elites Shape Mass Opinion Across International Issues". *International Studies Quarterly* 61 (2): 425–441.

Haas, Peter M. 1992. "Introduction: Epistemic Communities and International Policy Coordination". *International Organization* 46 (01): 1–35. http://EconPapers.repec.org/RePEc:cup:intorg:v:46:y:1992:i:01:p:1-35_00.

Healy, Andrew, and Gabriel S Lenz. 2014. "Substituting the End for the Whole: Why Voters Respond Primarily to the Election-Year Economy". *American Journal of Political Science* 58 (1): 31–47.

Ikenberry, G John. 1992. "A World Economy Restored: Expert Consensus and the Anglo-American Postwar Settlement". *International Organization* 46 (1): 289–321.

Imai, Kosuke, et al. 2011. "Unpacking the Black Box of Causality: Learning About Causal Mechanisms From Experimental and Observational Studies". *American Political Science Review* 105 (4): 765–789.

Keck, Margaret E, and Kathryn Sikkink. 1999. "Transnational Advocacy Networks in International and Regional Politics". *International Social Science Journal* 51 (159): 89–101.

Kertzer, Joshua D, and Ryan Brutger. 2016. "Decomposing audience costs: Bringing the audience back into audience cost theory". *American Journal of Political Science* 60 (1): 234–249.

Kertzer, Joshua D, and Thomas Zeitzoff. 2017. "A Bottom-Up Theory of Public Opinion about Foreign Policy". *American Journal of Political Science* 61 (3): 543–558.

Kinder, Donald R. 1998. "Opinion and Action in the Realm of Politics", 778–867. An Optional Note. McGraw-Hill.

Kotcher, John E, et al. 2017. "Does Engagement in Advocacy Hurt the Credibility of Scientists? Results From a Randomized National Survey Experiment". *Environmental Communication* 11 (3): 415–429.

Lenz, Gabriel S. 2013. *Follow the leader?: how voters respond to politicians' policies and performance*. University of Chicago Press.

Levendusky, Matthew S, and Michael C Horowitz. 2012. "When Backing Down Is the Right Decision: Partisanship, New Information, and Audience Costs". *The Journal of Politics* 74 (2): 323–338.

Lippmann, Walter. 1946. *Public Opinion*. Vol. 1. Transaction Publishers.

Lupia, Arthur, and Mathew D McCubbins. 1998. *The Democratic Dilemma: Can Citizens Learn What They Need to Know?* Cambridge University Press.

Malhotra, Neil, Yotam Margalit, and Cecilia Hyunjung Mo. 2013. "Economic explanations for opposition to immigration: Distinguishing between prevalence and conditional impact". *American Journal of Political Science* 57 (2): 391–410.

Malka, Ariel, et al. 2009. "Featuring Skeptics in News Media Stories About Global Warming Reduces Public Beliefs in the Seriousness of Global Warming". *Woods Institute for the Environment, Stanford University, Technical Paper), Available at Http://woods. Stanford. Edu/research/global-Warming-Skeptics. Html*.

Marsh, David, Paul 't Hart, and Karen Tindall. 2010. "Celebrity politics: The politics of the late modernity?" *Political studies review* 8 (3): 322–340.

McCright, Aaron M, and Riley E Dunlap. 2013. "Bringing Ideology In: The Conservative White Male Effect on Worry About Environmental Problems in the USA". *Journal of Risk Research* 16 (2): 211–226.

McNamara, Kathleen. 2002. "Rational Fictions: Central Bank Independence and the Social Logic of Delegation". *West European Politics* 25 (1): 47–76.

Mead, Lawrence M. 2010. "Scholasticism in Political Science". *Perspectives on Politics* 8 (2): 453–464.

Newsom, David D. 1995. "Foreign Policy and Academia". *Foreign Policy*, no. 101: 52–67.

Nichols, Tom. 2017. *The death of expertise: the campaign against established knowledge and why it matters*. Oxford University Press.

Nicholson, Stephen P. 2011. "Dominating Cues and the Limits of Elite Influence". *The Journal of Politics* 73 (4): 1165–1177.

Nyhan, Brendan, and Jason Reifler. 2010. "When Corrections Fail: The Persistence of Political Misperceptions". *Political Behavior* 32 (2): 303–330.

Popkin, Samuel L. 1994. *The Reasoning Voter: Communication and Persuasion in Presidential Campaigns*. University of Chicago Press.

Redlawsk, David P. 2002. "Hot Cognition or Cool Consideration? Testing the Effects of Motivated Reasoning on Political Decision Making". *Journal of Politics* 64 (4): 1021–1044.

