Research Article

The pre-political origins and policy consequences of environmental justice concern

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Abstract. **While the effects of climate change will impact most Americans, they will likely have a disproportionate influence on the socioeconomic well-being of marginalized communities. Few researchers, however, have investigated public support for policies aimed at ameliorating climate-related disparities. Fewer still have considered how political and (critically) pre-political psychological dispositions might shape environmental justice concern (EJC) and subsequently influence policy support—both of which, I argue, could present roadblocks for effective climate communication and policy action. In this registered report, I (1) propose and validate a new measure of EJC, (2) explore its political correlates and pre-political antecedents, and (3) test for a link between EJC and policy support. In addition to psychometrically validating the EJC scale, I find that pre-political value orientations are associated with EJC, which, in turn, mediates the effects of pre-political values on taking action to mitigate the unequal effects of climate change.**

Key words: Environmental Justice, Basic Human Values, Climate Change, Survey Research, Survey Experiments

With the planet increasingly unlikely to avoid warming in excess of 1.5 degrees Celsius by 2030, the social and environmental consequences of human-caused climate change have the potential to impact daily life for nearly all Americans (IPCC, 2018). Unfortunately, a growing line of research suggests that America's poor are particularly likely to experience economic hardship, food insecurity, and negative public health outcomes as a result of increasing average global temperatures (Pachauri et al., 2014; Shi et al., 2016).

Environmental justice involves not only the documentation of inequity with respect to the effects of climate change on marginalized populations, but also the extent to which public policies can be tailored to help the most marginalized members of society adapt to the effects of a changing climate (Phillips & Sexton, 1999). While the potentially undue burdens of climate change on the poor are well studied, less work investigates the nature and policy consequences of Americans' attitudes toward environmental justice.

In this registered report, I aim to better understand Americans' support for policy efforts that address the effects of climate change on the poor by asking why some people might be more likely to express concern about environmental justice than others. Critically, I further ask whether these concerns might be associated with support for specific policy actions informed by environmental justice considerations.

Answering these questions can help scholars better understand the opinion dynamics of environmental justice and solve an important climate communications challenge. For climate communication campaigns to effectively increase support for policies aimed at ameliorating climate-induced inequality, communicators must first identify audiences (i.e., demographic subgroups) that are more likely to oppose policies guided by environmental justice and then make an effort to understand their reasons for doing so. This information can help communicators target skeptical groups with messages

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aimed at increasing support for environmental justice by validating as opposed to challenging their prior social and political attitudes (e.g., Benegal & Scruggs, 2018; Bolsen et al., 2019; Lunz Trujillo et al., 2021; Motta et al., 2021).

Understanding the pre-political antecedents of environmental justice concern could have particularly important implications for climate communication (Bayes et al., 2020; Harrison, 1998). If EJC is the result of not just contemporary political polarization but also differences in pre-political value orientations, that could pose a major challenge for climate communicators hoping to inspire support for environmental justice policies. As basic human values are both widely held and highly stable, changing Americans' value orientations is unlikely to be an effective communications strategy. Instead, communicators must find ways to craft pro-EJC messages within individuals' value frameworks (Lupia, 2016; see Lunz Trujillo et al., 2021, for a demonstration of this principle).

In this report, I aim to provide climate communicators with the information they need to facilitate effective communication about the benefits of policies that promote environmental justice. Specifically, I plan to advance the fields understanding of environmental justice by (1) developing and validating a new measure of concern about the effects of climate change on America's poorest (hereafter *environmental justice concern*, or EJC), (2) assessing both the political correlates (e.g., partisan identity, attitudes toward scientific experts) and pre-political antecedents (i.e., bedrock value orientations) of EJC, and (3) devising multimethod tests to assess how EJC influences support for specific environmental justice policies.

In a demographically representative survey of N = 2,007 U.S. adults conducted in December 2021, I find—consistent with theoretical expectations—that Americans who self-identify as politically liberal and hold less racially resentful attitudes are more likely to express concern about the effects of climate change on the most marginalized members of society. I also find that EJC is associated with pre-political value orientations, such that highly self-transcendent people (i.e., those who tend to put others' concerns ahead of their own) are more likely to express concern about environmental justice, while those who are highly self-enhancing (i.e., those who tend to put the welfare of themselves and their kin ahead of others') are less likely to do so.

Further, and again consistent with theoretical expectations, I find that EJC is associated with support for taking policy action to mitigate the unequal effects of climate change on the most marginalized (e.g., offering discounted flood insurance to poor Americans who live in areas likely to be impacted by major tropical storms). Correspondingly, observational mediation analyses suggest that EJC partially mediates the effect of basic human value orientations on environmental justice policy attitudes.

I conclude by discussing how researchers can use the measures developed and validated in this study to facilitate future research about unanswered questions in the study of environmental justice opinion. I also discuss how science communicators and policy professionals can leverage these insights to build effective climate communication strategies and to encourage support for climate policy action that accounts for the welfare of the most marginalized.

Environmental injustice and climate policy

While the effects of climate change have the potential to negatively impact environmental, economic, and health outcomes for most Americans, they are especially likely to do so for America's poor. Recognition and concern about climate-related injustice are important, as this can help formulate policies aimed at adapting to the effects of climate change in a more equitable way.

Climate change, for example, is likely to make coastal flooding more common in the coming years (IPCC, 2018). The effects of flooding on local infrastructure and economies are particularly precarious in areas designated as 100-year floodplains (Wobus et al., 2017)—that is, regions of the United States where the probability of inundation exceeds 1%.

Unfortunately, demographic assessments of 100-year floodplains (Bauer, 2017; Peri et al., 2017) suggest that residents tend to be disproportionately poor and non-White compared to residents of surrounding areas (FEMA, 2021). This implies that flooding risks are not distributed equally throughout the population and tend to map onto existing forms of social and economic inequality.

One way to ameliorate climate injustice concerns is by offering Americans subsidized flood insurance from the federal government. Recognizing that poorer individuals may have less capacity to simply move out of flood zones as the effects of climate change become increasingly palpable, and that they may have less ability to afford protective insurance for their homes and property, Americans can apply for subsidized flood insurance through the National Flood Insurance Program (NFIP), established in 1968.

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However, there are several issues with the NFIP in its current configuration. In addition to being more than $20 billion in debt, the program tends to assess risk (i.e., the harms of experiencing major flooding) on the basis of geography and home values, meaning that poorer individuals (who presumably have less costly homes and other property) may receive a lower risk valuation. Correspondingly, a recent survey of NFIP policies found that although poorer individuals are overrepresented in floodplains, more than 40% of subsidized policies were applied to homes worth more than $500,000, and 12% were applied to homes worth $1 million or more (CBO, 2007; Sigaud, 2018).

Environmental justice considerations can help policymakers pursue solutions to problems like this one. For example, adjusting the process by which the NFIP calculates risk—to include not only home values and geography but also individuals' income (and, consequently, their ability to afford insurance)—could help poorer Americans better afford flood insurance (i.e., by receiving larger subsidies). Correspondingly, removing or decreasing subsidizes for the wealthy could help the NFIP recoup some of its growing debts and improve the program's solvency. While legislation has been introduced to amend the NFIP in this way in the U.S. Senate (Holman, 2019), the measures have not advanced out of committee.

