

Changing Tides: Public Attitudes on Climate Migration*

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Abstract

Little existing work studies public perceptions of climate-induced migration. We redress this gap, drawing on diverse literatures in political science and social psychology. We argue that climate migrants occupy an intermediate position in the public view, garnering greater support than traditional economic migrants but less support than refugees. Evidence from a conjoint experiment embedded in nationally representative surveys of 2160 respondents in the U.S. and Germany provide support for this claim. Importantly, this result holds for internal and international migrants. These findings suggest the importance of humanitarian considerations and empathy in shaping migration attitudes. We use a follow-up factorial experiment to explore potential policy implications of public support for climate migrants. We find no evidence that priming climate migration increases support for climate change mitigation, echoing existing work on the difficulty of mobilizing climate action, and suggesting that climate migration is unlikely to spur greater support for mitigating climate change.

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How does the public view climate migrants, and how do considerations about climate migration affect support for climate change mitigation? Around the world, recent climatic disasters have uprooted millions of people. Displacement in the wake of disasters is emblematic of a broader global phenomenon: climate-induced migration.¹ As anthropogenic climate change worsens, the magnitude of the threat of climate migration will continue to grow. The World Bank expects 143 million climate migrants worldwide by 2050 (Rigaud et al. 2018). Even more conservative estimates anticipate several million climate migrants before the turn of the century (McLeman 2014).² The scale of climate displacement renders public views on climate migrants a key policy question. Potential economic consequences like labor market competition (Homer-Dixon 1999; McIntosh 2008) mean public support will be key for integrating climate migrants in host communities and easing migrant-host tensions. Because climate displacement exacerbates migrants' grievances (Koubi et al. 2018), easing migrant integration could even reduce host-migrant conflict. Understanding public attitudes on climate migrants, then, marks a first step in addressing the challenges posed by climate displacement.

Little consensus exists about public attitudes toward climate migrants. Spilker et al. (2020) document public support for settling *internal* environmental migrants in the *developing* world, but it remains unclear whether similar preferences apply to *international* climate migrants, or in *developed* contexts. Further, some extant work predicts opposition to climate migrants, since they may compete with natives in the labor market (McIntosh 2008) and alter ethnic balances in host communities (Reuveny 2007). More broadly, though research shows that migration attitudes vary with motives for migrating, the microfoundations of this variation are unclear. Evidence from developed (Bansak et al. 2016) and middle-income (Alrababa'h et al. 2020) countries suggests humanitarian considerations underlie a preference for refugees over labor migrants. In developing contexts, however, labor and climate migrants are preferred (Spilker et al. 2020), suggesting attitudes about climate migration may be rooted in sociotropic or egocentric economic considerations. Mixed empirical findings warrant additional research to understand how models of migration attitudes apply across contexts.

We intervene in this debate using a conjoint experiment embedded in nationally representative surveys in the U.S. and Germany. We argue and find evidence that climate migrants occupy an intermediate position in the public view. Because their flight is due to climatic factors beyond their control, climate-induced migrants are viewed as involuntary, and so elicit greater empathy and support than voluntary labor migrants. However, because climate migrants do not face deliberate persecution, their flight is perceived as more voluntary and less coerced than that of refugees, and so they are viewed less favorably. This relationship holds for both

¹We define climate migrants as people “who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad” (International Organization for Migration 2008).

²We offer a fuller survey of literature linking climate change and migration, including some work finding no association, in the appendix.

internal and international climate migrants. Theoretically, we apply social psychological insights on empathy, extending evidence for the humanitarian model of migration attitudes to a new domain: *climate*. Empirically, we draw on Spilker et al. (2020)'s experimental approach, but apply it to a broader set of migrants in a new context: *internal* and *international* migrants in *developed* countries.

Public favorability toward climate migrants also suggests that rising levels of climate migration could spur greater support for climate action. This is particularly so because climate migration and climate change mitigation efforts are interdependent—individuals in the Global North may (egocentrically) advocate mitigation to alleviate climate pressures in the South, and thereby reduce South-North climate migration (Marotzke et al. 2020). To unpack policy implications of our conjoint results, we field a complementary factorial experiment examining whether priming climate migration increases public support for policies to mitigate climate change and vice versa. This paired approach is important because conjoint experiments reveal public attitudes, but are limited in their ability to illuminate potential policy consequences of those attitudes (Abramson, Koçak, and Magazinnik 2019). The factorial experiment allows us to explore whether increasing the salience of climate migration induces greater support for policies to mitigate the root cause: climate change. Empathy is robustly correlated with support for mitigation and aiding climate migrants, consistent with the humanitarianism model of migration attitudes. However, we find no evidence that priming either climate migration or climate change increases support for policies to mitigate their effects. This result accords with other research on the difficulty of moving support for climate action (Hazlett and Mildemberger 2020), and suggests that climate migration attitudes are distinct from climate change beliefs. Although the public views climate migrants favorably, this approval is unlikely to translate to support for climate mitigation.