Schuck, Andreas RT, Rens Vliegenthart, and Claes H De Vreese. 2016. "Who's Afraid of Conflict? The Mobilizing Effect of Conflict Framing in Campaign News". *British Journal of Political Science* 46 (01): 177–194.

Verdun, Amy. 1999. "The Role of the Delors Committee in the Creation of EMU: An Epistemic Community?" *Journal of European Public Policy* 6 (2): 308–328.

Walt, Stephen M. 2012. "Theory and Policy in International Relations: Some Personal Reflections". *Yale J. Int'l Aff.* 7:33.

Zaller, John. 1992. *The Nature and Origins of Mass Opinion*. Cambridge University Press.

5 Sample Demographics

Table 1: Demographic Characteristics of SSI Sample vs. 2010 U.S. Census

	SSI Sample		2010 U.S. Census
Gender	Percent	Count	Percent
Male	48.90	1271	49.2
Female	50.98	1325	50.8
Not Listed	0.12	3	–
Region	Percent	Count	Percent
Northeast	18.01	468	17.9
Midwest	21.97	571	21.7
South/Central	36.40	946	37.1
West	23.01	598	23.3
Race	Percent	Count	Percent
White	64.02	1664	63.7
Hispanic/Latino	12.97	337	16.3
Black	12.00	312	12.6
American Indian or Alaskan Native	1.65	43	0.9
Asian	5.00	130	4.8
Native Hawaii or Pacific Islander	0.35	9	0.2
Other	1.65	43	6.2
Education	Percent	Count	Percent
Up to some High School	3.50	91	13.7
High School graduate/GED	19.78	514	31.0
Some college	23.09	600	19.3
Associate degree	12.01	312	8.6
Bachelor's degree	24.78	644	18.0
Masters, Doctorate, etc.	16.85	438	9.3
Income	Percent	Count	Percent
Up to $29,999	28.90	751	31.5
$30,0000–$59,999	27.20	707	26.8
$60,000–$99,999	21.78	566	21.3
$100,000–$149,999	14.97	389	12.0
More than $150,000	7.08	184	8.3

6 Results tables

6.1 Support for COP21 Climate Agreement

Table 2: Estimated effect of treatment on support for approving COP21 by epistemic community without demographic controls.

	All	Climate Science	Int'l Relations	Int'l Econ.
	Approve COP21	Approve COP21	Approve COP21	Approve COP21
Treatment				
Control	0.00	0.00	0.00	0.00
Oppose	-0.57**	-0.79**	-0.53**	-0.38**
	(0.10)	(0.14)	(0.14)	(0.14)
Split	-0.18+	-0.03	-0.29*	-0.21
	(0.10)	(0.14)	(0.13)	(0.15)
Support	0.10	0.23+	-0.06	0.13
	(0.10)	(0.14)	(0.14)	(0.14)
Constant	4.83**	4.83**	4.83**	4.83**
	(0.07)	(0.07)	(0.07)	(0.07)
Obs.	2721	1379	1438	1368
R^2	0.019	0.029	0.012	0.008

Standard errors in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < .01$

Table 3: Estimated effect of treatment on support for approving COP21 by epistemic community with demographic controls.