There are many other ways in which policies informed by concerns about environmental justice can help reduce effects of climate change on America's most marginalized populations. For example, recognizing that poorer Americans have less capacity to move in the event of naturally occurring disasters like wildfires—which are thought to be made more common by climate change (IPCC, 2018; Lieberman, 2019)—the government could expand the Federal Emergency Management Agency's housing relocation policies to provide more generous aid to individuals in the most financial need (current moving allocation rates are capped at just $4,000; FEMA, 2007) and/or to allow individuals to move in *preemption* of climate disaster (see also Herrman, 2017; Kuhl et al., 2014).

Moreover, individuals who lack access to air-conditioning in areas experiencing extreme heat anomalies—which are thought to be caused by climate change—may be more likely to experience severe respiratory and cardiovascular illness (Ostro et al., 2010). Funding to establish or increase the operation of cooling centers (i.e., air-conditioned public areas) can help those without air-conditioning, especially in large cities, find opportunities to escape the heat. Poorer Americans may also have a more difficult time adjusting to the increased food prices that result from the effects of increasing global temperatures on agricultural productivity. Expanding federal food assistance programs could help the poorest Americans adjust to increasing prices for essential goods.

Conceptualizing environmental justice

These examples describe how the effects of climate change map onto existing forms of socioeconomic inequality and injustice that exist in American public life. Environmental justice concerns the extent to which these unequal outcomes can be ameliorated through climate policy action.

There is no singular definition of what environmental justice entails (Phillips & Sexton, 1999; Sexton & Adgate, 1999). However, pursuant to the foregoing review, I conceptualize environmental justice as the extent to which climate change adaptation policies address inequalities related to the probability that the most socioeconomically disadvantaged groups in society will experience negative physical, social, and/or economic effects of climate change.

Following from my conceptualization of environmental justice, I further conceptualize environmental justice concern as (1) entailing the recognition of the possibility of climate-related injustice on the basis of socioeconomic inequality and (2) being troubled by its (potentially) pernicious effects on America's poor. Americans, of course, vary in their knowledge of the potential impacts of climate change on human life (Dunlap, 2010; Leiserowitz et al., 2018; Malka et al., 2009), and therefore may also vary in the extent to which they are aware of potential climate-related injustices. Therefore, I argue that concern does not necessarily entail a priori awareness of specific climate-related injustices or the likelihood that they will occur, but (1) accepting the possibility that these harms might come to fruition and (2) viewing those outcomes as problematic *conditional* on them actually happening, or being made aware of the possibility that they might.

Before moving on, it is important to recognize that socioeconomic inequality in the United States is highly racialized. The experience of poverty, as well as Americans' views toward the "deserving" versus "undeserving" poor, are strongly shaped by their negative racial attitudes; such that White Americans who harbor resentment toward (in particular) Black Americans tend to view them as less deserving of federal antipoverty assistance (Gilens, 1999; Winter, 2008).

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Correspondingly, several studies have documented that White Americans' negative racial attitudes have "spilled over" (Benegal, 2018; see also Tesler, 2012) to shape environmental attitudes. As Benegal and Holman (2021) review, Americans who hold more racially prejudicial views tend to be less concerned about the effects of climate change and less supportive of climate change mitigation policies. As the authors review, this may be attributable, in part, to political elites making an effort to link efforts to reduce greenhouse gas emissions to the alleged exploitation of White workers in the coal industry, and the racialization of social services more broadly. Correspondingly, in the analyses that follow, I make an effort to account for the influence of Americans' negative racial attitudes when studying the opinion dynamics of environmental justice opinion.

Additionally, this definition of EJC raises the thorny issue of how to characterize the approximately one-third of Americans who believe that climate change is not primarily the result of human activities, and the approximately two-fifths who reject that the climate is changing at all (Funk & Kennedy, 2016; Motta et al., 2019; Williams, 2011). I conceptually (and, later on, empirically) classify people who reject human-caused climate change—but nevertheless express being troubled about the possibility environmental injustice—as expressing EJC, as one can plausibly reject the possibility of *human-caused* (i.e., anthropogenic) climate change but nevertheless believe that the climate is changing, and therefore recognize the potential of these harms.

However, I neither conceptually nor empirically classify individuals who reject that the climate is changing *at all* as being concerned about environmental justice—even if they report that climate-related inequity is problematic. Because concern entails both being troubled by inequity and some reasonable level of recognition that these harms could actually occur as a result of climate change, not believing in climate change at all implies that even those who might theoretically be troubled by inequality may have no reasonable expectation that those concerns will ever be actualized.

The political correlates and pre-political antecedents of environmental justice concern political and social-psychological considerations

Because environmental justice lies at the intersection of two salient and divisive policy debates—the way government responds to mitigating and adapting to the effects of climate change, as well as efforts to bolster the welfare of marginalized communities—there is good reason to suspect that EJC is both politically and socially divisive.

For example, past research suggests that concern about the effects climate change on everyday life is highly politicized. Ideological conservatives are less likely to be concerned than ideological liberals about the negative effects of climate change (Brulle et al., 2012; Carmichael et al., 2017). This ideological asymmetry may result, at least in part, from conservatives being less likely to believe that climate change is occurring and caused by human activity (Funk & Kennedy, 2016; McCright & Dunlap, 2011; Motta et al., 2019).

The rejection of scientific consensus on the reality, severity, and causes of climate change on the ideological right and beyond is the result of several social, psychological, and political forces. For example, conservatives are more likely to hold negative views toward climate scientists (Gauchat et al., 2017) and the scientific community more generally (Gauchat, 2012; Merkley, 2020; Motta, 2018; Oliver & Rahn, 2016), which may encourage resistance to evidence-based documentation of climate change.

The rise of right-wing populist political elites (e.g., former president Donald Trump) and social movements (e.g., the Tea Party) may help explain the connection between what some scholars call "anti-intellectualism"—the dislike and distrust of people who can credibly claim superior knowledge (expertise) on a particular subject (Motta, 2018; Oliver & Rahn, 2016)—and ideological conservatism. Populists' rhetorical efforts to raise suspicion about the motivations of many types of social and political elites (including scientific experts) may breed resentment of those groups in the population, and thereby engender climate skepticism (see Merkley, 2020). Correspondingly, a growing line of political and science communication research finds that Americans are highly receptive to the ways that partisan elites talk about climate-related issues and public acceptance of scientific consensus on climate change (Merkley & Stecula, 2018, 2021).

Comparatively low levels of climate change acceptance on the ideological right may also result from what social psychologists refer to as "system-justifying" tendencies. Although these considerations are not unique to the ideological right, conservatives tend to be more motivated than liberals to view the status quo as fair and legitimate (Jost et al., 2003). Correspondingly,

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conservatives with system-justifying tendencies have been shown to be motivated to reject the reality and severity of human-caused climate change (Feygina et al., 2010), as doing so requires admitting that the current environmental regulation policies are insufficient to stave off an existential threat to human life. In the case of environmental justice considerations, expressing concern would also require admitting to the existence of systematic unfairness with respect to who is most likely to experience the harms of increasing average global temperatures. Consequently, system-justifying tendencies may be associated with low levels of concern about environmental justice as well.

