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Hahnel, Ulf; Brosch, Tobias

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COMMENTARIES

Seeing Green: A Perceptual Model of Identity-Based Climate Change Judgments

Ulf J. J. Hahnel and Tobias Brosch

Q1 Department of Psychology and Swiss Center for Affective Sciences, University of Geneva, Geneva, Switzerland

> We are the first generation to feel the effect of climate change and the last generation who can do something about it. — Barack Obama (September 23, 2014).

> This very expensive global warming bullshit has got to stop. Our planet is freezing, record low temps, and our GW scientists are stuck in ice. — Donald Trump (January 1, 2014)

Q2

Are they talking about the same planet? These statements of two leading U.S. politicians about the reality of climate change and what we should do about it are so different from each other that one might assume they are not. However, Barack Obama and Donald Trump are referring to the exact same planet, time period, and issue, thus providing a drastic illustration of how our perception may be influenced by individual interpretations.

The scientific evidence for climate change is robust: It is highly likely that climate change is happening, is caused by humans, and will impact our everyday lives (Intergovernmental Panel on Climate Change, 2014). However, individuals fundamentally diverge in the extent to which they believe that climate change is real and has an impact on mankind, leading to substantial societal polarization (Hoffman, 2011, McCright & Dunlap, 2011a, 2011b). In the United States, for instance, citizens' views on climate change are highly divergent, resulting in two extreme poles of climate change beliefs: One agrees with the existence of climate change, whereas the other disagrees that climate change is happening at all. Similarly, the first one is more likely to believe that climate change is man-made, whereas the latter one believes that climate change is a natural process, independent of human activity (Leiserowitz, 2006; Weber & Stern, 2011).

The two epigraphs furthermore illustrate the link between political group identity and climate change perception. Barack Obama, member of the U.S. Democratic Party (encouraging liberal ideology) emphasizes the existence of climate change and the urgent need to act. Donald Trump, member of the U.S. Republican Party (encouraging conservative ideology), denies any existence of climate change and the need to act at all. These positions are consistent with the beliefs and concerns of other politicians and citizens supporting these parties: Liberal citizens and politicians are more likely to believe that climate change is existent and caused by humans. They are more concerned that climate change will affect their quality of life. Conservatives are more likely to deny the existence of climate change and anthropogenic influences. They are less concerned about potential impacts of climate change on their lives (McCright, Dunlap, & Xiao, 2014).

How can we explain this powerful link between political identity and the perception of climate change? Do people flock to one specific party depending on their existing perception of climate change? Or does the membership in a specific political group influence one's perception of such a critical issue? The perceptual model of intergroup relations (Xiao, Coppin, & Van Bavel, this issue) provides a theoretical explanation for the impact of social group identity on one's perceptions and judgments of other people. In their framework, basic situational perception takes on a mediating role between social group identity and intergroup judgments and decisions. Accordingly, social group identity influences how group members perceive and interpret certain objects and situations, having the potential to polarize the perception of in-group versus out-group members. These altered perceptions, in turn, may influence intergroup judgments and decisions.

In the contribution presented here, we evaluate to what extent a similar approach may be applied to the climate change domain. We characterize potential psychological mechanisms behind the influence of political group identity on climate change judgments and actions. Inspired by the perceptual model of intergroup relations (Xiao et al., this issue), we attach particular importance to the factor of basic situational perception, which acts as a mediator between political identity and climate change judgments and actions. A core assumption of our model is that political group identity influences whether events associated with climate change (such as temperature anomalies and their consequences) are perceived as invasive, intense, aggravating, unnatural, and eventually a reason to act. Perception is thus expected to be one of several psychological processes that tie group identity to climate change judgments and actions.

Figure 1 illustrates the proposed pathways by which political group identity may act on information selection and perception as well as judgment and decision making in the climate change domain. As illustrated by the first pathway, political group identity may affect which situations and information sources group members are selectively exposed to (Path A; Krosnick Holbrook, & Visser, 2000; McCright, 2010). The second pathway reflects the premise that political group identification influences group members' situational perception of climate change–associated events and information (Path B). That is,

CONTACT Ulf J. J. Hahnel ulf.hahnel@unige.ch Consumer Decision and Sustainable Behavior Lab, Department of Psychology, University of Geneva, Boulevard du Pont d'Arve 40, 1205 Geneva, Switzerland.