	All	Climate Science	Int'l Relations	Int'l Econ.
	Approve COP21	Approve COP21	Approve COP21	Approve COP21
Treatment				
Control	0.00	0.00	0.00	0.00
Oppose	-0.51**	-0.73**	-0.48**	-0.37**
	(0.09)	(0.14)	(0.13)	(0.13)
Split	-0.18*	-0.12	-0.18	-0.29*
	(0.09)	(0.14)	(0.13)	(0.13)
Support	0.13	0.14	0.09	0.11
	(0.09)	(0.13)	(0.13)	(0.13)
Education				
Up to HS diploma	-0.26*	-0.27	-0.33*	-0.24
	(0.12)	(0.17)	(0.16)	(0.16)
Some college	-0.19+	-0.25	-0.16	-0.07
	(0.11)	(0.16)	(0.16)	(0.15)
Associate/Bachelor degree	-0.17+	-0.21	-0.18	-0.03
	(0.10)	(0.14)	(0.14)	(0.14)
Advanced degree	0.00	0.00	0.00	0.00
Age	-0.01**	-0.01**	-0.01*	-0.01*
	(0.00)	(0.00)	(0.00)	(0.00)
Gender				
Male	0.00	0.00	0.00	0.00
Female	-0.05	-0.02	-0.04	-0.02
	(0.07)	(0.10)	(0.09)	(0.09)
Not listed	0.23	-1.16	0.25	-1.47
	(0.97)	(1.69)	(0.98)	(1.64)
Ideology	-0.43**	-0.43**	-0.42**	-0.51**
	(0.02)	(0.03)	(0.03)	(0.03)
Race/Ethnicity				
White	0.00	0.00	0.00	0.00
Black	0.10	-0.01	0.20	-0.18
	(0.10)	(0.15)	(0.14)	(0.15)
American Indian or Alaskan Native	-0.42	-0.78*	-0.23	-0.70*
	(0.26)	(0.34)	(0.31)	(0.32)
Asian	0.06	0.32	-0.00	-0.16
	(0.15)	(0.22)	(0.22)	(0.22)
Native Hawaiian or Pacific Islander	-0.32	-0.89	-1.11	-0.10
	(0.51)	(0.98)	(0.76)	(0.55)
Other	0.18	-0.23	0.10	0.13
	(0.26)	(0.33)	(0.32)	(0.33)
Hispanic/Latino	0.07	-0.11	0.09	0.03
	(0.10)	(0.15)	(0.14)	(0.14)
Income	0.02	0.01	-0.02	-0.00
	(0.04)	(0.05)	(0.05)	(0.05)
Constant	6.94**	7.11**	6.97**	7.27**
	(0.19)	(0.27)	(0.26)	(0.26)
Obs.	2595	1315	1380	1298
R^2	0.192	0.197	0.183	0.240

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < .01$

6.2 Perceptions of specialized knowledge

Table 4: Estimated effect of treatment on perceived knowledge of COP21 by epistemic community without demographic controls.

	Climate Science	Int'l Relations	Int'l Econ.
	Issue knowledge	Issue knowledge	Issue knowledge
Treatment			
Control	0.00	0.00	0.00
Oppose	-0.04	-0.13	0.00
	(0.09)	(0.08)	(0.08)
Split	0.14	-0.02	0.08
	(0.09)	(0.08)	(0.09)
Support	0.03	-0.03	0.01
	(0.09)	(0.08)	(0.08)
Constant	3.97**	3.51**	3.41**
	(0.04)	(0.04)	(0.04)
Obs.	1356	1423	1357
R^2	0.002	0.002	0.001

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < .01$

Table 5: Estimated effect of treatment on perceived knowledge of COP21 by each epistemic community with demographic controls.

	Climate Science	Int'l Relations	Int'l Econ.
	Issue knowledge	Issue knowledge	Issue knowledge
Treatment			
Control	0.00	0.00	0.00
Oppose	0.01	-0.10	0.01
	(0.09)	(0.08)	(0.09)
Split	0.13	-0.00	0.11
	(0.09)	(0.08)	(0.09)
Support	0.02	0.01	0.00
	(0.09)	(0.08)	(0.09)
Education			
Up to HS diploma	-0.18	-0.34**	-0.22*
	(0.11)	(0.10)	(0.11)
Some college	0.11	-0.19+	-0.06
	(0.11)	(0.10)	(0.10)
Associate/Bachelor degree	0.05	-0.14+	-0.12
	(0.10)	(0.09)	(0.09)
Advanced degree	0.00	0.00	0.00
Age	0.01**	0.00+	0.00+
	(0.00)	(0.00)	(0.00)
Gender			
Male	0.00	0.00	0.00
Female	0.10	0.08	-0.01
	(0.07)	(0.06)	(0.06)
Not listed	0.93	0.85	-0.47
	(1.17)	(0.62)	(1.09)
Ideology	-0.07**	-0.03*	-0.03
	(0.02)	(0.02)	(0.02)
Race/Ethnicity			
White	0.00	0.00	0.00
Black	-0.16	-0.10	0.05
	(0.10)	(0.09)	(0.10)
American Indian or Alaskan Native	-0.54*	-0.26	-0.19
	(0.23)	(0.20)	(0.21)
Asian	-0.12	-0.16	-0.22
	(0.15)	(0.14)	(0.15)
Native Hawaiian or Pacific Islander	1.14+	0.50	0.21
	(0.67)	(0.48)	(0.36)
Other	0.14	-0.23	-0.09
	(0.23)	(0.20)	(0.22)
Hispanic/Latino	0.09	0.14	0.00
	(0.10)	(0.09)	(0.09)
Income	0.06	0.00	0.03
	(0.03)	(0.03)	(0.03)
Constant	3.66**	3.65**	3.43**
	(0.19)	(0.17)	(0.17)
Obs.	1305	1373	1294
R^2	0.051	0.025	0.015

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < .01$

Table 6: Estimated effect of treatment on perceived knowledge of Climate Scientists about COp21 by Party ID.

