Public support for climate adaptation aid and migrants: a conjoint experiment in Japan

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Abstract
We examine public support in Japan for overseas climate adaptation assistance via foreign aid and accepting immigrants. Using a survey-embedded conjoint experiment (N = 2815), we focus on seven attributes of an adaptation policy package: (a) the continent in which the country is located; (b) the types of extreme weather event this country faces; (c) the volume of climate aid; (d) the number of climate migrants; (e) Japanese exports; (f) Japanese imports; (g) the country’s record of voting with Japan in the United Nations. We find that while respondents are indifferent to aid volume, their support diminishes as the number of migrants increases. Moreover, support is higher for Asian countries, that provide export markets, vote with Japan, and where the effects of climate change are gradual. Importantly, we find that public support is not influenced by benchmarking of Japan’s or peer G7 countries’ past aid or immigration levels.

1. Introduction
Climate change is a defining issue of our times. Because developed countries have contributed most to accumulated greenhouse gas emissions, they bear substantial responsibility for mitigating climate change. This is why the 1992 United Nations Framework Convention on Climate Change enshrined the principle of common but differentiated responsibility regarding emission reductions.

Because climate change is already in motion, there is an emerging international consensus that developed countries should also support developing countries to adapt. We focus on two types of overseas adaptation assistance: foreign aid and accepting climate migrants. Adaptation aid could help developing countries to enhance their resilience by say building irrigation systems to address the increased frequency of droughts or helping communities relocate from coastal areas in response to rising sea levels (Mirza 2003, Huq et al 2004, Arndt and Tarp 2017). Accepting migrants is another dimension of climate adaptation. As per some estimates, by 2050, the number of climate migrants, moving either within their countries or across borders, will reach 200 million4.

Both overseas aid and accepting migrants could generate domestic opposition. Developed countries tend to show aid fatigue because there is a perception that aid funds are misused in recipient countries (Bauhr et al 2013). There is substantial literature on the domestic backlash to international migration in Europe and the United States (Dowd and McAdam 2017, Shehaj et al 2021). To some extent, this backlash can be found in East Asia as well. In South Korea, the ban damunhwa (‘anti-multicultural’ sentiment has taken hold, where immigrants are blamed for crime spikes. Peng (2017) points out that while developed countries tend to rely on foreign care workers, Japan

4 https://reliefweb.int/report/world/climate-migrants-might-reach-one-billion-2050. A recent White House report, ‘Impact of Climate Change on Migration,’ puts the number at 143 million for Sub-Saharan Africa, South Asia, and Latin America. There is no authoritative estimate of the proportion of climate migrants that are likely to relocate to another country, although some media reports suggest it to be about 25%.
and South Korea restrict their immigration, despite facing a shortage.

While many policy makers have noted that overseas adaptation aid can support individuals cope better with climate-induced changes (and therefore not emigrate), this is among the few papers that test public support in Japan for a policy package that includes varying levels of both climate aid and migration. We selected Japan for three reasons. Because Japan is a major climate donor\(^5\), it is important to understand public support for overseas climate adaptation assistance\(^6\). Second, immigration is not a hot-button issue in Japanese politics. Unlike Europe and the USA, there is no recognizable right-wing populist movement against immigration. At the same time, it is not clear how the Japanese public will react if there is a sudden increase in the volume of climate migrants—Asian countries, in particular, are projected to experience a substantial climate-induced out-migration. Hence, the uncertainty about the public response to migration, the projected surge in Asian migration, and whether Japanese respondents implicitly trade-off aid against migration are important issues to investigate in the study of global adaptation politics.

To test the Japanese public’s willingness to support an overseas adaptation policy package, we administered a survey-mounted conjoint experiment \((N = 2815)\). The policy package has seven dimensions: (a) the continent in which the country is located; (b) the types of extreme weather events this country faces; (c) the volume of climate aid that the country receives from Japan; (d) the number of climate migrants that Japan accepts from the country; (e) Japanese exports; (f) Japanese imports; and (g) the country’s record of voting with Japan in the United Nations.

Our main finding is that while respondents are indifferent to aid volume, their support diminishes as the number of climate migrants increases. We also find that public support is higher for assistance to Asian countries (as opposed to African and Latin American countries), countries that import from Japan (but not those which export to Japan), and countries that vote with Japan in the United Nations. Overseas countries might experience different types of climate-induced challenges. We find that sea-level rise and droughts, whose effects are felt gradually, seem to generate more public support than dramatic events such as floods, typhoons, and wildfires. Finally, we find that public support is not influenced by benchmarking with Japan’s previous aid and immigration levels, or those of its peer G7 countries.

