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Toward Surmounting the Psychological Barriers to Climate Policy—Appreciating Contexts and Acknowledging Challenges: A Reply to Weber (2018)

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Abstract
The authors acknowledge and respond to three concerns raised by Weber (2018) about oversimplifying psychological barriers to climate policy. First, skepticism about climate change remains a major barrier to climate policy, along with political partisanship. Second, recognizing multifaceted barriers to climate policy calls for multiple targeted interventions to be implemented at critical junctures. Finally, translating pro-environmental attitudes into action requires an appreciation of proximate sociopolitical contexts and cultures. Rather than a one-size-fits-all approach, psychological scientists are well equipped to understand and address the complex barriers to climate policy within the natural flow of everyday social life.

Keywords
climate change, environment, social cognition, judgment, intergroup relations, attitudes, application, policy

There are two versions of reply to Weber's (2018) thoughtful and insightful commentary on our article "Psychological Barriers to Bipartisan Support for Climate Policy." The short reply is: Yes, we agree with nearly everything Weber said. The longer reply is that Weber's comments highlight the risks of oversimplifying the multiplicities of psychological barriers to climate policy.

In our original article (Van Boven, Ehret, & Sherman, 2018; this issue), we suggested that similar partisan processes among Democrats and Republicans—the tendencies to place party over policy and to exaggerate partisan opposition—pose difficult yet surmountable barriers to climate policy. We examined these suggestions with studies surveying large and diverse samples of Americans and with an experiment concerning hypothetical carbon-pricing policies (based on genuine carbon-pricing policies) that were described to participants as having been proposed and supported by the vast majority of Democratic or Republican members of Congress. Weber's comments reorient the discussion toward current social-political realities when analyzing barriers to climate policy. Three themes in Weber's comments are particularly worthy of elaboration.

Climate-Change Skepticism Still Matters

First, Weber's overarching reservation was that we had trivialized concerns about climate-change skepticism: "the authors seem to imply that climate-change skepticism is no longer an issue" (p. 510). We agree in the strongest possible terms that climate-change skepticism continues to pose a barrier to climate policy and that social-behavioral scientists must continue to study the nature of skepticism and how to reduce it. Weber also noted that the fraction of Democrats and Republicans in our two surveys who expressed at least some degree of belief in climate change, as indicated by agreement with statements about the reality of anthropogenic climate change, decreased slightly from 2014 to 2016. We hesitate to draw inferences about trends on the basis of two samples that were only 2 years apart. The two samples may not be directly comparable given that they

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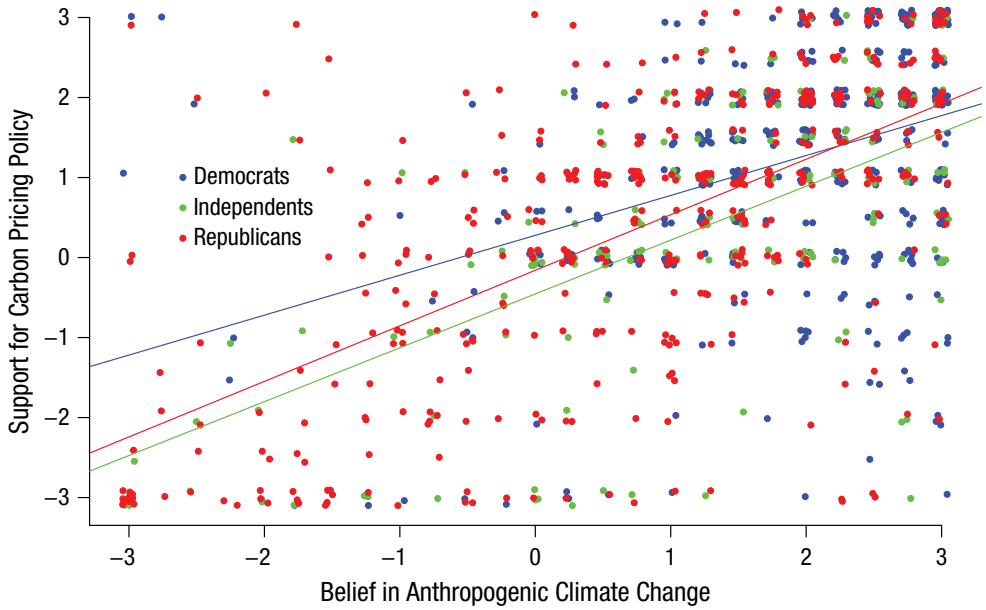