	Democrats	Independents	Republicans
	Issue knowledge	Issue knowledge	Issue knowledge
Treatment			
Control	ref.	ref.	ref.
Oppose	0.113	-0.046	-0.068
	(0.177)	(0.141)	(0.194)
Split	0.228	0.016	-0.044
	(0.185)	(0.133)	(0.205)
Support	0.049	0.168	-0.192
	(0.166)	(0.132)	(0.198)
Education			
Up to HS diploma	-0.051	-0.331*	-0.068
	(0.211)	(0.165)	(0.267)
Some college	0.136	0.099	0.146
	(0.211)	(0.159)	(0.249)
Associate/Bachelor degree	0.089	0.112	-0.046
	(0.193)	(0.138)	(0.209)
Advanced degree	ref.	ref.	ref.
Age	0.004	0.018**	0.001
	(0.004)	(0.003)	(0.004)
Gender			
Male	ref.	ref.	ref.
Female	0.094	-0.001	0.102
	(0.127)	(0.094)	(0.146)
Not listed	1.203		
	(1.180)		
Race/Ethnicity			
White	ref.	ref.	ref.
Black	-0.220	-0.197	-0.388
	(0.246)	(0.123)	(0.382)
American Indian or Alaskan Native	-0.308	-0.489	-0.725^{+}
	(0.456)	(0.351)	(0.434)
Asian	-0.024	-0.135	-0.274
	(0.274)	(0.213)	(0.387)
Native Hawaiian or Pacific Islander	1.206	0.681	1.056
	(1.179)	(1.084)	(1.258)
Other	0.216	0.692^{+}	-0.039
	(0.351)	(0.389)	(0.743)
Hispanic/Latino	-0.085	0.109	0.249
	(0.191)	(0.144)	(0.262)
Income	0.100	-0.053	0.174*
	(0.063)	(0.049)	(0.081)
Constant	3.430**	3.481**	3.314**
	(0.326)	(0.252)	(0.389)
Obs.	377	546	325
R^2	0.038	0.112	0.048

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < .01$

6.3 Perceptions of COP21 helping U.S.

Table 7: Estimated effect of treatment on perceptions of COP21 helping U.S. without demographic controls

	All	Climate Science	Int'l Relations	Int'l Econ.
	COP21 Helps U.S.	COP21 Helps U.S.	COP21 Helps U.S.	COP21 Helps U.S.
Treatment				
Control	0.00	0.00	0.00	0.00
Oppose	-0.34**	-0.55**	-0.29*	-0.20
	(0.09)	(0.14)	(0.13)	(0.14)
Split	0.04	0.28*	-0.11	-0.02
	(0.09)	(0.14)	(0.13)	(0.14)
Support	0.09	0.16	0.09	0.03
	(0.09)	(0.13)	(0.13)	(0.14)
Constant	4.56**	4.56**	4.56**	4.56**
	(0.06)	(0.07)	(0.06)	(0.06)
Obs.	2700	1366	1430	1360
R^2	0.009	0.020	0.005	0.002

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < .01$

Table 8: Estimated effect of treatment on perceptions of COP21 helping U.S. with demographic controls.