In sum, the contributions of this research note are four-fold. First, marshalling evidence in new contexts is critical for establishing a fuller understanding of global opinion given key national differences in experiences of and attitudes about migration and climate change. Although climate migration disproportionately affects developing countries now, it has and will increasingly affect developed countries as well. The U.S. and Germany have experienced recent episodes of internal and regional climate displacement, and these states will also become second destinations for climate migrants from the Global South, who will turn North as first destinations in the South suffer climate change (Marotzke et al. 2020). Second, this fact also highlights why it is imperative to study both *internal* and *international* climate migration. Without evidence on international climate migration attitudes, we cannot anticipate how publics in the Global North will respond to climate migrants arriving from more distant Global South origins. The critical role of public opinion on migration policymaking in the Global North makes this an important gap in existing work. Third and relatedly, extant models of migration attitudes were developed with respect to international migration, so exploring whether they generalize to internal migration contexts bears theoretical import. We provide new, preliminary evidence that the humanitarian model can account for attitudes toward both internal and international migrants, at least

in developed settings. This finding contrasts with Spilker et al. (2020), and highlights the need for future work exploring whether and why different models of migration attitudes apply in different contexts and to different categories of migrants. Fourth, our findings reveal that opinion on climate migrants is distinct and favorable in contexts with both high (Germany) and modest (U.S.) belief in climate change, yielding suggestive evidence that views on climate migration are distinct from broader views on climate change. This result and our paired experimental approach are critical for understanding policy implications of public attitudes. While people are broadly supportive of internal and international climate migrants, emphasizing the scale of climate migration is unlikely to help mobilize support for climate change mitigation.

Attitudes about Humanitarian, Economic, and Climate Migrants

An extensive literature studies public attitudes on migration. Canonical models trace native opposition to considerations about labor market and welfare competition, or migrants' effects on the national economy and culture (Hainmueller and Hopkins 2014).³ More recent evidence suggests that public opinion also varies with migrants' perceived reasons for migrating. We focus theoretically on this recent research, and especially on models linking migration attitudes and humanitarian concerns, because differences in migration attitudes based on migrants' reason for migration are not well-explained by labor market accounts. In our context, theories about labor-market competition yield indeterminate predictions. For instance, refugees and climate migrants may be more likely than labor migrants to flee with children, implying a greater fiscal burden and effect on local demographics. However, these groups may also be more likely to return home if the causes of their flight are addressed, for example by war termination or climate change mitigation. This would imply greater long-term threat from labor migrants.

To address this indeterminacy, we build on recent work exploring variation in support for migrants rooted in humanitarian concerns (Bansak et al. 2016; Spilker et al. 2020). Results from Western Europe (Bansak et al. 2016) and Jordan (Alrababa'h et al. 2020) suggest international migrants who move in search of economic opportunities receive significantly less public support than individuals fleeing persecution. In contrast, studying internal migration in Vietnam and Kenya, Spilker et al. (2020) find a preference for climate and economic migrants versus persecuted migrants. These findings are ripe for future study, and suggest that attitudes about persecuted versus economic migrants vary between developed versus developing countries, and international versus internal migrants. Our paper represents a first step in reconciling this debate because we study both international and internal migrants, though our samples are restricted to the developed world.

Recent research shows differences in public support for economic migrants versus refugees are rooted in contrasting perceptions of voluntariness. Whereas economic migrants are perceived as voluntary migrants re-

³A fuller literature review in the appendix devotes particular attention to models linking immigration attitudes with labor market and fiscal considerations, sociotropic concerns, and perceptions of humanitarian need.

sponsible for their own situations, persecuted individuals are perceived as involuntary migrants not responsible for their plight (Verkuyten, Mepham, and Kros 2018). At the microlevel, differing perceptions of responsibility induce different emotional responses (Weiner 1995; de Waal 2008). Economic migrants elicit anger because they are perceived as self-responsible; refugees elicit empathy because their situation is perceived as beyond their control (Verkuyten, Mepham, and Kros 2018).⁴ In turn, empathy is associated with greater support for ameliorative policies (Weiner 1995; de Waal 2008), especially for migrants (Williamson et al. 2020).