Q3

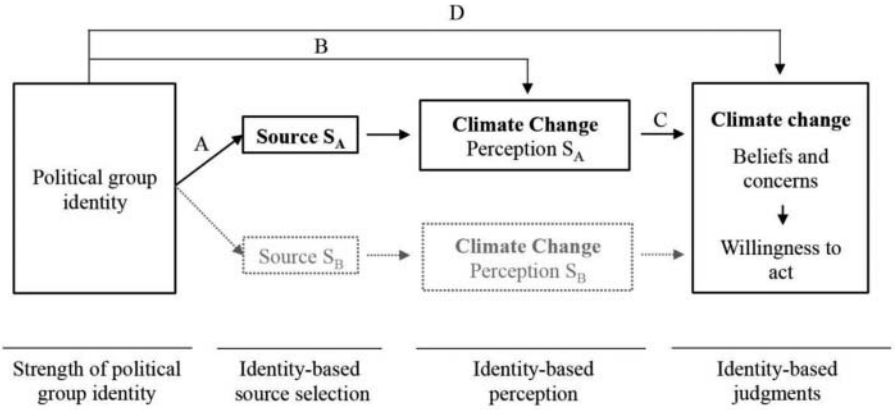

Figure 1. Proposed model depicting the perceptual processes linking political group identity to climate change judgments (based on Xiao et al., this issue). *Note*. Political identity affects selection of information sources (Path A), perception of relevant information (Path B), and judgments regarding climate change (Path D). Identity-based perception mediates the impact of group identity on judgments (Paths ABC, BC).

the fact that a person categorizes oneself as affiliated to a political group that firmly acknowledges/denies climate change should affect to what extent this person perceives temperature rise as intense or unpleasant, melting glaciers and droughts as unnatural, or extreme storms as increasing in frequency. Important to note, we assume that the influence of political group identity on these perceptions is not only driven by differences in psychological factors such as values or personality traits between the groups. Rather, political group identity is predicted to have an *incremental* and *unique* impact on perception that may even be larger than the influence of individual traits or ideology (see also Hornsey, Harris, Bain, & Fielding, 2016). Path C reflects the premise that the perception of climate change–associated events may influence group members' elaborations of climate change threat, concerns, beliefs, and eventually their willingness to act (see also Xiao et al., this issue).

By integrating these paths, we propose a new perspective on climate change–related perception, judgment, and decision making by pointing out a potential missing link in the previous climate change literature. In our model, basic mechanisms of perception serve as a potential mediator between political group identity and climate change judgments, as well as people's willingness to act (Path BC). Previous studies focused mainly on the direct path between political identity and climate change judgments and decision (Path D), bypassing the mediating processes. This line of research has mainly applied a loose definition of the term *perception*, referring to risk estimations, personal experiences, attitudes, beliefs, and concerns associated with climate change (for an overview, see Weber, 2015).

We also employ a definition of perception that goes beyond rudimentary perceptual processes and encompasses attentional processes, expectations, and inferences (see also Xiao et al., this issue). However, we conceptually distinguish situational perception from more abstract climate change beliefs and concerns. As the global concept of climate change is not perceptually accessible, local, proximal events serve as indicators of this latent concept. These symptoms of climate change can be perceived: One can feel hot temperatures, see drought-suffering landscapes, or hear thunderstorms blazing through the country. In contrast, climate change beliefs and concerns, such as general concerns about the future impact of climate change or beliefs about its causes, refer to a global, abstract concept. In our model, general climate change concerns and beliefs are influenced by the perception of local climate change indicators (Path C). Both perception and climate change beliefs and concerns are expected to influence the willingness to mitigate climate change (see also Hornsey et al., 2016).