Finally, as discussed earlier, environmental justice may prove to be politically and socially divisive because it pertains to the welfare of America's poorest. Americans tend to view poor people as being disproportionately non-White (e.g., Winter, 2008), which ties views toward public assistance—especially when referred to as "welfare"—to the public's negative racial attitudes (Gilens, 1996, 1999; Rasinski, 1989; see also Huber & Paris, 2013). Consequently, it could be the case that highly racially resentful individuals—individuals who embrace implied but not necessarily explicit forms of racial prejudice (see Kinder & Sanders, 1996; Mendelberg, 2001)—are less likely to express EJC. Consistent with this view, a growing line of research suggests that efforts to tie former president Barack Obama's race to a variety of different policy debates has facilitated the spillover (Tesler, 2012) of negative racial attitudes to public opinion in many areas, including climate change (Benegal, 2018).

With these considerations in mind, I suspect that contemporary grounds for social and political disagreement influence EJC, such that political conservatives (*H1a*), individuals who hold anti-intellectual attitudes (*H1b*), people with greater system-justifying tendencies (*H1c*), and more racially resentful individuals (*H1d*) will be more likely to express lower EJC.

Basic human value orientations

Concern about environmental justice, however, may not *only* be the result of political conflict. A growing line of research in political psychology suggests that Americans' ideological affinities (Goren et al., 2022; Piurko et al., 2011), policy attitudes (Goren et al., 2020; Rathbun et al., 2016), and other politically relevant attitudes and behaviors (Goren & Motta, 2021), result from differences in pre-political basic human values. For example, individuals who express stronger self-transcending values—that is, the tendency to put the needs of others (including universal concerns about the environment) ahead of their own—tend to be more likely to self-identify as ideological liberals (Goren et al., 2022) and to support social welfare policies (Goren et al., 2020).

Research in human values theory (Schwartz & Sagiv, 1995), suggests that nearly all people, across cultures and national contexts, subscribe to the same set of 10 basic value orientations. These values are thought to antecede the development of political preferences (Goren, 2013; Smith et al., 2011), and they are highly stable throughout the life course (Vecchione et al., 2016; Vecchione et al., 2020).

Correspondingly, based on insights from human values theory, I suspect that people who hold self-transcending value orientations—that is, individuals who tend to place the welfare of others (including the environment) ahead of their own—should be more likely to express EJC (*H2a*). In contrast, individuals who express more self-enhancing values—those who place a stronger emphasis on the well-being of themselves and their close kin—should be less likely to express EJC (*H2b*). However, self-enhancement effects could be conditioned by individuals' own socioeconomic status (*RQ1*), as the self-enhancing goals of individuals of lower socioeconomic status may align with environmental justice concerns.

Linking environmental justice concern to policy action

In addition to investigating the sociopolitical correlates and pre-political antecedents of EJC, I further suspect that EJC has tangible policy consequences.

Past research suggests that people who express concern about the effects of climate change (in general) tend to be more supportive of efforts to mitigate climate change (Ehret et al., 2018; Marquart-Pyatt et al., 2011). Consequently, I suspect that EJC is correlated with support for policies aimed at remedying inequality in economic, health, and other outcomes attributable to climate change (*H3*).

Of course, as noted earlier, EJC attitudes are themselves likely to be the result of differences in both sociopolitical and pre-political value orientations (as discussed when proposing *H2*). Consequently, I further suspect that EJC *mediates* the effect of basic value

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orientations on policy support, such that self-transcending (*H4a*) and self-enhancing (*H4b*) values are associated with increased policy support (the former) and opposition (the latter).

Note that I limit these mediational expectations to correspond only with the effects of basic human value orientations, channeled through EJC. Because the sociopolitical factors thought to influence EJC are conceptually more proximal to the policy outcomes I study in this mediational framework (Smith et al., 2011; see also Goren et al., 2020; Goren et al., 2022), assessing how EJC might mediate the effect of those factors on policy attitudes could pose a test that is overly favorable to detecting mediation. For example, because political ideology is more proximal to policy orientations than more abstract value orientations, evidence of a (potentially strong) link between ideology and EJC would reduce the baseline effect of ideology on policy attitudes by comparatively more than it might otherwise for, in this case, basic human values.

Consequently, I err on the side of analytical conservatism and focus my expectations on just the mediating effect of EJC with respect to basic human values. This approach has the added benefit of allowing me to contribute to past research on the association between prepolitical values and policy attitudes (e.g., Goren et al., 2020) by unpacking a potential psychological mechanism that might link the two (see also Mosier, 2019).

Thus, collectively, support for *H1–H4* would suggest that EJC is the result not just of political but also of prepolitical influences, which, in turn, shape support for efforts to ameliorate climate-related inequality. In the following sections, I outline a series of multimethod tests designed to assess the viability of these expectations.

Analytical strategy

I test *H1–H4* using a preregistered (https://osf.io/auhe2) multimethod (i.e., both observational and experimental) empirical setup, embedded in a demographically representative public opinion survey, conducted online via Lucid Theorem. Lucid uses quota sampling to achieve representativeness on several demographic factors (e.g., age, race, income, educational attainment, partisan identification).

I randomly assigned half (N = 1,022) of the respondents who consented to participate to complete four batteries relevant to this study: (1) a new measure of EJC, fashioned from four questions that assess concern (or lack of concern) about the effects of climate change on environmental justice (see Figure 1); (2) five Likert-style questions gauging support (or opposition) to policies aimed at decreasing climate-related inequality (see Table 1); (3) a standard 21-item battery measuring all 10 Schwartz value dimensions (aggregated into the self-enhancing and self-transcending value profiles); and (4) a series of standard questions measuring respondents' anti-expert attitudes (i.e., anti-intellectualism; see Oliver & Rahn, 2016), negative racial attitudes (i.e., racial resentment; see Kinder & Sanders, 1996); system-justifying tendencies (Feygina et al., 2010), and political orientations (i.e., ideological self-placement; see Ellis & Stimson, 2012; on partisan identification, see Krosnick & Berent, 1993).

Batteries were presented in random order, with question-level randomization and rotated response options. Additionally, while data from Lucid have been shown to closely mirror demographic benchmarks and to replicate well-studied experimental effects (Coppock & McClellan, 2019), some researchers have expressed concern about inattentive responding on the platform (Aronow et al., 2020). Consequently, I embedded a series of attention and bot-verification checks (i.e., captchas) throughout the survey.

I assigned the remaining half of the respondents (N = 985) to complete the same series of tasks, with an important amendment. Respondents were administered the foregoing items in a fixed order, such that (1) and (2) were administered (in that order) at the end of the survey.

Prior to presenting (1), I attempted to manipulate EJC through a short thought-listing (perspective-taking) task. The remaining respondents were asked to generate a list of "strategies for keeping cool" on an anomalous late-spring day when temperatures exceeded 105 degrees Fahrenheit, while imagining that they were a "a parent of two working two jobs, and living in a major urban area in an apartment without access to air-conditioning"—that is, to imagine that they were in the position of some of society's most marginalized.

This procedure provides an opportunity to directly manipulate EJC, which, as I note later, is critical for assessing not only the new measure's validity, but also its policy consequences (*H4*).