Building on these arguments, we hypothesize that climate migrants occupy an intermediate place in the public view. Because climatic events are beyond human control, individuals fleeing these events are attributed with low responsibility for their actions: climate migrants are viewed as involuntary migrants, in contrast to economic migrants. On the other hand, climate migrants do not flee deliberate campaigns of persecution like refugees. The targeted nature of persecution elevates the affective sympathy, and in turn empathy, that observers feel for victims (de Waal 2008). Whereas flight is typically the only resort for individuals facing persecution, those affected by extreme climatic events have a variety of adaptive options, of which migration is one possible response (McLeman 2014). As such, climate migrants are viewed as more self-responsible—and hence less deserving of empathy—than refugees.⁵ Thus we hypothesize:⁶

H_1 : Climate migrants are viewed more favorably than economic migrants.

H_2 : Climate migrants are viewed less favorably than persecuted migrants.

Study 1: Empirical Design

To test our argument we employ a choice-based conjoint experiment. The conjoint design enables us to distinguish how components of a bundled treatment—a migrant’s characteristics—affect the outcome—respondents’ support for settling a migrant in their state (Hainmueller, Hopkins, and Yamamoto 2014). We estimate the average marginal component effect (AMCE), which captures the effect of varying an attribute of a migrant profile on the probability that that profile is preferred, averaged over the distribution of the other attributes. Because the AMCE averages over the direction and intensity of preferences, it does not reflect the majority preference, but rather the average reaction of respondents to the attribute in question relative to the baseline. Accordingly, our language reflects the estimand and does not extrapolate to social choice.

Our experiment was fielded with Dynata on nationally representative online samples of 1086 U.S. and 1074 German respondents, resulting in 18,966 and 18,862 unique choice tasks respectively.⁷ We selected these

⁴While research in the developed context we study supports this expectation, Spilker et al.’s (2020) findings on internal migration in the developing world do not. Two possible explanations stand out. First, internal labor migration is common and accepted in developing settings, potentially making it easier for respondents to empathize with labor migrants on the basis of shared experiences, e.g. if the respondent or a family member migrated internally for work. Second, developing governments often suppress information about repression, potentially making primes about persecution-induced internal migration less credible.

⁵We validate these contentions in a separate survey detailed in the appendix. Climate migrants are perceived as significantly more (less) deserving and less (more) self-responsible than labor migrants (refugees).

⁶All hypotheses were pre-registered at Evidence in Governance and Politics (EGAP).

⁷Summary statistics and details on the sample, design, and measurement can be found in the appendix.

countries for fielding because there is variation among both populations in exposure to climate change, migration, and climate migration, and because the U.S. and Germany are important hubs of climate and migration policymaking. Before introducing our experimental manipulations, all respondents received a sociodemographic battery, allowing us to measure important characteristics including age, gender, education, religiosity, trust in government, political interest, ideology, partisanship, foreign policy orientation, and empathy.

After the pre-test, respondents were shown nine pairs of randomized migrant profiles, each on a new screen, and varying along the seven attributes described in Table 1. We selected attributes to include based on factors identified in the literature (Hainmueller and Hopkins 2014; Bansak et al. 2016; Spilker et al. 2020), allowing us to compare our experimental findings against well-known benchmarks. Our main attribute of interest is the reason for migration. This variable takes five values: *flooding*, *drought*, *wildfires*, *political/religious/ethnic persecution*, and *economic opportunity*.⁸ After each pair of profiles, respondents rated each profile and indicated their preference for admitting one of the migrants for settlement in their state.

Table 1: Conjoint Design Specification

Attribute	Levels
Reason for Migration	<i>Economic Opportunity</i> , Drought, Flooding, Wildfires, Political/Religious/Ethnic Persecution
Language Fluency	<i>None</i> , Broken, Fluent
Gender	<i>Female</i> , Male
Occupation	<i>Unemployed</i> , Cleaner, Teacher, Doctor
Religion	<i>Atheist/Agnostic</i> , Christian, Muslim
Origin	<i>Another region in your country</i> , Afghanistan, Ethiopia, Myanmar, Ukraine
Vulnerability	<i>None</i> , Post Traumatic Stress Disorder (PTSD), Food insecurity, No surviving family members, Physically handicapped

Notes: Our focal attribute is shaded. Levels used as baselines are italicized. Factors and levels were identical for the U.S. and Germany, with the exception of agnostic, which was replaced with atheist in Germany for cultural relevance.