In the remainder of this contribution, we evaluate to what extent the empirical literature is consistent with the framework proposed in Figure 1. To this end, we first provide an overview of the literature on the general cognitive, motivational, and affective differences linked to differences in political ideology. Afterward, we discuss empirical work that has investigated the influence of political group identity on climate change judgments (Path D). Subsequently, we outline research on the link between identity and basic situational perception (Path B), as well as on the influence of these perceptual processes on elaborated climate change judgments (Path C). In each section, we evaluate to what extent the existing evidence supports our model but also point out where evidence is only indirect or missing completely, thus pointing out areas that need further research. In doing so, we hope to stimulate more research at the intersection of basic perception and climate change research.

Political Identity

Political identity has been shown to be a powerful determinant of group-specific perception, judgment, and action across various domains. Affiliation to a political group may have a stronger impact on judgments than political ideology alone: Signaling political group members that their respective party supports a certain policy rendered group members more likely to agree to this policy (G. L. Cohen, 2003). The impact of group identity on judgments was substantial, even larger than the influence of the policy's objective content and participants' personal ideology. Participants were not aware, however, of the impact of their group identity on their judgments. This supports the assumption that the explicit identification with a certain social group intensifies the alignment in direction of the respective group's worldviews (Xiao et al., this issue). That is, effects of political identity cannot be explained by variations in ideology, values, or personality traits between groups alone.

For centuries, the bipolar distinction between opposite political poles has been deeply anchored in numerous cultures. The

classic "left–right" definition is becoming increasingly substituted by the "conservative–liberal" terminology, with conservatism being associated with terms such as *nationalism*, *maintenance*, *order/hierarchy*, and *individualism* and liberalism with *change*, *socialism*, *equality*, and *progressiveness* (Jost, Federico, & Napier, 2009). These differences are to a large extent based on differential responding toward uncertainty, complexity, and threat sensitivity (see, e.g., Jost et al., 2009; Jost, Nosek, & Gosling, 2008; Khan, Misra, & Singh, 2013). A pattern that has been confirmed across multiple countries indicates that liberalism is more strongly associated with openness to cognitive complexity and tolerance of uncertainty, whereas conservatism is positively related to intolerance of ambiguity, fear of threat and loss, and need for stability (Jost, Glaser, Kruglanski, & Sulloway, 2003a, 2003b).

Given the fundamental motivational and cognitive differences between liberals and conservatives, it is thus not surprising that the centrality of core values (Brosch & Sander, 2016) differs between members of these political groups. Liberals attach more importance to universalism and benevolence values. Conservatives, in turn, are more likely to rely on security, conformity, and tradition values (Caprara, Schwartz, Capanna, Vecchione, & Barbaranelli, 2006). However, the amount of variance in political identity explained by personality traits and values is relatively small, illustrating that political identity goes beyond a mere representation of personality traits and values. Supporting this assumption, political identity was found to be more stable than political values across time (Goren, 2005) and suitable to explain variance in decisions over and above the contribution of values (Hornsey et al., 2016; Leiserowitz, 2006). Previous research in the environmental domain has frequently focused on values, demonstrating that environmental values are important determinants of decisions in this domain (e.g., Steg, Perlaviciute, van der Werff, & Lurvink, 2014; Stern, Dietz, Abel, Guagnano, & Kalof, 1999; Verplanken & Holland, 2002). Given the unique contribution of political identity on decision making just outlined, it seems important to also address the impact of political identity on perceptions, judgments, and actions in the climate change domain.