2. Literature review

An extensive foreign aid literature examines why donors give, how much, and to whom (Lundsgaarde et al 2010). Scholars have explored aid allocation in the context of climate and environmental aid as well (Hicks et al 2010), especially mitigation aid (Halimanjaya and Papyrakis 2015). In recent years, there is an emerging literature on adaptation finance because developing countries lack resources to adapt effectively (Donner et al 2016) and the rising emphasis on adaptation in policy discussions (such as Article 9 of the 2015 Paris Agreement as well as the 2021 Glasgow COP26 meeting). Moreover, while the literature examines public support in donor countries for foreign aid (Milner and Tingley 2011), public support specifically for climate aid remains understudied. Therefore, our study contributes to an important but understudied issue in the context of climate aid.

Scholars have studied different aspects of climate migration such as its media portrayal (Sakellari 2021), securitization (Boas et al 2019), and its drivers (Riosmena et al 2018). While there is a well-developed literature on public support for immigrants in host countries, the extent of support for climate migrants, in particular, is not clear (Bansak et al 2016, Hermanni and Neumann 2018, Ghosn et al 2019, Abdelaaty and Steele 2020, Rich et al 2021). In recent years, scholars have employed experimental tools to assess public support for both internal and international climate migrants. For example, Helbling (2020) has examined support for international climate migrants in Germany, and Hedegaard (2021) has explored support in Denmark for international climate migrants in relation to economic migrants and asylum-seeking migrants. Spilker et al (2020) have assessed public support for internal climate migrants in Vietnam and Kenya, while Castellano et al (2021) have examined support for Rohingyas and internal climate migrants in Bangladesh.

There is a body of literature examining the link between aid and migration, but their findings are inconclusive. Some report that aid deters emigration (Gamso and Yuldashev 2018) while others find no relationship (De Haas 2007, Berthélemy et al 2009; Clemens 2014). But the scholarship looking specifically at the relationship between climate aid and migration is sparse (exceptions include Runfola and Napier 2016, Stanley and Williamson 2021). This is among the first studies to explore the link between climate aid and migration in the context of public support for a policy package that includes different levels of overseas aid and immigration.

\(^5\) https://donortracker.org/japan/climate

\(^6\) The OECD countries have committed to $100 billion per annum climate aid starting 2023. However, African countries and the group of Like-Minded Developing Countries (LMDCs), are demanding $1.3 trillion annual aid starting 2030. In the light of recent climate discussions at COP 26 in Glasgow, there is an emerging consensus on a 50/50 split between mitigation and adaptation aid. Thus, major donors such as Japan might soon be providing substantially higher levels of adaptation aid.
We make a methodological contribution as well. In the first-generation ‘aid and public opinion’ studies, researchers worked with existing surveys (such as the World Values Survey) or administered original surveys (Stern 1998, Paxton and Knack 2012, Henson and Lindstrom 2013). In recent years, a growing number of researchers, are employing survey experiments to study how different dimensions or framing of foreign aid influence public support. For example, Hurst et al (2017) assessed how costs, effectiveness, and impact of aid influence public support. Baryam and Holmes (2020) analyzed the informational effect of aid efficacy, deservingness, and specific country names. Kiratli (2020) examined how public support is conditioned by recipients’ political regimes and specific country names. The implication is that public support for aid is conditioned by its various dimensions such as who gets aid, why, and whether aid will be used appropriately. In other words, as Doherty et al (2020) and Heinrich and Kobayashi (2020) suggest, survey respondents assess aid as a ‘policy package’ with multiple dimensions instead of a single attribute such as its total price tag (Blackman 2018, Heinrich et al 2018, Milner and Tingley 2010). This is perhaps the first paper to employ the ‘policy package’ approach to examine how various dimensions of adaptation aid might influence public support.