Study 1: Conjoint Results

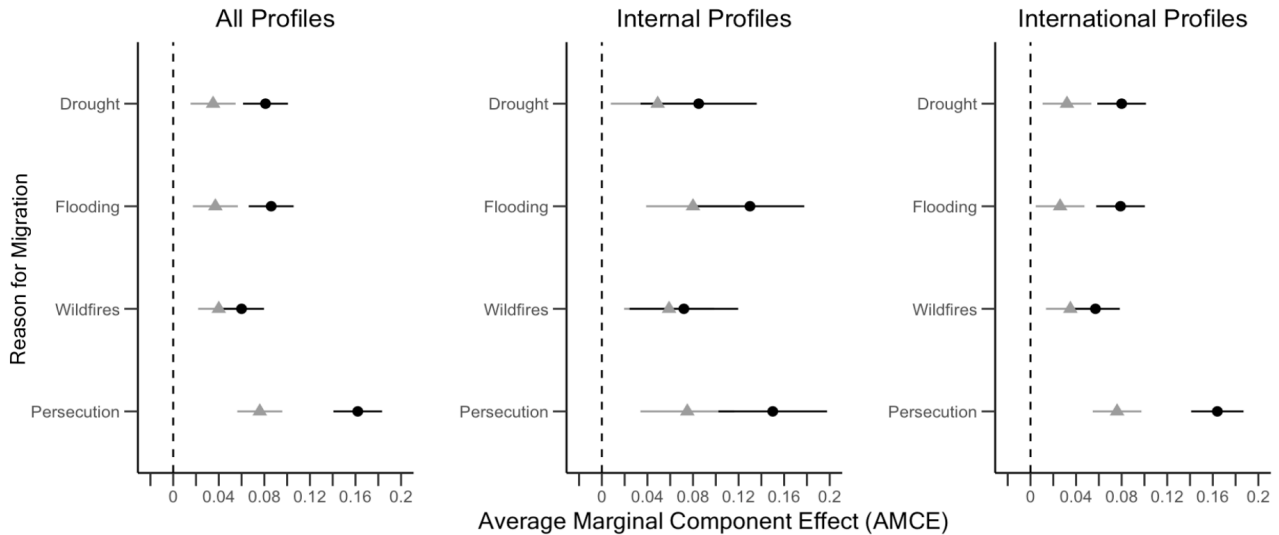
The main results of our conjoint experiments are presented in Figure 1, which shows AMCEs for levels of our focal attribute, the reason for migration.⁹ To contextualize the magnitude of these effects, in Table 2 we present AMCEs from the full model (left panel of Figure 1) for all attributes, which reflect the average change in the probability that a migrant profile is preferred when it features the designated attribute level rather than the corresponding baseline level. Consistent with our hypotheses, respondents in both countries view climatic reasons for migration more positively than economic reasons for migration. In the U.S. sample, migrants displaced by droughts, floods, and wildfires are respectively 3.5, 3.7, and 4 percentage points more likely to be preferred than economic migrants. In the German sample, migrants displaced by droughts, floods, and wild-

⁸We draw these attribute levels from Spilker et al. (2020), adding wildfires as an additional climatic driver.

⁹The left panel studies all profile pairs, the middle subsets to internal migrant (within-country) profile pairs, and the right subsets to international migrant (between-country) profile pairs. Confidence intervals are larger for the internal profiles because of the smaller size of this profile subset.

fires are respectively 8.1, 8.6, and 6 percentage points more likely to be preferred than economic migrants. In comparison, persecuted migrants are 7.6 percentage points more likely to be preferred than economic migrants in the U.S. and 16.2 percentage points more likely to be preferred in Germany. Substantively identical results hold for both internal and international migrants.

Figure 1: Conjoint Results for the Reason for Migration



Note: Gray triangles are estimates from the U.S. sample and black dots are estimates from the German sample. Bars are 90% confidence intervals based on respondent-clustered standard errors. Baseline is economic opportunity. The left panel includes all profiles, the middle panel includes only internal migrant profiles, the right panel includes only international migrant profiles.