	All	Climate Science	Int'l Relations	Int'l Econ.
	COP21 Helps U.S.	COP21 Helps U.S.	COP21 Helps U.S.	COP21 Helps U.S.
Treatment				
Control	0.00	0.00	0.00	0.00
Oppose	-0.31**	-0.48**	-0.24*	-0.22+
	(0.09)	(0.13)	(0.12)	(0.13)
Split	0.02	0.19	-0.03	-0.13
	(0.09)	(0.13)	(0.12)	(0.13)
Support	0.10	0.06	0.22+	0.00
	(0.09)	(0.13)	(0.12)	(0.13)
Education				
Up to HS diploma	-0.26*	-0.15	-0.29+	-0.30+
	(0.11)	(0.16)	(0.15)	(0.15)
Some college	-0.22*	-0.29+	-0.20	-0.15
	(0.11)	(0.15)	(0.15)	(0.15)
Associate/Bachelor degree	-0.15	-0.05	-0.16	-0.01
	(0.09)	(0.14)	(0.13)	(0.13)
Advanced degree	0.00	0.00	0.00	0.00
Age	-0.01**	-0.01**	-0.01**	-0.01**
	(0.00)	(0.00)	(0.00)	(0.00)
Gender				
Male	0.00	0.00	0.00	0.00
Female	0.05	0.13	0.06	0.11
	(0.06)	(0.09)	(0.09)	(0.09)
Not listed	-1.11	0.46	-1.15	0.16
	(0.93)	(1.62)	(0.92)	(1.59)
Ideology	-0.35**	-0.37**	-0.38**	-0.41**
	(0.02)	(0.03)	(0.03)	(0.03)
Race/Ethnicity				
White	0.00	0.00	0.00	0.00
Black	0.12	-0.00	0.25+	-0.04
	(0.10)	(0.14)	(0.13)	(0.14)
American Indian or Alaskan Native	-0.54*	-1.04**	-0.26	-0.89**
	(0.25)	(0.32)	(0.30)	(0.31)
Asian	0.05	0.12	0.06	-0.34
	(0.15)	(0.21)	(0.20)	(0.22)
Native Hawaiian or Pacific Islander	-0.13	0.74	0.14	-0.00
	(0.49)	(0.94)	(0.71)	(0.53)
Other	0.34	0.03	0.15	-0.06
	(0.25)	(0.32)	(0.30)	(0.32)
Hispanic/Latino	0.18+	0.05	0.17	0.15
	(0.10)	(0.14)	(0.13)	(0.13)
Income	0.03	0.03	0.02	0.01
	(0.03)	(0.05)	(0.05)	(0.05)
Constant	6.49**	6.60**	6.58**	6.78**
	(0.19)	(0.26)	(0.25)	(0.25)
Obs.	2594	1315	1380	1297
R^2	0.160	0.179	0.176	0.201

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < .01$

6.4 Perceptions of EC support for COP21

Table 9: Estimated effect of treatment on perceptions of EC support for COP21 without demographic controls

	Climate Science	Int'l Relations	Int'l Econ.
	EC Support	EC Support	EC Support
Treatment			
Control	0.00	0.00	0.00
Oppose	-17.26**	-7.17**	-10.09**
	(2.09)	(1.82)	(1.96)
Split	-0.56	-2.75	-3.90+
	(2.13)	(1.81)	(1.99)
Support	0.42	2.67	0.96
	(2.04)	(1.89)	(1.94)
Constant	73.84**	61.36**	56.77**
	(0.99)	(0.91)	(0.93)
Obs.	1366	1430	1360
R^2	0.052	0.015	0.022

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < .01$

Table 10: Estimated effect of treatment on perceptions of EC support for COP21 with demographic controls.

	Climate Science	Int'l Relations	Int'l Econ.
	EC Support	EC Support	EC Support
Treatment			
Control	0.00	0.00	0.00
Oppose	-17.03**	-8.51**	-10.60**
	(2.65)	(2.26)	(1.99)
Split	-0.25	-3.52	-3.83+
	(2.67)	(2.23)	(2.04)
Support	0.01	3.11	0.73
	(2.60)	(2.29)	(1.97)
Education			
Up to HS diploma	-3.84	-11.35**	-4.60+
	(3.32)	(2.84)	(2.43)
Some college	-2.28	-7.02*	-3.68
	(3.23)	(2.75)	(2.33)
Associate/Bachelor degree	-0.22	-7.68**	-1.28
	(2.82)	(2.42)	(2.07)
Advanced degree	0.00	0.00	0.00
Age	0.18**	0.08	0.01
	(0.06)	(0.05)	(0.04)
Gender			
Male	0.00	0.00	0.00
Female	1.59	-0.60	-0.71
	(1.92)	(1.63)	(1.41)
Ideology	-0.34	-0.50	-0.92*
	(0.56)	(0.48)	(0.41)
Race/Ethnicity			
White	0.00	0.00	0.00
Black	-3.29	3.58	4.53*
	(2.94)	(2.51)	(2.25)
American Indian or Alaskan Native	-17.39*	6.28	-2.18
	(7.43)	(5.82)	(4.90)
Asian	-2.97	-3.93	-5.86+
	(4.28)	(3.76)	(3.38)
Native Hawaiian or Pacific Islander	-47.74+	2.74	14.77+
	(27.34)	(14.09)	(8.34)
Other	-5.57	-4.64	-1.03
	(7.16)	(5.70)	(4.97)
Hispanic/Latino	3.06	4.48+	0.39
	(3.17)	(2.53)	(2.10)
Income	0.41	1.27	2.23**
	(0.99)	(0.85)	(0.74)
Not listed		15.28	-34.86
		(17.22)	(24.89)
Constant	67.51**	64.23**	56.81**
	(5.48)	(4.69)	(3.97)
Obs.	847	922	1297
R^2	0.092	0.065	0.052

Standard errors in parentheses
+ $p < 0.10$, * $p < 0.05$, ** $p < .01$