Fig. 1. The scatterplot (with best-fitting regression lines) shows the relationship between support for climate policy and belief in anthropogenic climate change for Democratic, independent, and Republican respondents. Belief in climate change is expressed as the average agreement with statements asserting that climate change is happening; that climate change poses a risk to human health, safety, and prosperity; that human activity is responsible for recent climate change; and that reducing greenhouse gas emissions will reduce climate change (−3 = *strongly disagree*, 0 = *neither agree nor disagree*, +3 = *strongly agree*). Support for climate policy is expressed as the average agreement with statements that respondents personally agreed with the policy proposal, either of a cap-and-trade program or revenue-neutral carbon tax, and that they would support legislation based on the proposal (−3 = *strongly disagree*, 0 = *neither agree nor disagree*, +3 = *strongly agree*).

were collected by different firms, conducted against the backdrop of different questions not directly related to climate change, and conducted in different political contexts. In more directly comparable surveys conducted by Gallup, belief in climate change has steadily increased over time, although some of the overall increase is attributable to strengthened belief among Democrats (Brenan & Saad, 2018; Saad, 2017). Nevertheless, skepticism about climate change remains a serious barrier to climate-change policy—particularly when climate skeptics occupy positions of power and influence in government and industry.

Our point was that the majority of people in the United States—including Democrats, Republicans, and independents—do believe in anthropogenic climate change and that other important barriers to public support for climate policy may be underappreciated by social-behavioral scientists. We found in our studies that political opposition to climate policy, over and above partisan differences in climate-change belief, is largely attributable to the tendency to place party over policy and to exaggerate norms of partisan opposition (Cohen, 2003; Ehret, Van Boven, & Sherman, 2018; Van Boven et al., 2018).

The importance of both climate-change belief and of partisanship is evident in our 2014 panel experiment. Figure 1 plots the relationship between average belief in climate change and support for the climate policy (either cap-and-trade or revenue-neutral carbon tax, depending on the condition to which participants were assigned). Belief in climate change strongly predicted overall support for climate policy for Democrats (n = 458), η_p^2 = .15, b = 0.50, $SE(b)$ = 0.05; independents (n = 165); η_p^2 = .39, b = 0.67, $SE(b)$ = 0.07; and Republicans (n = 433), η_p^2 = .40, b = 0.69, $SE(b)$ = 0.04. Of course, given that these results are correlational, it is plausible that opposition to climate policies reduces belief in climate change rather than that skepticism about climate change reduces support for climate policy, a pattern of "solution aversion" (Campbell & Kay, 2014). Whatever the causal direction, many respondents who believed in climate change were unenthusiastic about the carbon pricing policy (Fig. 1, lower right quadrant).

What accounts for politically polarized support for climate policy beyond partisan differences in belief in climate change? To analyze this question, we saved the residuals from a regression model in which support for climate policy was estimated from belief in climate

change, $\eta_p^2 = .35$, $b = 0.66$, $SE(b) = 0.03$, $p < .001$ (Fig. 1). These residuals represent the variability in respondents' support for climate policy that is not accounted for by their climate-change belief. We then estimated those residuals from our party-over-policy predictors from our original article. The party-over-policy effect, as reflected by the interaction between respondent party identification and whether the policy was proposed by Democratic or Republican politicians, was a highly significant predictor of residual policy support, $\eta_p^2 = .04$, $b = 1.19$, $SE(b) = 0.18$, $p < .001$.[1] Neither respondent party identification, $\eta_p^2 < 0.01$, $b = -0.12$, $SE(b) = 0.09$, $p = .18$, nor partisan framing, $\eta_p^2 < 0.001$, $b = -0.04$, $SE(b) = 0.08$, $p = .59$, predicted residual policy support. These results indicate that the tendency to place party over policy—but not simply partisan identification or whether Democratic or Republican members of Congress introduced the policy—continues to influence support for climate policy even after accounting for belief in climate change.

How large or small is the tendency to place party over policy? Might it actually influence political outcomes such as climate policy initiatives? On ballots, voters have options of yes, no, or abstain. Accordingly, we categorized respondents as supporting, opposing, or neutral toward the climate policy, as indicated by measures of support that were above, below, or equal to the scale midpoint. Among Republican respondents, 39% (82 of 212) opposed climate policies proposed by Democratic politicians (and opposed by Republican politicians), whereas 21% (46 of 221) opposed policies proposed by Republican politicians (and opposed by Democratic politicians). Among Democrats (who, as Weber noted, were generally more supportive of climate policies), opposition was reduced from 16% (35 of 221) when Republicans proposed the policy to 7% (18 of 237) when Democrats proposed the policy.[2] Thus, when a policy was proposed by the respondents' own party, opposition to climate policy was halved among both Democrats and Republicans. It is not unreasonable to suggest that such reductions in opposition could influence electoral outcomes.