In line with our hypotheses, these results suggest reasons for migration evoke substantively meaningful and statistically significant differences in respondent preferences. Climatic migrants are preferred to economic migrants, though not as much as refugees. Further, we see no significant within-sample differences in respondent preferences between drought, flooding, or wildfires as reasons for migration. This suggests that different climatic drivers of migration tend to be viewed similarly by respondents, and form a coherent category. Like Spilker et al. (2020), we find no evidence of differences between slow-onset (drought) and rapid-onset (flooding, wildfires) events. Based on marginal means, the probability of respondents in the U.S. and Germany preferring an economic migrant is 0.45-0.48, the probability of preferring any type of climate migrant is 0.48-0.53, and the probability of preferring a refugee is 0.53-0.60. These results demonstrate that public opinion about climate migrants is positive and distinct. However, contra Spilker et al. (2020), our results also suggest that publics prefer refugees to economic migrants. This finding accords with Bansak et al. (2016) and Alrababa'h et al. (2020). As noted above, this discrepancy likely owes to important contextual differences between samples in developed and developing settings, and is an important avenue for future research.

Table 2 uses estimates from the full model (left panel of Figure 1) to highlight the substantive importance that different reasons for migration have on respondent preferences. For instance, existing work establishes that employment, language fluency, religion, and vulnerability are all important in preferences over migrants (Hainmueller and Hopkins 2014; Bansak et al. 2016). In substantive terms, the U.S. preference for a climate

migrant compared to an economic migrant is comparable in magnitude to the preference for a migrant that speaks broken English compared to no English. In the German sample, the preference for a climate migrant compared to an economic migrant is slightly larger in magnitude than the preference for a cleaner compared to an unemployed migrant.

Table 2: Main Average Marginal Component Effects (Compared to Baseline Levels)

Attribute	Level	U.S. Sample			German Sample		
		Estimate	Std. Err.		Estimate	Std. Err.	
Reason for Migration	Drought	0.035	0.012	**	0.081	0.012	***
Reason for Migration	Flooding	0.037	0.012	**	0.086	0.012	***
Reason for Migration	Wildfires	0.040	0.011	***	0.060	0.012	***
Reason for Migration	Political/religious/ethnic persecution	0.076	0.012	***	0.162	0.013	***
Language Fluency	Broken	0.043	0.009	***	0.048	0.009	***
Language Fluency	Fluent	0.104	0.009	***	0.140	0.010	***
Gender	Male	-0.044	0.007	***	-0.050	0.007	***
Occupation	Cleaner	0.072	0.011	***	0.063	0.010	***
Occupation	Teacher	0.140	0.011	***	0.146	0.011	***
Occupation	Doctor	0.187	0.012	***	0.179	0.012	***
Religion	Christian	0.060	0.009	***	0.008	0.009	
Religion	Muslim	-0.047	0.009	***	-0.085	0.010	***
Origin	Afghanistan	-0.026	0.012	*	-0.021	0.013	
Origin	Ethiopia	-0.026	0.011	*	-0.017	0.013	
Origin	Myanmar	-0.022	0.012		-0.008	0.013	
Origin	Ukraine	-0.011	0.012		-0.022	0.013	
Vulnerability	Post Traumatic Stress Disorder (PTSD)	-0.046	0.012	***	-0.014	0.012	
Vulnerability	Food insecurity	0.013	0.011		0.022	0.011	
Vulnerability	No surviving family members	0.038	0.011	***	0.035	0.012	**
Vulnerability	Physically handicapped	-0.003	0.012		0.024	0.012	*

Notes: Our focal attribute is shaded. Baselines levels are listed in Table 1. Robust standard errors are clustered by respondent. *** p<0.01, ** p<0.05, * p<0.1.

Results in Table 2 also build confidence in our analysis because they replicate well-known findings in the extant literature. Respondents in the U.S. and Germany consistently oppose settling male and Muslim migrants, and prefer migrants with greater language fluency and more prestigious professions (Hainmueller and Hopkins 2014; Bansak et al. 2016). These findings accord with the sociotropic model. However, we also document a significant preference for handicapped migrants in Germany and migrants with no surviving family members in both samples. These results are difficult to reconcile with economic models and speak to the importance of humanitarian considerations. Overall, the effects of occupation are largest in both samples, followed by language fluency and reason for migration, our focal category. As we hypothesized, climatic reasons for migration yield lower average support than persecution, but significantly higher average support than economic reasons for migration.