Data and measures

Data

As indicated in the Analytical strategy section, data for this study come from a large (N = 2,007) and

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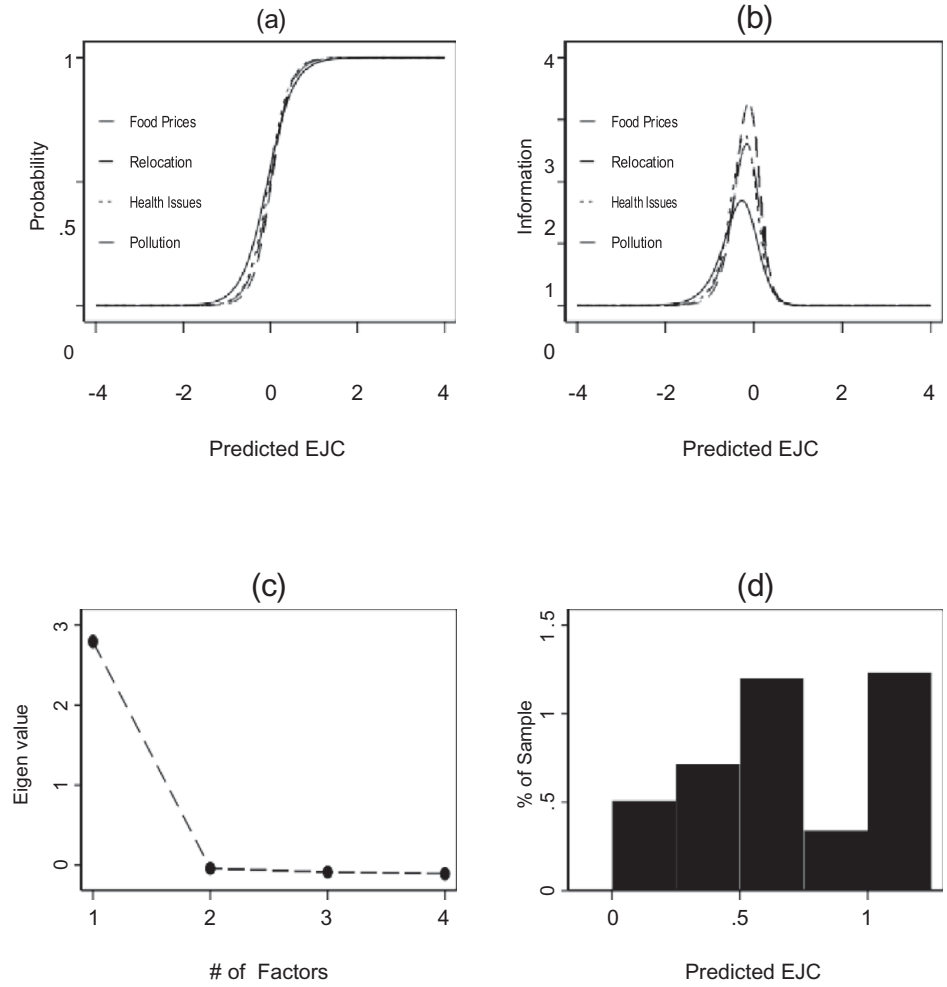

Figure 1. Psychometric validation of the EJC scale. Panels a and b present category characteristic curves and item information functions for individuals expressing the highest levels of concern about environmental injustice across items. Panel c is a skree plot resulting from principal factor analyses (with varimax rotation). Panel d is a histogram summarizing the distribution of the EJC scale extracted from the graded response modeling procedure summarized in Panels a and b. Please refer to the main text for additional information about these analyses, and to Table 1 for the full question wording associated with each constituent item.

demographically representative sample of US adults, fielded December 3–4, 2021. Data were collected in partnership with Lucid Theorem, an online opt-in sampling service that uses quota sampling techniques to target demographic representativeness to nationally representative benchmarks on respondents' age, race, gender, household income, educational attainment, census region, and political party. To account for any remaining deviations between the sample and the U.S. adult population, I constructed survey weights to adjust for respondents' age, race, gender, income, and educational attainment (see Motta, 2020; Motta & Goren, 2021, for examples of how this procedure is implemented in politically relevant studies using the Lucid platform).

Measures

Pursuant to the analytical strategy outlined earlier, the primary outcome variables in this study are measures of *environmental justice concern* (EJC; *H1–H2*) and *environmental justice policy attitudes* (*H3–H4*). The items used to construct each scale are presented in full in Table 1. I index the EJC items (and, at times, for

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Table 1. Summary of items used to measure environmental justice concern and policy orientations.

Environmental Justice Concern	Environmental Justice Policy
Preamble. As you may have heard, scientists predict that global warming may soon impact the environment, the economy, and society more generally. Many of these effects are expected to disproportionately impact poor people living in the United States. Below, we describe some possible effects climate change might have on the poor. For each one, please say whether or not it would bother you a great deal, some, a little, or not at all, if that event were to actually happen.	*Preamble.* Next, we would like you to consider a number of different policies the federal government might enact in order to help poor Americans adapt to the effects of climate change. Please tell us the extent to which you favor or oppose each of these policies.
[1] Droughts may threaten agricultural productivity and raise food prices, making it more difficult for poor Americans to afford healthy food.	[1] Even if it means raising taxes, the federal government should offer discounted flood insurance to poor Americans who experience flooding that might result from climate change.
[2] Flooding as a result of increased storm severity could damage poor Americans' homes, who may be unable to relocate	[2] Even if it means raising taxes, the federal government should increase its efforts to assist poor Americans in relocation following natural disasters that might result from climate change.
[3] Flooding as a result of increased storm severity could damage chemical processing facilities in major urban areas, putting the health of poor Americans at risk.	[3] Even if it means raising taxes, the federal government should expand food assistance programs ("food stamps") in order to help the poor adjust to rising food prices that might result from climate change.
[4] Extreme heat could cause respiratory (breathing) or cardiovascular (heart) issues for poor Americans, who may not have access to quality health care.	[4] Even if it means raising taxes, the federal government should allocate money to cities and towns that can be used to create "cooling centers" (air-conditioned buildings, open to the public) in order to help the poor avoid extreme heat events that might result from climate change.
1. It would bother me a great deal 2. It would bother me somewhat 3. It would bother me a little 4. It would not bother me at all	1. Support strongly 2. Support somewhat 3. Neither support nor oppose 4. Oppose somewhat 5. Oppose strongly

analytical simplicity, the environmental justice policy items) together using a graded response modeling application of item response theory. Prior to engaging in hypothesis testing using each of these two measures, I provide a series of analyses designed to assess the psychometric validity of the EJC scale (see the section on Validating the EJC scale).

The primary set of independent variables in this study are respondents' *self-enhancing* and *self-transcending* values. I measure self-transcending value orientations using a standard series of questions asking whether respondents agree or disagree (on a 7-point Likert scale) with five items designed to measure benevolence and universal values (e.g., "It is very important to me to help the people around me. I want to care for other people"). I measure self-enhancing values using four items designed to tap achievement and power values (e.g., "It is very important to show others my abilities. I want people to admire what I do.") Consistent with conventional practice (e.g., Goren et al., 2020; see also Goren & Motta 2021, for an example of past research using an identical approach to measuring self-enhancing and self-transcending values), I compute average scores on both sets of items ($\alpha = 0.86$ and 0.87, respectively).