What makes political identity such a powerful factor? Political identity is deeply anchored in group members' affect, motivation and cognition. It has its roots in early childhood. Parents' authoritarian attitudes that children were exposed to during their 1st month of childhood predicted children's conservative attitudes at age 18 (Fraley, Griffin, Belsky, & Roisman, 2012). These early influences may affect moral worldviews, as well as basic perceptions. For instance, moral foundations theory (Graham et al., 2011) emphasizes the existence of five moral core intuitions that determine moral concerns and judgments: Harm/Care, Fairness/Reciprocity, Ingroup/Loyalty, Authority/Respect, and Purity/Sanctity (Graham et al., 2011). The moral relevance attached to a given situation has been shown to differ between liberals and conservatives as a function of the different moral pillars endorsed by members of the different political groups: Liberals mainly endorse and use Harm/Care and Fairness/Reciprocity foundations, whereas conservatives equally rely on all five moral foundations (Graham, Haidt, & Nosek, 2009; Graham et al., 2011; Iyer, Koleva, Graham, Ditto, & Haidt, 2012). Moreover, conservatives are relatively more sensitive to physical disgust (Inbar, Pizarro, & Bloom, 2009; Inbar, Pizarro, Iyer, & Haidt, 2012), an emotional sensation that has been linked to moral judgments (Schnall, Haidt, Clore, & Jordan, 2008). First studies provided evidence that differences in the moral intuitions between political group members alter the influence of environmental messages on subsequent judgments. Neutral messages or messages framed in terms of Harm/Care, which emphasize the harm and destruction that humans are causing to the environment, resulted in stronger environmental attitudes and climate change judgments among liberals but not among conservatives. However, framing environmental messages in terms of Purity/Sanctity, by emphasizing how environmental pollution may contaminate the purity of nature, diminished the observed differences in environmental attitudes and climate change judgments between liberals and conservatives. These effects were mediated by feelings of disgust, which were more intense among conservative participants as compared to liberal participants in the Purity/Sanctity framing condition (Feinberg & Willer, 2013).

The influence of political identity on judgments is likely to increase with the strength of political identification. Thus, in accordance with the ideological-extremism hypothesis, firm supporters of both political poles hold stronger beliefs about the superiority of their own positions as compared to moderate or indecisive individuals (Toner, Leary, Asher, & Jongman-Sereno, 2013). These superiority beliefs should render group members more dogmatic and less open to novel information conflicting with their in-group's ideology, further expanding the gap between liberals and conservatives.

Taken together, the reemerging research stream on political identity illustrates the different motivations and cognitions underlying the liberal–conservative political poles. The identification with a political group renders group members susceptible to align their judgments and actions in direction of their affiliated political group's standards. In the next section, we review literature that provides evidence for the impact of political identity on judgments in the climate change domain.

Political Identity and Climate Change Judgments

We hypothesize that political identity may affect elaborated climate change judgments (e.g., beliefs, risk estimations, concerns) via perceptual processes. Research directly investigating the conceptual chain from political identity to perception to climate change judgments is still scarce. However, a substantial amount of studies focused on direct effects of political identity on climate change judgments (see Figure 1, Path D). This research found that liberals and conservatives fundamentally differ in their concerns and beliefs on climate change (e.g., McCright, 2010; McCright & Dunlap, 2011a; Weber, 2015). This gap is constantly growing (Hoffman, 2011; McCright & Dunlap, 2011b). Liberals hold stronger beliefs that climate change is actually happening and are more concerned about the impact of climate change on their own lives than are conservatives. Moreover, liberals are more likely to attribute climate change to human activities, whereas conservatives tend to perceive climate change as a natural process (e.g., McCright & Dunlap, 2011b; Weber & Stern, 2011).

The gap in climate change views can to some extent be attributed to differences in cognitive, motivational, and affective mechanisms operating in the two political groups. As just described, liberals and conservatives vary in their sensitivity toward complexity, ambiguity, and uncertainty (Jost et al., 2009; Jost et al., 2008; Khan et al., 2013), attributes that are central to the definition and understanding of the climate change issue. Conservatives are relatively more averse to these concepts than are liberals (Jost et al., 2003a, 2003b). Moreover, climate change policy may be perceived as a threat to the status quo (Feygina, Jost, & Goldsmith, 2010; Jost et al., 2009). From a conservative perspective, policy actions against climate change can be seen as endangering the current economic system, and thus as a threat to previously established wealth. Addressing this notion, research has shown that denial of climate change was in part motivated by the justification and protection of the current political and economic system (Feygina et al., 2010). From a liberal point of view, in turn, policy measures targeting the mitigation of climate change may reflect innovation and change, and thus create more interest in this group. Consistent with this line of reasoning, previous research has shown that liberals on average show more explorative behavior toward novel stimuli than conservatives (Shook & Fazio, 2009).