In the appendix, we probe the robustness of our findings. In particular, we perform diagnostic tests, analyze marginal means, and explore heterogeneous treatment effects (Leeper, Hobolt, and Tilley 2020). Interacting origin and reason for migration does not yield evidence for substantial heterogeneity in the effect of different reasons for migration according to the location of origin.¹⁰ The core expectation that support is greatest for persecuted individuals followed by climate and then economic migrants also holds when we sepa-

¹⁰Respondents prefer internal flood migrants to international flood migrants in the U.S., and all categories of internal climate migrants to international climate migrants in Germany.

rately consider internal and international migrant profiles, and when we exclude internal migrant profiles that may seem implausible to respondents. We find no evidence that employed or college educated individuals are more supportive of climate migrants, belying the notion that labor market considerations alone drive observed variation. Overall, our main results are corroborated across sensitivity and robustness tests. This suggests that the intermediate position of climate migrants in the public view—more preferred than economic migrants and less preferred than refugees—is relatively stable, and holds for both internal and international migrants.

Study 2: From Climate Migration to Climate Change Mitigation?

Our conjoint results suggest the public views climate migrants favorably, but how might this support translate to policymaking? AMCEs reflect mean opinion, but policymaking hinges on majority views in the developed democracies we study. Thus, we fielded a complementary factorial experiment (study 2) that recovers respondents' policy priorities. This paired experimental approach helps elucidate likely policy consequences of public favorability toward climate migrants (Abramson, Koçak, and Magazinnik 2019: 55). We specifically ask whether support for climate migrants translates to support for climate change mitigation. Our core expectation is that raising the salience of climate migration increases support for policies to mitigate climate change.¹¹ We posit that making climate migration more salient will induce individuals to support climate change mitigation in order to ease climatic pressures in migrants' origin communities, and thereby to reduce climate displacement. This intuition builds from an insight formalized by Marotzke et al. (2020), who show that interdependencies between climate migration and mitigation could prompt would-be hosts in the Global North to pursue mitigation in order to avert South-North climate migration. More generally, our hypothesis extends evidence that individuals are more supportive of climate action when they face higher relative costs from climate change (Del Ponte et al. 2017), such as would be the case for hosts of climate migrants.

To test whether priming climate migration influences support for climate change mitigation and vice versa, we fielded a between-subjects factorial experiment on representative U.S. and German samples. In study 2, respondents received the pre-test described above, and then were presented with a mock article priming the prevalence of migration, climate change, or climate migration in a respondent's country or worldwide. Dependent variables are multiple-item indices of importance capturing support for policies and actions to address each issue.¹² Two results stand out from study 2. First, an individual's level of empathy is robustly correlated with support for mitigation and policies to aid climate migrants. This result represents additional suggestive evidence in support of the humanitarianism model we posit in study 1. Second, contrary to our expectations, priming the salience of climate migration or climate change had no significant effect on respondents' support for climate change mitigation or aiding climate migrants, and this null is consistent across sub-groups. This finding suggests models of migration-mitigation interdependence (Marotzke et al. 2020), which assume ego-

¹¹The appendix elaborates our expectations and results for study 2 in detail.

¹²The control group received an article about soccer. Index items are described in the appendix.

centric opposition to migration, must account for popular favorability toward climate migrants; mass support for hosting climate migrants may paradoxically attenuate incentives for hosts to pursue mitigation. More generally, our findings in study 2 imply that the occurrence of climate migration is unlikely to catalyze support for climate mitigation. This unfortunate result accords with evidence on the difficulty of mobilizing climate action (Hazlett and Mildemberger 2020).

Conclusion

In this article, we conduct one of the first experimental analyses of public attitudes toward climate migrants. Using a conjoint experiment fielded on nationally representative samples in the U.S. and Germany, we find that internal and international climate migrants occupy a distinct, intermediate place in the public view. Individuals are more supportive of settling climate migrants than economic migrants, but less supportive of settling climate migrants than refugees. These results suggest models of migration attitudes rooted in humanitarianism extend to internal and international migration contexts, and can account for attitudes toward climate migrants, at least in the Global North. However, a second experiment shows that priming climate migration is unlikely to catalyze support for climate change mitigation. Rather, dispositions like empathy drive concern about climate migration and climate change mitigation. These findings contribute to a growing body of evidence that mass attitudes on migration are affected by migrants' different reasons for migrating. Future research should continue to probe whether and why these results differ across country contexts and migrant categories. In particular, crafting generalized models of migration attitudes will require studying international and internal migration together, rather than separately. Above all, greater attention should be devoted to understanding public attitudes about climate migration. Doing so may help researchers refine models of migration attitudes and policymakers develop solutions for migrant integration and climate change mitigation.

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