A full list of items used to construct the basic human values measures, as well as all other described here, can be found in the Supplementary Materials. Note also that all independent variables used throughout this study are scored to range from 0 to 1, such that a score of 0 indicates the minimum observed value and 1 corresponds to the maximum.

I also control for respondents' *symbolic ideology* (*H1a*), *anti-intellectual attitude endorsement* (*H1b*), *system justification* (*H1c*), and *racial resentment* in all multivariate models presented throughout this study. I measure symbolic ideology—that is, respondents' psychological attachments to liberal/conservative ideological labels (Ellis & Stimson, 2012)—using a standard 7-point self-placement scale (Kinder & Kalmoe, 2017).

Here, it is important to recognize that conventional approaches to measuring symbolic ideology measures

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are necessarily unidimensional (i.e., assessed using a left-right scale), which may induce systematic measurement error if people hold conflicting *operational* (i.e., issue-based; see Ellis & Stimson, 2012) ideological preferences in social, economic, and other policy domains (Feldman & Johnston, 2014; Treier & Hillygus, 2009). Moreover, as symbolic ideology is typically measured with a single survey question (or a set of branched questions, as in the American National Election Studies), it may be prone to random measurement error as well (Ansolabehere et al., 2008; Ksiazkiewicz et al., 2016).

Consequently, for completeness, I administered short policy question batteries designed to gauge respondents' social and economic operational views. Although operational ideology can be measured in many different ways, I make use of a scale implemented by Goren and colleagues (2020) that studies both symbolic and operational ideological preferences in relation to basic human values, and thereby serves as useful analytical benchmark for this study.

Additionally, I measure anti-intellectual attitude endorsement using a standard question (Merkley, 2020; Motta, 2018) developed by Oliver and Rahn (2016) that asks respondents the extent to which they agree with the following statement: "I'd rather put my trust in the wisdom of ordinary people than the opinions of experts and intellectuals." Respondents could indicate agreement or disagreement on a 7-point Likert scale ranging from "strongly disagree" to "strongly agree."

I control for system-justifying tendencies using Kay and Jost's (2003) abbreviated (eight-item) questionnaire, which asks respondents to agree or disagree with statement such as "Society is set up so that people usually get what they deserve." Again, I measure agreement/disagreement using 7-point Likert scales and average responses to create a single scale ($\alpha = 0.77$).

Finally, I measure racial resentment using a standard four-item indicator developed by Kinder and Sanders (1996) and featured regularly in the American National Election Studies. The scale gauges respondents' agreement or disagreement with statements such as "It's really a matter of some people not trying hard enough; if blacks would only try harder they could be just as well-off as whites." I again offered response options on a 7-point Likert scale and averaged responses to create a single index ($\alpha = 0.77$). As negative racial attitudes likely vary by respondents' racial identity, I offer sensitivity analyses in which I reestimate the effects of racial resentment among self-identified White participants only.

All models account for a variety of demographic controls, including respondents' gender (a dichotomous indicator of whether respondents self-identify as women), racial and ethnic identity (dichotomous indicators of whether respondents self-identify as Black [non-Hispanic] or Hispanic), age group (dichotomous indicators of whether respondents are aged 18–24, 25–44, 44–65, or older than 65), household income (an intervalized 24-point scale, scored to range 0–1), and educational attainment (a dichotomous indicator of whether respondents hold a college degree).

Additionally, for the purposes of assessing the proposed EJC scale's discriminant validity, I include a series of questions that measure concern about the effects of climate change outside of environmental justice domains (i.e., concern about the national security effects of climate change on U.S. military base integrity and international resource conflict; see Motta et al., 2021, for additional information about these measures). In addition to correlating these items with the EJC scale, I control for concern about the effects of climate change on national security in all multivariate models that assess the effects of EJC on policy attitudes. Additional information about these measures is available in the Supplementary Materials.

Results

Validating the EJC scale

Before moving on, I want to recognize that because I am introducing a new measure of environmental justice concern to the study of environmental justice attitudes, it is important to psychometrically validate my approach to measuring it. I summarize the results of several efforts to validate this new measures in Figure 1. Note that each validation check was included as part of a preregistered analysis plan, available at https://osf.io/auhe2 (see the Analytical strategy section). The data and syntax necessary to replicate these analyses (and all analyses presented in this article) are available at the following time-stamped preregistration components site: https://osf.io/3p9zv.

Panels a and b in Figure 1 validate the previously discussed item response theory approach to measuring EJC by presenting the results of each graded response modeling procedure. Panel a presents category characteristic curves, which denote the probability (y-axis) that respondents earn a particular score on the latent EJC scale derived from the graded response model (x-axis),

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for those expressing high levels of concern about the effects of environmental injustice. Demonstrative of strong cohesion between the items, the S-shaped curves in Figure 1 suggest that individuals expressing strong concern are highly unlikely to earn low scores on the latent scale, and very likely to earn high scores on each measure. This means that, for both concern and policy attitudes, all four items comprising each scale are similarly strong indicators of the underlying construct.

Panel b in Figure 1 provides further psychometric validation of this measurement approach by displaying item information functions for individuals indicating high levels of EJC. The height of each curve (*y*-axis) denotes how well each item differentiates between whether respondents earn higher (versus lower) scores at each corresponding point on the latent variable (*x*-axis). As Figure 1 demonstrates, high levels of concern on all four items (versus not demonstrating high levels of concern) is an informative indicator of whether respondents fall above (if highly concerned) or below (if less concerned) the scale's midpoint. Moreover, as the figure suggests, indicating strong levels of concern about the health effects of environmental injustice is a particularly strong indicator of whether respondents fall above or below the scale's midpoint.

While Figure 1 suggests that both sets of items cohere with one another and are similarly strong indicators of where respondents are placed on each latent scale resulting from the item response theory procedure, it is nevertheless important to further document that the set of EJC items loads onto a single factor—that is, that the concern items constitute a singular (as opposed to multidimensional) construct. Panel C in Figure 1 is a skree plot, which presents eigenvalue scores resulting from a principle factor analysis with varimax rotation (*y*-axis) across several potential factor solutions. I find that a single-factor solution produces eigenvalue scores in excess of 1 (EV = 2.79), which indicates that a single-factor solution best fits the data and further underscores the unidimensionality of each measure.

In analyses not presented in the figure, I further probe the psychometric validity of the EJC scale by assessing its construct and discriminant validity (see Carmines & Zeller, 1979; Fink, 2010). If the resulting EJC scale is has construct validity, efforts to manipulate concern about the unequal effects of climate change (as I do in the experimental protocol described earlier) should be associated with significantly higher scores on the EJC scale. Demonstrative of the scale's construct validity, simple difference of means tests suggest that individuals assigned to participate ($M = 0.64$) versus not participate ($M = 0.63$) in the perspective-taking scored slightly higher on the EJC scale ($\Delta M = 0.01$), although these differences failed to attain conventional levels of two-tailed significance ($t = 0.58$, $p =$ n.s.).