3. Argument

The classic migration models have noted the role of both ‘push’ and ‘pull’ factors in encouraging migration (Todaro 1969). For instance, if migration is politically unpopular in developed countries (a ‘pull’ factor), they might be more willing to provide foreign aid to enhance developing countries’ economic growth or, in case of climate migration, its resilience (a ‘push’ factor) to extreme weather events. Indeed, President Biden has recently made a case to increase foreign aid to Central America to reduce the incentives of their citizens to migrate to the United States7. While scholars note the nexus between foreign aid and migration (Angelucci 2015, Berthélemy et al 2009, Lanati and Thiele 2018, Dreher et al 2019, Marchal et al 2021), they have not explicitly tested how this might shape public support in the context of climate aid.

Adaptation aid is aimed at enhancing climate resilience while development aid seeks to support (primarily) economic growth. In some instances, climate aid might have a spillover effect on economic growth (such as building new irrigation systems) while in other cases it might help create or improve infrastructure such as sea walls or river embankments with no direct spillovers on economic growth. What is crucial for our paper is that governments tend to justify development aid and climate aid using different rationales. Hence, support for foreign aid per se might not correctly reflect support for overseas climate aid. This argument holds for migration as well: public support for generic migrants and economic migrants might differ from that for climate migrants.

Studies suggest that public support for foreign aid varies by recipient country characteristics (Baryam and Holmes 2020, Doherty et al 2020, Kiratli 2020). Arguably, this insight might hold for climate adaptation assistance as well; that is, public support for climate adaptation assistance, be it aid or immigration, might vary by which countries receive assistance. People may favor some countries due to racial or geographical reasons. Spilker (2020) and Castellano et al (2021) also consider the role of ethnicity in the context of internal climate migration. We propose:

Hypothesis 1: Support for the policy package will be higher for countries that are in the same continent (Asia).

Hypothesis 2: Within Asia, support for the policy package will be higher for a country that is in geographical proximity (Cambodia).

As we note subsequently, we selected four countries: Bangladesh, Cambodia, Peru, and Tanzania. Our objective is to test for the role of both ethnicity and geographical proximity. Moreover, we selected countries with which Japan has trading relations and which experiences specific types of natural disasters we have mentioned in the conjoint. Based on these multiple factors, we included two Asian countries which varied in geographical proximity along with African and South American countries.

Furthermore, the public might be more supportive of climate adaptation to countries that face sudden extreme weather events (Helbling 2020, Spilker et al 2020, Castellano et al 2021). This is because these events could be viewed as bad luck over which individuals have neither any control nor much time to prepare for them. Hence, the luckier people elsewhere might feel an obligation to help them. We propose:

Hypothesis 3: Support for the policy package will be higher for countries that need to adapt to sudden extreme weather events.

Aid often has an instrumental dimension; scholars note donors often provide aid to countries they trade with (Dolsak and Dunn 2006, Lundsgaarde et al 2010). Arguably, public support for climate adaptation assistance might depend on Japan’s bilateral economic linkages with the recipient country (Doherty et al 2020, Heinrich and Kobayashi 2020).

7 www.nytimes.com/2021/06/06/world/americas/central-america-migration-kamala-harris.html?action=click%26module=Top%20Stories%26pertype=Homepage
Hypothesis 4: Support for the policy package will increase for countries that have economic ties with Japan.

Donors sometimes employ foreign aid to purchase political support in international venues such as the UN General Assembly (Doherty et al. 2020, Heinrich and Kobayashi 2020, Kiratli et al. 2020). Miller and Dolsak (2007) find that Japan targets foreign aid to countries that support it in the International Whaling Commission, which suggests that Japan used foreign aid as a diplomatic tool to solidify its international political position.

Hypothesis 5: Support for the policy package will be higher for countries that vote with Japan in the UN General Assembly.

3.1. Benchmarking: peer effect and policy continuity
Public support for adaptation aid and migration might depend on the policies of ‘peer countries.’ As the vast literature in prospect theory (Levy 1997) suggests, boundedly rational individuals employ reference points or benchmarks in making choices. This might be because the norm of appropriate behavior (March and Olsen 1998) works as a guide for their actions. If peer countries provide a substantially higher volume of climate adaptation assistance, the Japanese public might support higher aid or immigration levels.

Hypothesis 6: Support for the policy package will be higher when respondents are provided information about aid and migration policies of peer countries.