Theories from the fields of psychology and political science (Jost et al., 2003b; Krosnick et al., 2006; Wood & Vedlitz, 2007) provide explanations for the drift in climate change beliefs and concerns between political poles across time. In accordance with the elite cues hypothesis (Krosnick et al., 2000; McCright & Dunlap, 2011b), individuals tend to selectively rely on sources that they trust, in particular when topics are ambiguous and controversial. Our model integrates this effect of political identity on the selection of information sources in Path A. Given the complex and ambiguous nature of climate change, political group members should be more likely to approach information sources that are in line with their political identity. Consistent with this notion, 95% of Democratic Congress representatives but only 13% of Republican representatives agreed with the statement that climate change is man-made (R. Cohen & Bell, 2007; McCright, 2010). When political group members turn to their party representatives to receive more information on climate change, be it by means of direct contact, social media, or classic media, this new information is very likely to be in line with their prior beliefs, rendering group members' judgments more rigid (McCright et al., 2014). In addition, the current media landscape provides broad group-specific information coverage. In the United States, for instance, the news media environment is composed of liberal and conservative outlets that promote "tailored" opinions on climate change, depending on the target group's political affiliation (McCright, 2010). This selective exposition to group-specific information sources will intensify group members' opinions (McCright, 2010).

The vast differences between liberals and conservatives are not only due to group-specific selection of information sources but may be intensified by divergent patterns of cognitive information processing. In accordance with research on motivated cognition (Jost et al., 2003b; Kahan, Jenkins Smith, & Braman, 2011), theories from political science (Wood & Vedlitz, 2007) describe that political group members process information in accordance with their preexisting beliefs and concerns, which are in turn shaped by their identity (McCright, 2010). Consistent with this, psychological research has identified multiple mechanisms that individuals implicitly employ to streamline novel information in accordance with their preexisting beliefs, such as the development of counterarguments (Ahluwalia, 2000), the search for disconfirming information (Edwards & Smith, 1996), or the degradation of the source's expertise (Kahan et al., 2011). These mechanisms offer theoretical explanations for the underlying processes of political identity on climate change judgments (Path D).

Information-processing theory from political science predicts that effects of political identity on information processing should become smaller with increasing expertise (Wood & Vedlitz, 2007). However, recent research indicates that science literacy, educational attainment, and self-reported understanding of climate change are no straightforward predictors of climate change judgments (Hamilton, 2010; Kahan et al., 2013; McCright & Dunlap, 2011b). Higher literacy in itself is related to neither an increase nor a decrease in climate change beliefs and concerns. However, high literacy amplifies the impact of political identity on climate change judgments, thus eventually expanding the gap between political group members (Hamilton, 2010). It seems that highly educated group members make use of their literacy to selectively accumulate and promote information in line with their attached political group's ideology (Kahan, et al., 2013).

Taken together, the research insights reviewed here point to fundamental differences in the extent to which political group members evaluate the antecedents, strength, and consequences of climate change (Path D; see also Hornsey et al., 2016). Theories from psychology and political science (e.g., Kahan et al., 2011; Krosnick et al., 2006; Wood & Vedlitz, 2007) provide explanations for the tremendous gap in climate change judgments between political groups, but systematic empirical findings concerning the underlying processes and mechanisms driving these differences need to be further advanced. We argue that differences in situational perceptions constitute one of the processes that cause differences in climate change judgments. In the next section we evaluate to what extent the empirical literature supports this idea.

Identity and Climate Change Perception

We hypothesize that political identity affects basic situational perception in the climate change domain (cf. Figure 1, Path B) and that perception serves as a mediator between political identity and climate change judgments (cf. Figure 1, Path BC). Although not much empirical work has directly investigated the impact of political identity on basic perception in the climate change domain, quite some evidence exists for other top-down influences on perception in the environmental domain.