I caution, of course, that the preregistered thought-listing task protocol can be thought of as an "intent to treat" (ITT) design. This means that failure to document differences across the treatment and control groups could result from some individuals failing to participate in the thought-listing task. In post hoc analyses that account for the ITT nature of this intervention by removing individuals from the analysis who spent only a limited amount of time engaging with the task (less than 30 seconds), I observe a larger ($\Delta M = 0.03$) difference between the treatment ($M = 0.66$) and control ($M = 0.63$) groups, which approaches levels of two-tailed significance at the $p = .06$ level ($t = 1.91$). These analyses provide further, albeit limited, evidence in favor of the EJC scale's construct validity.

Moreover, it should be the case that EJC should be associated with, yet analytically distinct from, measures that assess concern about the effects of climate change in other domains (discriminant validity). Specifically, while I would expect EJC to be correlated with more general concerns about the social and environmental effects of climate change (e.g., the idea that melting ice caps may cause sea levels to rise), as both measures pertain to concern about climate change and its potential effects, the effects of EJC on more specific concerns about the role that climate change might play in undermining national security (e.g., damaging the structural integrity of naval bases; see Motta et al., 2021) should be relatively muted after accounting for the role of concern about the effects of a changing climate more generally.

In analyses presented in the Supplemental Materials, I show that while EJC and a three-item index measuring more general concerns about climate change (from the General Social Survey) are indeed correlated with one another ($r = 0.53$), EJC bears little association with more specific concerns about the effects of climate change on national security after accounting for more general concerns. Compared with a naive model that regresses national security concerns on EJC, accounting for more general climate concerns reduces the size of EJC's effect by 32 percentage points ($\beta_{Naive} = 0.40$, $p < .05$; $\beta_{Full} = 0.08$, $p < .05$; $\Delta\beta = -0.32$; recall that because all items are keyed to range 0–1, parameter estimates can be interpreted as percentage point change). Moreover, the amount of variance explained in the naive model

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accounts for just 24% of the total variance explained in national security concerns, whereas a model containing both EJC and more general concern items explains more than double (61%; $\Delta R^2 = -37\%$). Correspondingly, it appears that EJC is both conceptually related to concerns about the effects of climate change more generally, yet analytically distinct from more specific concerns about the effects of climate change in other politically relevant applications.

Finally, having psychometrically validated this approach to measuring EJC, I derived latent, quasi-Bayesian predictions from the graded response model (using the predict command in Stata 15) to assess respondents' scores on a resulting EJC scale. I plot the distribution of the scale as a histogram, summarized in Panel D. I recoded the scale from their original metrics to range from 0 (indicating low levels of concern) to 1 (indicating high levels of concern). The resulting scale indicates that the modal respondent earns scores approaching the scale's maximum (approximately 30%), with a fair amount of variation between expressing the lowest and highest observed levels of concern ($M = 0.63$, $SD = 0.32$). Most Americans, it seems, are at least somewhat concerned about the unequal effects that climate change might have on America's poor.

Assessing the correlates of EJC

Having established the psychometric validity of the EJC scale, I next assess the extent to which self-transcending values and self-enhancing values as associated with increased (for the former) and/or decreased (for the latter) concern about the unequal effects of climate change. Pursuant to the preregistered analysis plan, I do this through a series of models that regress the EJC index, using ordinary least squares (OLS), and each constituent item (using ordered logistic regression) on respondents' negative racial attitudes, political ideology, system-justifying tendencies, and anti-expert attitudes (*H1*), as well as their self-transcending (*H2a*) and self-enhancing values (*H2b*), and a series of demographic controls (respondents' race, gender, age, educational attainment, and household income). Supplementally, I interact the self-enhancement values measure with the household income control to test for the possibility of moderated effects (*RQ1*).

The results are presented in Table 2. Turning first to the sociopolitical correlates of EJC, I find that—consistent with my preregistered expectations—increased ideological conservatism (*H1a*) and racial resentment (*H1d*) are negatively and significantly associated with EJC. This is true of each constituent item used to build the EJC index and the index itself. Contrary to expectations, however, I find that system-justifying attitudes (*H1b*) and anti-expert attitudes (*H1c*) bear no statistically discernible relationship with EJC.

Perhaps more importantly, for my purposes in this article, I find that basic human value orientations are strongly associated with EJC. Consistent with *H2a*, I find that self-transcending values are positively and significantly associated with increased EJC across all model specifications. Because all variables are keyed to range 0–1, the results of the OLS model summarizing the effects of self-transcending values on the EJC index (column 5) can be interpreted as the percentage point change in EJC, given movement from the minimum to maximum observed values on the self-transcendence index. The results suggest that being highly self-transcendent (versus being less self-transcendent) is associated with a 47 percentage point increase in EJC.

Conversely, and consistent with *H2a*, I find that self-enhancing values are negatively and significantly associated with EJC across all model specifications. Again turning to the summary OLS model presented in table's final column, I find that movement from the minimum to maximum observed values on the self-enhancement scale are associated with a 12 percentage point decrease in EJC.

Additionally, as stipulated in the pre-analysis plan (*RQ1*), I test for the possibility that levels of EJC may be elevated for individuals who place a strong emphasis on self-enhancing values but are less well-off financially—that is, individuals who act in their own self-interest by expressing concern about for environmental injustice. To do this, I modify the models presented in Figure 1, such that I interact the self-enhancing value scale with an interval measure of respondents' household income. In analyses presented in the Supplementary Materials, I find that the effect of self-enhancing values is no different for individuals who have high versus low household incomes (p = n.s. in all cases).

Collectively, the results suggest that basic human values are both substantively and significantly associated with EJC, in theoretically anticipated ways. The strong link between value orientations and EJC further raises the possibility that values might also play a role in shaping support for taking action to ameliorate the unequal effects of climate change on America's poor. I consider this possibility both observationally and experimentally in the analyses that follow.

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Table 2. The effects of sociopolitical factors and pre-political values on EJC.