Similarly, given a bias for policy continuity, individuals might assess a policy package in relation to how their country has addressed the same issue in the past. If so, they could be more supportive if aid or immigration volumes proposed in the policy package are comparable to existing levels. Self-benchmarking might also correct individuals’ misperceptions about actual levels of aid or immigration. For example, scholars note that because citizens sometimes overestimate the aid levels, public support for aid increases once the respondents are exposed to information on the actual levels (DiJulio et al. 2016).

Hypothesis 7: Support for the policy package will be higher when respondents are provided information about Japan’s past aid and migration levels.

In the next section, we outline the empirical strategy to test these hypotheses about public support for various types of adaptation policy package.

4. Data and methods
We administered a survey-embedded experiment to a sample of adult Japanese citizens (in the Japanese language) drawn from online panels of Rakuten Insight in Japan (N = 2815) between 8 February and 17 February in 2021. Since native Japanese speakers are in the research team, we are confident that the language is culturally appropriate. Prior to the survey, we secured Human Subjects Approval from our university and pre-registered our survey (https://osf.io/9z4tm). Our sample is representative of the adult Japanese population in terms of age, gender, and region (six regions).

Conjoint analysis has several advantages compared to a classic survey experiment. First, it is a more realistic portrayal of the reality because individuals vote on policies with multiple dimensions, involving trade-offs. Second, conjoint allows researchers to evaluate how specific components contribute to overall support for the full policy package. Lastly, because individuals are assessing several dimensions together, conjoint can reduce the implicit social desirability bias (Bechtel and Scheve 2013, Hainmueller et al. 2014).

Our survey was structured as follows. Participants first read the introduction (A.2 in the appendix). Given that many people are less familiar with climate adaptation than mitigation, in the introduction, we provide the basic knowledge on climate adaptation assistance with a positive tone. We noted that Japan, as a developed country, bears responsibility for providing adaptation assistance to developing countries. In particular, foreign aid and accepting international migrants are important instruments of overseas adaptation assistance. After reading the introduction and an attention check question, participants were exposed to the conjoint experiment. We asked to evaluate six policy pairs (sequentially) and select the policy package in each pair they recommend the Japanese government should adopt.

Every policy (package) has seven attributes: (a) countries receiving assistance (Bangladesh, Cambodia, Peru, and Tanzania); (b) type of climate problem (wildfire, drought, sea-level rise, flooding, and typhoon); (c) proposed aid levels (0, $1 billion, $2 billion, $3 billion and $4 billion); (d) proposed number of climate migrants Japan should accept from this country (0, 100, 250, 450, 700, 1000); (e) Japanese relief for the next five years (https://enb.iisd.org/Glasgow-Climate-Change-Conference-COP26-daily-report-2Nov2021, last accesses on 3 November 2021).
Table 1. A sample set of policy proposals. ‘For reference, in 2018, major developed countries provided 886 million USD in climate aid on average. They accepted 26 000 general (non-climate) refugees on average.’

| Policy 1 | Policy 2 |
|----------|----------|
| Developing country | Cambodia | Peru |
| Extreme weather events | Wildfire | Drought |
| Give climate aid to this country (USD) per year | 3 billion | 1 billion |
| Accept climate migrants from this country per year | 100 | 450 |
| Value of Japanese goods exported to this country (USD) | 0 | 1 billion |
| Value of goods Japan imports from this country (USD) | 1 billion | 2 billion |
| Percentage of times this country voted with Japan in the United Nations | 40% | 0% |

Figure 1. Baseline preferences.
Note: Lines indicate 95% confidence intervals. We use robust standard errors.

With respect to the order of attributes within a set of policy proposals, we divided seven attributes into three groups: (a) country names and extreme weather events; (b) aid volume and migration levels; (c) import, export, and UN voting. To minimize confusion as to which country is receiving adaptation assistance, we listed country names first. But we randomized the order of attributes within the last two groups. Then, the order of attributes was held constant across the six choice tasks to limit the cognitive burden on participants.

We randomized the values of attributes, except for country names. These experimental settings enable us to identify the causal effects of each attribute on public support for the policy package. This yields a sample of 33780 observations: 2815 (respondents) × 6 (choice tasks) × 2 (policy proposals). We dropped 528 respondents who failed the attention check questions (our results do not change if we include them). In the end, 2287 respondents remained in

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9 Since the term climate refugees is more commonly used than climate migrants in Japan, we used the former in our survey.
Figure 2. Benchmarking effect. Note: lines represent 95% confidence intervals.