Personal experiences with climate change–associated events increases belief certainty toward climate change (Spence, Poortinga, Butler, & Pidgeon, 2011). Conversely, prior beliefs also have an impact on reported personal experiences. The latter effects were primarily evident for individuals who were highly engaged in climate change issues (Myers, Maibach, Roser-Renouf, Akerlof, & Leiserowitz, 2013), supporting the notion of a top-down influence on perceptual processes. Similarly,

individuals' estimations of temperature and precipitation deviations were affected by climate change beliefs. Individuals denying the existence of climate change were more likely to bias their estimations in direction of their prior beliefs: They tended to report no experiences of temperatures deviations even when they had faced above-normal temperature conditions. These effects were elevated when they referred to seasons further in the past (Howe & Leiserowitz, 2013).

Furthermore, research in the climate change domain found support for top-down effects on the perception of bodily sensations. For instance, executing an environmental behavior has been shown to be linked to thermal perception: Participants perceived a higher temperature (a "warm glow") after learning that they had acted in an environmentally friendly manner as compared to the control condition (Taufik, Bolderdijk, & Steg, 2014).

In the domain of environmentally relevant purchase decisions, it has been shown that the activation of environmental values may increase purchase intentions for environmentally friendly products (Hahnel, Ortmann, & Spada, 2014; Verplanken & Holland, 2002). Important to note, these effects were mediated by changes in the perception of the environmental attributes of the products: Value activation by means of external stimuli led participants to perceive a target product as more environmentally friendly as compared to participants in the nonactivation conditions. (Hahnel et al., 2014). A similar effect has been illustrated for taste perception. Participants perceived wine, fruits, and coffee as more tasty when the product had been labeled as environmentally friendly as compared to nonlabeled conditions (Sörqvist et al., 2015b; Sörqvist et al., 2013; Wiedmann, Hennigs, Henrik Behrens, & Klarmann, 2014). Moreover, labeling light sources as environmentally friendly increased participants' task performance in visual tasks: Participants rated the comfort of the light higher and made fewer errors in a color discrimination task when the light source of a proximate desktop lamp was labeled as environmentally friendly as compared to a conventional label condition (Sörqvist, Haga, Holmgren, & Hansla, 2015a). Top-down influences on perception were generally intensified for pro-environmental participants (Sörqvist et al., 2013) and were robust even when explicit product information contradicted the product's environmentally friendly image (Hahnel et al., 2015). These findings point to influences of top-down processes on situational perception in the environmental domain. However, the empirical foundation of this pathway from political identity to perception of local climate change–associated events (cf. Figure 1; Path B) needs to be strengthened by further research.