	Food	Relocation	Health	Pollution	EJC Index
Symbolic conservatism (*H1a*)	–0.87*	–0.88*	–1.06*	–0.88*	–0.21*
	(0.24)	(0.26)	(0.26)	(0.26)	(0.03)
System justification (*H1b*)	–1.09*	–0.53	–0.57	–0.30	–0.03
	(0.45)	(0.44)	(0.45)	(0.45)	(0.05)
Anti-expert (*H1c*)	0.42	–0.06	–0.04	–0.25	–0.06*
	(0.26)	(0.24)	(0.24)	(0.25)	(0.03)
Racial resentment (*H1d*)	–1.16*	–1.69*	–1.80*	–1.75*	–0.26*
	(0.32)	(0.32)	(0.33)	(0.32)	(0.04)
Self-transcending (*H2a*)	3.67*	3.32*	3.90*	3.49*	0.47*
	(0.42)	(0.41)	(0.41)	(0.43)	(0.05)
Self-enhancing (*H2b*)	–1.36*	–1.02*	–1.28*	–1.20*	–0.12*
	(0.35)	(0.34)	(0.35)	(0.35)	(0.04)
Op. conservatism	–2.86*	–3.91*	–3.31*	–3.83*	–0.45*
	(0.41)	(0.42)	(0.42)	(0.42)	(0.05)
25–44	0.40	0.05	0.42*	–0.10	0.03
	(0.23)	(0.21)	(0.21)	(0.24)	(0.03)
45–64	0.52	–0.08	0.21	–0.27	0.03
	(0.27)	(0.25)	(0.24)	(0.28)	(0.03)
65+	0.38	–0.12	0.11	–0.42	–0.00
	(0.28)	(0.27)	(0.25)	(0.29)	(0.03)
Racial ID = Black	–0.22	–0.18	0.04	–0.19	–0.03
	(0.20)	(0.19)	(0.21)	(0.21)	(0.03)
Ethnicity ID = Hispanic	–0.13	0.00	–0.10	–0.14	–0.01
	(0.22)	(0.18)	(0.19)	(0.20)	(0.02)
College degree	–0.10	0.04	–0.10	0.01	–0.02
	(0.15)	(0.15)	(0.15)	(0.15)	(0.02)
Gender ID = Female	0.07	0.46*	0.23	0.35*	0.05*
	(0.14)	(0.14)	(0.14)	(0.14)	(0.02)
Household income	–0.08	0.06	–0.18	–0.13	0.03
	(0.25)	(0.22)	(0.21)	(0.25)	(0.03)
β_0	—	—	—	—	0.71*
					(0.06)
τ_1	–3.59*	–4.12*	–3.64*	–4.21*	—
	(0.51)	(0.48)	(0.50)	(0.50)	
τ_2	–1.63*	–2.24*	–1.88*	–2.31*	—
	(0.51)	(0.48)	(0.50)	(0.51)	
τ_3	0.16	–0.33	–0.16	–0.65	—
	(0.51)	(0.48)	(0.50)	(0.51)	
$\chi^2(16)$	282.95*	386.84*	404.15*	373.46*	—
$F(16)$	—	—	—	—	65.57*
N	1,914	1,913	1,913	1,918	1,924

* $p < .05$, two-tailed.
Note. Ordered logistic (columns 1–4) and OLS (column 5) regression parameters presented with standard errors in parentheses. Please refer to Table 1 for a description of all outcome variables.

The effects of values and EJC on policy attitudes

Finally, and pursuant to the pre-analysis plan, I test for the possibility that EJC is associated with support for taking policy action to combat the unequal effects of climate change through a series of ordered logistic regression models that regress each environmental justice policy support item—as well as (for analytical simplicity) a summary index constructed using the same graded response modeling procedures employed to construct the EJC scale (full model output is available in the Supplementary Materials)—on the EJC index, plus all covariates in the models used to test *H1–H2*. To ensure that EJC, and not less conceptually related indicators of climate concern, are responsible for any support I might observe for *H3*, I also include the scale used to assess concern about the national security implications of climate change (as noted in my pre-analysis plan and employed earlier as a discriminant validation check). This approach allows me to assess whether EJC and environmental justice policy views are correlated with one another; accounting for factors that could jointly influence both.

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Joint influence, of course, poses a problem for conventional regression modeling, as it assumes a lack of independence between the outcome and explanatory measures. Consequently, I test *H4* using a series of observational mediation models (i.e., for the 1,000 respondents in which I observe EJC) by entering the models described in Table 2 into Hicks and Tingley's (2011) software for Stata 15, treating EJC as the hypothesized mediator and each set of pre-political values as the observational "treatments." This allows me to quantify the direct effects of self-transcending (*H4a*) and self-enhancing (*H4b*) values on environmental justice policy attitudes, as well as the indirect effects channeled through the hypothesized mediator (EJC).

Table 3 begins this analysis by summarizing the results of both the correlational analyses used to test

Table 3. The effect of EJC and pre-political values on environmental justice policy support.

	Flood Ins.	Disaster Asst.	Food Asst.	Cooling	Index
EJC	0.92*	0.97*	1.02*	0.85*	0.11*
	(0.25)	(0.25)	(0.23)	(0.24)	(0.02)
Symbolic conservatism (*H1a*)	–0.79*	–0.93*	–0.87*	–0.93*	–0.09*
	(0.27)	(0.26)	(0.26)	(0.27)	(0.02)
System justification (*H1b*)	0.81	0.33	0.91*	0.58	0.05
	(0.44)	(0.45)	(0.44)	(0.42)	(0.05)
Anti-expert (*H1c*)	0.54*	0.42	0.37	0.50*	0.05*
	(0.24)	(0.23)	(0.23)	(0.24)	(0.02)
Racial resentment (*H1d*)	–1.38*	–1.72*	–1.20*	–1.89*	–0.17*
	(0.35)	(0.33)	(0.33)	(0.31)	(0.03)
Self-transcending (*H2a*)	0.85*	1.19*	0.42	0.55	0.07
	(0.40)	(0.41)	(0.41)	(0.41)	(0.04)
Self-enhancing (*H2b*)	0.11	0.11	0.57	0.85*	0.03
	(0.33)	(0.30)	(0.31)	(0.34)	(0.03)
Op. conservatism	–3.38*	–2.94*	–2.59*	–3.20*	–0.33*
	(0.47)	(0.41)	(0.44)	(0.43)	(0.04)
National security concerns	2.07*	1.76*	1.96*	2.04*	0.22*
	(0.34)	(0.29)	(0.30)	(0.32)	(0.03)
25–44	0.20	0.09	0.15	0.16	0.02
	(0.17)	(0.19)	(0.20)	(0.21)	(0.02)
45–64	–0.10	–0.37	–0.20	–0.17	–0.03
	(0.23)	(0.23)	(0.23)	(0.24)	(0.02)
65+	–0.04	–0.16	0.01	–0.21	–0.02
	(0.23)	(0.25)	(0.25)	(0.25)	(0.02)
Racial ID = Black	–0.03	–0.08	0.20	–0.27	0.00
	(0.16)	(0.17)	(0.19)	(0.20)	(0.02)
Ethnicity ID = Hispanic	–0.22	–0.43*	–0.29	–0.26	–0.04*
	(0.19)	(0.18)	(0.20)	(0.18)	(0.02)
College degree	0.07	–0.00	0.13	–0.18	–0.00
	(0.13)	(0.13)	(0.14)	(0.13)	(0.01)
Gender ID = Female	0.11	–0.03	–0.06	–0.04	–0.00
	(0.12)	(0.13)	(0.13)	(0.13)	(0.01)
Household income	0.04	–0.05	0.10	0.01	0.01
	(0.20)	(0.21)	(0.23)	(0.23)	(0.02)
β_0	—	—	—	—	0.48*
					(0.05)
τ_1	–2.09*	–2.67*	–1.69*	–2.64*	—
	(0.56)	(0.53)	(0.58)	(0.54)	
τ_2	–0.92	–1.52*	–0.49	–1.40*	—
	(0.55)	(0.53)	(0.56)	(0.52)	
τ_3	1.07	0.37	1.26*	0.56	—
	(0.55)	(0.53)	(0.56)	(0.53)	
τ_4	2.85*	2.29*	3.06*	2.45*	—
	(0.56)	(0.54)	(0.57)	(0.54)	
$\chi^2(16)$	374.49*	387.18*	354.46*	368.31*	—
$F(16)$	—	—	—	—	40.94*
N	1,922	1,922	1,922	1,921	1,923

* $p < .05$, two-tailed.

Note. Ordered logistic (columns 1–4) and OLS (column 5) regression parameters presented with standard errors in parentheses. Please refer to Table 1 for a description of all outcome variables.