To explore if benchmarking influences public support for climate aid and immigration, we divided participants into three groups (reference category and two treatment groups). The reference group received only the conjoint table without benchmarking information. The treatment groups received the benchmarking information along with the conjoint table (while maintaining a comparable word count across the groups). Respondents in the first treatment group (self-benchmarking) were provided information on Japan’s climate aid and migrants Japan accepted in 2018, the most recent year for which immigration data are available (UNHCR 2018, OECD 2021). The text reads: ‘For reference, in 2018 Japan provided 1600 million USD in climate aid and accepted 42 general refugees.’ Note that we provided information on the number of ‘general’ refugees instead of climate migrants because neither Japan nor G7 countries officially accept climate migrants displaced by climate change.

Table 1 shows a sample set of policy proposals with the benchmarking information of Japan. We asked socio-demographic questions toward the end of the survey. We provide the survey design with full texts of introduction, information frames, and questions in A.2 in the appendix.

5. Results

5.1. Baseline preferences
We first report baseline preferences by policy attribute without the benchmarking effect (that is, for the reference group only). Figure 1 shows marginal means (MMs): the average support for a policy containing a specific attribute value, averaging over all other attributes (Leeper et al 2020).
We find that while respondents are indifferent to volumes of aid (that is, changing aid levels does not alter their support for the policy package), their support for the policy package diminishes as the number of climate migrants increases. This might reflect that while aid is viewed predominantly as an economic issue, migration involves social and cultural aspects. Furthermore, Japan is an ethnically homogeneous country, and its citizens do not have much experience in living with individuals of different ethnicities.

But does the support for assistance reflect implicit geographical bias? Our finding partially supports public inclination to support Asian countries. Respondents tend to support policy packages when assistance is provided to Asian countries instead of Latin American and African countries. Specifically, support for adaptation assistance to Bangladesh is significantly higher than to Tanzania or Peru. However, support for assistance to Cambodia is not statistically significantly different from Tanzania or Peru. Meanwhile, respondents do not differentiate between Asian countries (Cambodia in relation to Bangladesh). These findings offer partial support for hypothesis 1 (in the context of Bangladesh only) but not hypothesis 2.

Does the public support change in response to different extreme weather events? In contrast to previous studies (Helbling 2020, Spilker et al 2020), support for the policy package is higher when assistance is motivated to tackle droughts and sea-level rise instead of floods, typhoons, and wildfire. This challenges our expectation outlined in hypothesis 3 that respondents might be more willing to accept migrants affected by sudden and visible disasters (typhoons or floods) than gradual events (droughts or sea-level rise). Instead, it seems they are more sympathetic to events where the trajectory is clear even though the visible damage is not dramatic. Perhaps, this reveals the inevitability of damage climate change will inflict on the country, and the moral imperative respondents feel to support them in their adaptation efforts.

With respect to political and economic attributes, we find respondents support policy package directed towards countries that absorb Japanese exports (but not when Japan imports from them). Lastly, respondents are more supportive of policy...
package for countries that vote with Japan in the United Nations. This supports hypothesis 4 and hypothesis 5.

5.2. Benchmarking effect
We estimated the effects of benchmarking (with respect to past Japanese policy and peer G7 countries). In figure 2, we report the difference of MMs between the control group and the two treatment groups. Even though Japanese benchmarking information slightly reduces public support for $3 billion aid, overall, we do not find statistically significant benchmarking effects. These results suggest that the provision of information about Japan’s existing policy or the policies of its peer countries does not change public support for the policy package. Thus, we do not find support for hypothesis 6 and hypothesis 7.

5.3. Subsample analysis
The degree of political and social conservativeness of individuals might affect their racial bias, risk perception to different extreme weather events, and social acceptance of foreigners. To assess heterogeneity in public support, we conducted subsample analyses on baseline preference by gender, age, and political ideology, which are often associated with conservativeness. First, figure 3 shows that the pro-Asian bias and the support for providing assistance to address gradual extreme weather events are less pronounced among women than men. However, women express more opposition to climate migrants as their number increases.

In our analysis by age, we regard respondents who are over 50 years of age as ‘old’ and the rest as ‘young’. As reported in figure 4, respondents over 50 years support assistance to Asian countries and for chronic but gradual climate problems. Their opposition to climate migrants is higher as migration numbers increases. In contrast, such preference is not observed among the younger generation (below 50 years). They are indifferent to country names, gradual/sudden extreme weather events, and the number of climate migrants. This result probably reflects the conservative bias among older people (Peterson et al 2020).