Multifaceted Problems Require Multiple Interventions

A second theme in Weber's comment was a concern that calling for interventions to address the tendency to place party over policy may have minimized the importance of other actions.

> [T]he observation that partisanship-motivated cognition and an exaggerated belief in partisanship add to the problem does not invalidate any of the previously identified cognitive or motivational barriers. As with most stable behavioral phenomena, political inaction in the face of climate-change risk is multiply determined. (p. 510)

We agree. Multiple psychological processes not only call for multiple approaches, but different psychological processes and approaches may be most relevant to different people at different times.

A serious consideration of different processes for different groups of people highlights the necessity of understanding the sociopolitical structures in which climate policies are considered. By identifying key points of resistance, researchers can better understand the psychology of resistance, which would allow targeted approaches aimed at the most relevant subsets of people at the most relevant junctures.

As an illustration of identifying critical points of resistance, consider the experience of Representative Robert Inglis. After Inglis had publicly expressed belief in climate change and voiced support for a carbon-pricing policy, he was soundly defeated in the 2010 South Carolina Republican primary. In response to hearing about our findings, Inglis commented that the kinds of large and diverse samples in our studies might be nice scientifically, but real political outcomes are swayed by a much smaller segment of the electorate:

> We had a particular talk show host who was just hard over against me. I kept whistling past the cemetery thinking that it's a small segment, that real voters will come out and these are just—No, no, no. They *were* the real voters. They were the 18% who cared enough to show up. . . . If you're a politician, you are very attuned to who actually shows up to vote in primaries. . . [I]f politicians were at liberty to be themselves, they'd be far more reasonable, and they realize that the public is more reasonable than the activists [who turnout in primaries]. (Robert Inglis, personal communication, May 31, 2016)

Political outcomes and public discourse, in other words, are shaped at critical junctures such as election primaries by political "activists," not by the general population of Democrats and Republicans (Zaller, 1992). Recognizing the outsized impact of activist opponents to climate policy is similar to the recognition that a small fraction of patients imposes outsized costs on the health-care system (Hempstead, DeLia, Canto, Nguyen, & Brenner, 2014). And just as interventions targeted at reducing costs among those high-utilization patients disproportionately reduce overall costs, reducing the impact of activist opponents might disproportionately reduce overall resistance to climate policy.

This can be achieved by increasing overall voter turnout (Green & Gerber, 2015), so that the primary electorate better reflects the broader range of support for climate-change policies, and by targeted approaches that could offset resistance to climate policy among the small segment of voters who turn out in election primaries—the "real voters" in Inglis's example.

Recognizing that small pockets of resistance can impede action on climate change also implies that resistance can be overcome by relatively small countervailing forces among climate-policy advocates. If 18% of the most extreme opponents (presumably those red dots at the lower left of Fig. 1) can defeat a Republican who expresses belief in climate change and supports carbon pricing, then relatively small increases in turnout among Republican climate-policy advocates (those red dots at the upper right of Fig. 1) could offset such resistance. Transforming a "stuck" sociopolitical system from inaction to action can be accomplished by simultaneously reducing restraining forces and increasing compelling forces (Lewin, 1947).

How might we think about using a structural analysis to target groups of opposition to and advocacy for climate policy? An exemplary illustration of social-network-based interventions, albeit outside the domain of climate policy, comes from Paluck and colleagues' studies of reducing bullying in schools (Paluck & Shepherd, 2012; Paluck, Shepherd, & Aronow, 2016). They used social-network analyses to identify key social referents, individuals who were highly connected and salient within students' social networks. They intensively targeted interventions to change those social referents' attitudes and behaviors. Social referents were further invited to make public presentations against bullying and harassment. These interventions with social referents changed students' perceptions of broader social norms and reduced the harassment behaviors both within the social referents' close networks and in the broader social networks. This social network approach to targeted interventions illustrates how changing the behavior of those in key positions of influence can bring about broader changes within larger communities.

Anecdotal evidence suggests it is possible to implement interventions using social networks and social referents in the context of climate action. Consider the example of the Southeast Florida Regional Climate Action Program (http://www.southeastfloridaclimatecompact.org/) described by Kahan (2015). The program works with local Democratic and Republican politicians, who are key social referents in their communities, to mitigate pressing impacts of climate change such as rising sea levels and flooding. By focusing on local challenges and avoiding culturally loaded language surrounding climate change (Kahan, 2015), scientists working with this program are able to identify key social referents, provide them with scientific information to guide behavior, and thereby influence broader descriptive and prescriptive norms about mitigating the consequences of climate change.