Perception and Climate Change Judgments

The framework outlined here furthermore assumes that the perception of local climate change–associated events and information influences more elaborated judgments concerning global climate change (cf. Figure 1, Path C; see also Xiao et al., this issue). The majority of empirical studies on the links between situational perception and climate change judgments controlled for the influence of political identity but did not systematically examine interaction effects concerning the relation between perception and judgment for conservatives and liberals separately (e.g., Li, Johnson, & Zaval, 2011; Zaval, Keenan, Johnson, & Weber, 2014; for exceptions, see, e.g., Deryugina, 2013; Risen & Critcher, 2011). Nevertheless, these studies convincingly illustrate that people use situational perceptual information to construe their representation of the global climate change phenomenon. For example, a number of studies examined the impact of local weather conditions on climate change judgments (e.g., Egan & Mullin, 2012). Studies comparing objective weather data with subjective climate change beliefs based on national or regional survey data produced mixed results. Some studies identified an effect of local weather extremes on climate change judgments (e.g., Egan & Mullin, 2012; Hamilton & Stampone, 2013), in that people were more likely to report that climate change is real when the temperature was above normal, whereas other studies did not find support for such a relationship (e.g., Marquart-Pyatt, McCright, Dietz, & Dunlap, 2014). The link between local weather conditions and climate change judgments was found to be stronger in experimental studies that investigated short-term effects of temperature perception on the individual level (Akerlof, Maibach, Fitzgerald, Cedeno, & Neuman, 2013; Joireman, Truelove, & Duell, 2010; Li et al., 2011; Risen & Critcher, 2011; Zaval et al., 2014). For instance, subjective ratings of temperature deviations were correlated with higher climate change beliefs and concerns (Li et al., 2011; Zaval et al., 2014). Actual local or experimentally manipulated temperature influenced climate change judgments in that higher temperature resulted in stronger climate change beliefs and concerns (Joireman et al., 2010; Risen & Critcher, 2011). Similarly, priming heat-related cognitions resulted in increases in climate change beliefs and concerns (Joireman et al., 2010; Zaval et al., 2014; but see Risen & Critcher, 2011). Two theoretical accounts have been advanced to explain the link between temperature perception and climate change judgments. The *attribute substitution account* is based on the availability heuristic (Tversky & Kahneman, 1979), indicating that salient information is more likely to be taken into account in judgments—even if the salient information is not very diagnostic. Congruent evidence comes from studies showing that individuals who perceive the situational temperature as warmer than usual are also more likely to overestimate the frequency of unusually warm days throughout the year, indicating that memory recall is affected by situational perception. Biased recall of past temperature conditions mediated effects of temperature perception on climate change judgments (Zaval et al., 2014). The *simulation fluency account* is grounded in the assumption that congruent situational perceptions (here: visceral states) may foster the construal of mental representations of future scenarios: It is easier to mentally construe a future affected by climate change when one feels warm; it is easier to construe drought when one is thirsty. Congruent with this account, experimentally manipulated higher room temperature led to an increase in mental representations of climate change–associated pictures, which in turn was linked to stronger climate change beliefs (Risen & Critcher, 2011).

While the majority of studies just reviewed did not focus on differences in political identity in terms of interactions, a few findings suggest that political identity may take on a modulating function in the process, linking temperature perception to

climate change judgments. For example, Deryugina (2013) showed that temperature fluctuations affected climate change beliefs only for conservatives: Unusually warm temperature periods increased climate change beliefs of conservative participants, whereas unusually cold periods did not affect their judgments. Other studies found that political identity renders participants with especially strong liberal and conservative ideologies less sensitive to weather anomalies as compared to ideologically less extreme participants (Egan & Mullin, 2012; Hamilton & Stampone, 2013; but see Marquart-Pyatt et al., 2014; Risen & Critcher, 2011). Although more research is clearly needed to address the link between identity, basic perception, and climate change judgments, these findings provide initial support for the central tenet of our model represented in Path BC.

A Perceptual Model of Identity-Based Climate Change Judgments

The theoretical framework advanced in this contribution illustrates the pathways from social group identity to climate change judgments and actions. The model draws particular attention to basic perception processes as a core mediator that connects political group identity to climate change judgments and actions. Taking into account the perceptual level seems crucial for a better understanding of people's stances toward climate change. Although the global climate change concept is an ambiguous and complex phenomenon (Weber & Stern, 2011), local events associated with climate change exert multiple influences on people's everyday lives. Research predicts that these local symptoms of climate change will increase in the future (Intergovernmental Panel on Climate Change, 2014). Associated weather events range from slight temperature changes to extreme storms. Humans are capable of perceiving even minor temperature changes (Howe, 2013) and increase their intentions to act after being exposed to extreme weather events (Broomell, Budescu, & Por, 2015; Rudman, McLean, & Bunzl, 2013; Spence et al., 2011). We argue that perceptions of these local climate change–associated weather events are guided by top-down processes, modulated by political identity. Political group identity is expected to influence whether group members perceive relevant events as invasive, intense, aggravating, unnatural, and finally a reason to act. Note that direct exposure to these climate change indicators is not even a prerequisite for political group identity to elicit its influence on perception. The media landscape provides continuous coverage of global weather events. These indirect perceptions might even intensify the impact of top-down processes as they leave more room for subjective interpretation.

Individuals selectively approach to climate change information sources (Krosnick et al., 2000). As climate change is ambiguous and controversial, political group members are likely to seek information sources that are compatible with their identity (McCright, 2010; McCright et al., 2014). That is, political group identity not just affects *how* members perceive certain climate change information but also *which* information they perceive. We incorporated this identity-based source selection in our framework in Path A. Identity-based source selection does not apply for direct experiences with climate change–associated weather events that affect the general population. In this case, Path A is bypassed and perception is directly influenced by political identity, as reflected by Path B.