Lastly, we conducted an analysis by political ideology. In our survey, we asked respondents to express their political position by rating between 0 (left) and 10 (right). In our analysis, we categorize 0–3 as ‘left’, 4–6 as ‘neutral’, and 7–10 as ‘right’. In figure 5, we did not find heterogeneous preferences by political ideology (left/neutral/right). This is mainly because...
most respondents are categorized as politically neutral (1207 respondents), which makes standard errors for the results of the political left and right larger.

6. Conclusion

Our paper explored whether the policy design of overseas adaptation assistance affects public support in Japan. Our main finding is that while respondents are indifferent to aid volume, their support diminishes as the number of climate migrants increases. We also find that public support for overseas adaptation assistance is shaped by a pro-Asia bias, Japan’s export to the country, the support extended by the country to Japan at the United Nations, and the types of extreme weather events that this country has experienced. Importantly, we find that public support is not influenced by benchmarking either based on Japan’s previous aid or immigration levels or that of its peer G7 countries. This suggests that Japanese respondents view overseas adaptation assistance neither as a developed country’s obligations nor a continuation of its existing policy. Rather, respondents seek to assist countries that support Japan in international forums or support its economy by providing an export market. While the Japanese public does show an Asian bias (though only towards Bangladesh but not towards Cambodia), it does not differentiate between these countries based on geographical proximity and historical ties. Finally, sea-level rise and droughts, whose effect is gradual seem to generate more public support than dramatic events such as floods, typhoons, and wildfires.

Taken together, we draw two implications for the politics of overseas adaptation assistance. First, immigration is politically sensitive even in Japan, where immigration is not a hot-button policy issue. Moreover, we observed low public support despite a lengthy introduction in the survey that made a case for why Japan should provide adaptation assistance. This may suggest that support for climate migrants might be even lower in the real world.

Climate migrants were not a part of the policy discourse when the 1951 Geneva Convention Relating to the Status of Refugees (Behrman and Kent 2018) was established. While the proposal to include climate migrants in the legal definition of refugees is drawing opposition in Western countries, the pushback against this move could come from Asian countries such as Japan as well. This means that international
migration as an adaptation strategy will be politically difficult, and industrialized countries may need to substantially increase the volumes of overseas climate aid to enhance resilience and reduce incentives for out-migration. Yet, given the aid fatigue that many developed countries experience, climate leaders should highlight that overseas adaptation assistance could create economic and political benefits (in addition to reducing migration). The government could also link climate adaptation with trade agreements or other trade promotion efforts.

Second, Japanese respondents reveal a pro-Asia bias. Future research should explore if this involves some implicit biases, such as racism. Prior research shows that in South Korea, a country similar to Japan in terms of economic prosperity and ethnic homogeneity, the public tends to support immigrants from culturally similar and higher-status countries, who have well identified professional opportunities and therefore will not burden the taxpayer, and who can speak the Korean language (Denney and Green 2021). While Castellano et al (2021) find Bangladesh respondents show lower support for co-religionist Rohingyas in the context of generic migrants, future research could explore if the religion of the potential climate migrant affects public support given the concerns about Islamophobia (Taras 2012).

This research has several limitations. First, it focuses on a single country. Japan is an ethnically homogenous country where immigration is not a salient partisan issue in national politics unlike the US or Europe. Given that Japan is a less likely case to find anti-sentiment to climate migrants, other countries may face more difficulties in gaining the public’s understanding on accepting climate migrants. This research design could be replicated in other contexts. Second, our survey was administered during a time when Japan did not experience any extreme weather events. Arguably, public sentiment towards overseas adaptation assistance could shift when climate issues are on top of the mind. Third, if support for migration depends on the ‘deservingness’ of the issue, it is not clear whether the public finds climate migrants more or less deserving than say migrants who seek physical security or economic opportunities. Thus, future work should examine how adaptation assistance might condition the perceptions of the deservingness of different categories of migrants.

Data availability statement

The data generated and/or analyzed during the current study are not publicly available for legal/ethical reasons but are available from the corresponding author on reasonable request.

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Ethics statement

We secured Human Subjects Approval from the Institutional Review Board (IRB) of University of Washington, and informed consent was obtained from all subjects.

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