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H3. Consistent with theoretical expectations, I find that EJC is positively and significantly associated with increased support for each policy effort aimed at mitigating the effects of environmental injustice, as well as the summary scale. Again, as all variables were keyed to range 0–1, the results presented in the final column of Table 3 can be interpreted in terms of percentage point change. There, and by way of summarizing the effects of EJC on policy orientations, I find that movement from the minimum to maximum observed levels of EJC is associated with an 11% increase in support across the policy index.

Table 3 further suggests, however, that self-transcending and self-enhancing values are infrequently associated with policy support. As described earlier, it may be that EJC, which is itself strongly shaped by pre-political value orientations, is acting as a mediating influence. The observational mediation tests outlined in my pre-analysis plan provide strong evidence in favor of this view. I again turn to the summary policy index when calculating these quantities, in pursuit of both analytical simplicity (the mediate package for Stata 15 does not support ordered logistic regression estimation) and parsimony.

The results suggest that self-transcending values (direct effect = 0.20) and, to a lesser degree, self-enhancing values (direct effect = 0.05) are associated with increased policy support in the absence of the EJC. The total effect (i.e., the direct effects plus all indirect effects explained via EJC) of self-transcending (total effect = 0.34) and self-enhancing (total effect = 0.08) values indicate an additional effect of pre-political values channeled through EJC. This implies that 40% of the effects of self-transcending values ($\frac{total-direct}{total}$; $\frac{0.14}{0.34}$), and 25% of the effects of self-transcending values ($\frac{0.02}{0.08}$) are explained via EJC. Consistent with *H4*, these results imply that the effects of self-transcending (*H4a*) and self-enhancing (*H4b*) values are at least partially mediated by the EJC index.

Finally, it is important to note that although I intended in my pre-analysis plan to run experimental mediation analyses as an additional test of *H4* (see Analytical strategy), I found inconsistent evidence that the ITT thought-listing task increased scores on the EJC scale across treatment versus the control groups (see Validating the EJC scale). Consequently, it makes little sense to test for experimental mediation, as the hypothesized mediator was not, in fact, influenced by the experimental treatment. Correspondingly, I omit these analyses from the presentation of the results.

Discussion

Pre-political attitudes appear to play a powerful role in giving structure to Americans' attitudes about environmental justice. In this registered report, I showed that, even when accounting for a diverse set of sociopolitical factors that might otherwise influence concern about the unequal impact of climate change on America's poor, more self-transcendent (other-focused) people are more likely to express environmental justice concern, while more self-enhancing (self-focused) people are less likely to do so. The effect of basic human values extends to views about policy efforts to neutralize the unequal effects of climate change, such that EJC mediates the effects of self-transcending values—and, to a lesser degree, self-enhancing values—on Americans' climate policy orientations.

This work advances previous research on environmental justice and climate change opinion in at least two ways. First, by both conceptualizing and psychometrically validating the EJC scale, this work provides the field with a short (four-item) measure of Americans' concerns about climate injustice that can be readily (and, I hope, confidently) exported to other efforts to survey Americans' views on these issues.

Second, and more generally, these findings contribute to what scholars understand about the nature of environmental justice opinion in the United States. As prior work in this area suggests, I show that concerns about climate injustice map onto existing partisan and sociocultural divides in the United States. Critically, though, I also show that environmental justice attitudes may have *pre-political* origins, reflecting not only contemporary political disagreements, but fundamental differences in value systems that are thought to give rise to political and social orientations.

The pre-political origins of environmental justice concern and policy orientations have important implications for climate communicators hoping to increase support for policy efforts to neutralize the unequal effects of climate change. Given their centrality in shaping a wide range of socially relevant attitudes and behaviors, basic human values have been shown to be unlikely to change over the life course (Vecchione et al., 2020). Consequently, efforts to increase concern about the effects of climate change may be better served not by trying to *change* what it is that Americans value but by instead attempting to create messages that comport with existing value frameworks (see Lupia, 2016; Lunz Trujillo et al., 2021).

For example, having documented that more-self-enhancing people are less likely to express EJC—and

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subsequently are less likely to support taking policy action to ameliorate the unequal effects of climate change—strategic communicators might craft messaging campaigns that emphasize the *personal* costs of failing to address environmental injustice. This could take the form of focusing on the negative and far-reaching economic consequences of injustice beyond the most marginalized communities, and/or by drawing attention to the possibility that anyone might one day find themselves "down on their luck" and potentially subject to the unequal impacts of climate change.

Although it is difficult to "micro-target" messages like these on the basis of basic human values alone—because there are no television programs or social network groups that *exclusively* cater to populations who hold self-focused values—communicators could nevertheless disseminate these messages strategically. Communicators might, for example, focus messaging campaigns on geographic areas thought to have higher (versus lower) concentrations of those who embrace self-focused values (e.g., see Motta & Goren, 2021; Piurko et al., 2011), and/or by advertising in political (for example) social net working groups organized around individual liberty considerations. Whatever form these messaging strategies take, they could prove essential in bolstering public concern about environmental injustice, which may create a demand for policy action, and thereby incentivize policymakers to make an effort to address the unequal effects of climate change.

This research, of course, is not without important limitations. Perhaps most obviously, this registered report presents the result of a single opinion survey, conducted at a single point in time, and recruited respondents through an online opt-in sampling service that is not formally representative of the U.S adult population. In the future, scholars ought to consider replicating insights from this study in other opinion survey contexts that vary both with respect to timing, as well as their sampling protocols. For example, it could be the case that the null experimental treatment effects I observe in this study are not necessarily the result of a "weak" experimental manipulation or potential respondent inattentiveness, but are simply due to the possibility that, for most people, EJC, much like the values thought to underlie it, is relatively slow to change over time. In other words, longitudinal analyses could prove useful in determining the *temporal stability* of EJC attitudes.

Likewise, this study featured just a single set of policy-focused questions related to efforts to address the unequal effects of climate change on marginalized groups. The four policies here represent a small subset of the many ways policymakers might think about addressing climate injustice. As ameliorative policy proposals gain (or lose) traction, scholars should consider revising the items studied here to reflect ongoing policy debates.

Moreover, the basic human values inventory that I study in this piece represents just one set of abstract (and not expressly political) values that researchers might wish to study. For example, Inglehart and Abramson's (1999) Materialism/Post-Materialism (MPM) value scale is conceptually similar (with respect to what it intends to measure) as the basic human values inventory but employs a different measurement approach. Correspondingly, MPM has been shown to have less internal validity in cross-cultural settings than the Schwartz values inventory, but may have comparatively higher levels of predictive validity (Datler et al., 2013). As this research has ties to both postmaterial (i.e., its well-documented link to environmentalism; e.g., Mostafa, 2013) and material concerns (i.e., systematic unfairness with respect to they ways in which marginalized populations experience the effects of climate change), I encourage researchers to consider replicating this study using other apolitical value inventories to assess both the conceptual extensions and empirical robustness of the results presented in this article.

Supplementary Materials

To view supplementary material for this article, please visit http://doi.org/10.1017/pls.2022.7.

Open Scientific Practices Statement

The materials, data, and preregistration that support the findings of this study and the award of the three open science badges are publicly available at https://osf.io/3p9zv.

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