In the previous sections of the article, we reviewed evidence for top-down influences on perception in the environmental domain. However, more empirical research is needed to examine the link between group identity and perception in the climate change domain in more detail. For instance, studies may investigate how political identity shapes the perception of ambiguous scenes associated with climate change (e.g., landscapes affected by climate change). Depending on political identity, presented scenes may be perceived as more or less unnatural. Research concerning effects at the perceptual level should be extended to selective attention processes. For instance, group identity may influence rapid attentional deployment to scenes varying in their climate change–associated content (see Brosch & Van Bavel, 2012, for similar research in the intergroup domain). Recent research furthermore offered evidence for the relevance of emotions in the environmental domain (Brosch, Patel, & Sander, 2014) and for the mediating influence of emotional experiences on climate change judgments (Feinberg & Willer, 2013). Political identity is assumed to modulate emotion elicitation and perception depending on characteristics of the situation at hand (Feinberg & Willer, 2013). Taken together, we argue that perception needs to be more systematically incorporated as a dependent (and mediating) variable rather than as a mere antecedent of climate change judgments.

A substantial body of research speaks for the impact of perception on climate change judgments (e.g., Zaval et al., 2014). This link is depicted in our model in Path C. Moreover, research has illustrated the robust relationship between political group identity and climate change judgments (Path D; for an overview, see Hornsey et al., 2016). As a next step, direct empirical evidence for the outlined conceptual chain from group identity to climate change judgments via perceptual, affective, and cognitive processes needs to be gathered (Paths ABC and BC). Integrating interactions between group identity and situational factors into this conceptual chain will provide more accurate predictions of how certain group members perceive and judge climate change related issues, depending on characteristics of the situation at hand. This encompasses climate change interventions that are perceived in line with one's social identity and thus may elicit varying impact on judgments and action; well-intended intervention strategies have been shown to backfire, depending on the political group membership of the target participants. For instance, labeling an energy efficient lightbulb as environmentally friendly made liberals more likely to purchase the product than when it was unlabeled. Conservatives, however, were less likely to purchase the product when it was labeled as environmentally friendly (Gromet, Kunreuther, & Larrick, 2013). Our theoretical framework suggests that even simple cues may trigger divergent perceptions of a certain intervention as a function of the target group's political identity. Intervention design can vastly benefit from the insights provided by such a perspective (see, e.g., Brosch, Sander, & Patel, 2016; Feygina et al., 2010; Hardisty, Johnson, & Weber, 2010). A deeper understanding of how certain target group members perceive and interpret specific facets of climate

change–relevant situations and interventions will improve the effectiveness of climate change campaigns. Moreover, the likelihood of triggering unintended behavioral outcomes by well-intended interventions will be reduced.

Conclusion

The scientific evidence for climate change is robust: It is highly likely that climate change is happening, is caused by humans, and will impact our everyday lives (Intergovernmental Panel on Climate Change, 2014). However, laypersons fundamentally diverge in the extent to which they believe that climate change is real and has an impact on mankind (Hoffman, 2011). Political group identity has a large influence on climate change judgments (Hornsey et al., 2016). In the contribution presented here, we characterize potential mechanisms behind the compelling influence of political group identity on climate change judgments and actions. Inspired by the perceptual model of intergroup relations (Xiao et al., this issue), we attach particular importance to perception as a mediator between political identity and climate change judgments and actions. We claim that understanding the influence of social group identity on situational perceptions and, in turn, the impact of these perceptions on judgments and behavior will provide a solid basis for developing better interventions in the environmental domain. Perception is expected to be one of several psychological processes that tie group identity together with climate change judgments and actions. More knowledge about *how, why*, and *when which* group members will judge and act in accordance with their group standards will provide an invaluable foundation for the development of tailored climate change interventions, which may help reduce the societal gap in climate change judgments and the resulting willingness to act.

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