A related approach would identify subgroups of individuals who are directly affected by, and hence highly motivated to mitigate, the impacts of climate change. One such subgroup is low-education conservatives, who, across two data sets, were more supportive of environmental policies and spending, even if it came at the expense of jobs, than were high-education conservatives (Ehret, Sparks, & Sherman, 2017). Conservatives with lower educational attainment were less aligned with prevailing party norms on climate change partly because they were less attuned to partisan media sources. A *New York Times* article illustrated how this might be accomplished among farmers making proenvironmental decisions to cope with the changing climate but assiduously avoiding talk of climate change. As said by one politically conservative farmer who is taking steps to mitigate the consequences of climate change, "If politicians want to exhaust themselves debating the climate, that's their choice. . . . I have a farm to run" (Tabuchi, 2017).

Translating Environmental Attitudes Into Action

That the behaviors of these (unintentional) activists on ocean shores and fields of grain are exceptional rather than ordinary makes salient a third theme in Weber's remarks: "'belief' in climate change . . . has not necessarily translated into greater action, even at the individual level, at which partisan opposition is not a factor" (p. 510). It must be said that in our original article, measures of support for climate policy were not measures of concrete behaviors to support such policies, and measures of willingness to send e-mails are not measures of spontaneous climate action. Even if most people believe in climate change, and even if interventions might reduce negative partisan reactions, what can be done to translate attitudes into action?

This question relates to a larger point. One of the central challenges of social climate science is to understand how the connections between attitudes and actions are affected by the intragroup, intergroup, and larger societal factors that shape their psychological realities (Pearson, Schuldt, & Romero-Canyas, 2016). Doing so requires a multilevel approach, with an appreciation, for example, of cultural factors (Eom, Kim, Sherman, & Ishii, 2016; Tam & Chan, 2017), socioeconomic status (Eom, Kim, & Sherman, 2018, Pearson &

Schuldt, in press), partisan identities (Ehret et al., 2018; Van Boven et al., 2018), and situational factors such as whether environmental action is visible or not (Brick, Sherman, & Kim, 2017; Griskevicius, Tybur, & Van den Bergh, 2010).

Of paramount importance, then, is an appreciation of local contexts. From a theoretical perspective, an emphasis on local contexts recognizes that proximate concerns shape psychological realities more than distal concerns. From a practical perspective, the national stalemate on climate policy implies that, at least for the near future, meaningful climate policy will happen at the state and regional levels. We sought to investigate psychological forces in a local context, for example, by examining whether people placed party over policy on one particular state-level carbon-tax policy during the 2016 election in the state of Washington (Ehret et al., 2018). The impact of partisan support by political elites such as party leaders and partisan organizations on voters' policy preference was driven largely by participants' beliefs about how their partisan peers would react to the policy. As in the findings reported in Van Boven et al. (2018), people thought their peers would be swayed by partisan cues, which influenced how much people themselves were swayed by those cues. "All politics is local," the saying goes, and that is as true in Washington as it is in South Carolina, Florida, and elsewhere.

Conclusion

It strikes us that psychological scientists often treat concerns about generalizability and relevance as applying to broad swaths of the population. Such concerns are reflected in the emphasis, including in our own studies, on large nationally diverse samples. But we should take seriously the structural analysis of resistance to and advocacy for climate action. Former Representative Inglis undoubtedly appreciates the importance of 18% of Republican primary voters who voted him out of office.

For these pockets of influence, generalizability and relevance might apply to a narrow band of highly influential individuals. Identifying and targeting those individuals is hard work. They are difficult to access, much less to sample in large numbers. And studies of local social contexts and their particular structures may not be easily open to direct replication.

The time and effort required to interview the four politicians in Van Boven et al. (2018) was similar to the time and effort required to field two large surveys. Yet the insights and ideas gleaned from discussing sociopolitical psychology with politicians are uniquely valuable. It is clear that understanding local contexts—the attitudes and behaviors of pockets of resistance and advocacy—is necessary to build comprehensive approaches to understand psychological barriers to climate policy. We are reminded of an insightful essay by Rozin (2001), who encouraged psychological scientists to "learn from anthropologists, political scientists, and sociologists to keep their eyes on the 'big social phenomena,' and to situate what they study in the flow of social life" (p. 12).

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Notes

1. As in the analysis reported in Van Boven et al. (2018), respondents supported the revenue-neutral carbon tax more than the cap-and-trade policy, $\eta_p^2 = .02$, $b = 0.315$, $SE(b) = 0.08$, $p < .001$.
2. Among Republicans, 68% supported the policy when Republican politicians proposed it, whereas only 49% supported the policy when Democratic politicians proposed it. Among Democrats, 83% supported the policy when Democratic politicians proposed it, whereas 68% supported the policy when Republicans politicians proposed it.

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