Does perceived labor market competition increase prejudice between refugees and their local hosts?

Evidence from Uganda and Ethiopia*

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Abstract

We study whether perceptions of labor market competition negatively influence out-group attitudes between refugees and their local hosts using a survey vignette experiment conducted in urban and rural Ethiopia and Uganda. Our vignette consists of a short story about a fictional job-seeker in which we randomize the citizenship (refugee/national) and occupation (same as/different from respondent). Our estimates suggest that host attitudes are significantly more negative when the vignette character is a refugee in the same occupation. Such prejudice against the out-group is not confirmed among refugees. Exploring the context-dependency of our results, evidence suggests that the perception of labor market competition, rather than actual competition between refugees and hosts, contributes to prejudicial sentiments. The mediating effect is also stronger in localities and occupations with high competition for labor. Additional heterogeneity analysis based on prior contact and ethno-linguistic proximity provides suggestive evidence that cross-group interactions may ameliorate concerns over out-group competition.

Keywords – Refugee hosting; Ethiopia; Uganda; Vignette experiment; Prejudice; Labor markets

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1 Introduction

Many of the 30 million refugees around the world are experiencing long-term displacement and are unlikely to return to their home country in the foreseeable future (Milner and Loescher, 2011). Given the low probability of resettlement to a wealthier host country, most ($\sim 74\%$) refugees remain in a low- or middle-income host country, residing either in a refugee camp adjacent to communities from the host country (henceforth "host communities" or "hosts") or among their hosts in an out-of-camp context. For these refugees, integrating into host community markets and society is crucial for improving the household's welfare and reducing their dependence on humanitarian assistance (Clements et al., 2016; Coate and Loury, 1993; Glover et al., 2017). While many host country governments promote integration through liberal refugee hosting policies (Blair et al., 2022; UNHCR, 2003), public antagonism towards refugees may negatively impact hosts' willingness to include refugees in society (Loiacono and Silva Vargas, 2019).

We conduct a survey experiment in Uganda and Ethiopia to examine the role of perceived labor market competition in mediating inter-group attitudes in refugee hosting contexts. Our experiment consists of a vignette embedded in a cross-sectional survey collected by the World Bank Group and FAFO in 2022. Within the vignette, we randomize two key attributes of the vignette character: whether the vignette character is a citizen or a refugee, and whether the vignette character works in the same occupation as the respondent or in a different occupation of similar education level. After exposure to the vignette, respondents (refugees or hosts) answer questions that gauge their attitudes about the vignette character. We use an OLS regression approach to examine differences in self-reported attitudes towards members of a respondent's out-group relative to attitudes towards members of the respondent's in-group. In this context, a host (refugee) respondent's in-group consists of other hosts (refugees), and a host (refugee) respondent's out-group consists of refugees (hosts). Our objective is to understand not only how out-group versus in-group attitudes differ, but whether perceived labor market competition (proxied by an out-group member working in the same job as the respondent) matters in determining out-group attitudes.

Our survey and vignette data were collected in four locations of rural and urban Uganda and Ethiopia, as shown in Figure 1. These two countries are hosting the largest refugee populations in sub-Saharan Africa (1.5 million in Uganda and 823,000 in Ethiopia) (UNHCR, 2022a). At the time of our study, Uganda had a more open hosting policy, granting refugees the right to work and move within the country without encampment requirements. In Ethiopia, although refugees theoretically enjoyed similar rights, practical restrictions were more significant (Betts and Sterck, 2022; UNDP, 2017; UNHCR, 2020). In both settings, the majority of refugees live outside of the capital cities under a system of encampment: in Ethiopia, this takes the form of small-area camps, while Uganda

provides large-area refugee settlements in which refugees are allocated small agricultural plots.

Figure 1: Map of study locations

Overall, we find that hosts hold more negative attitudes towards refugees compared to their attitudes towards other hosts, but only when sharing the same occupation. Decomposing our estimates by region, the negative reaction to a refugee character working in the same occupation is driven by host respondents in Addis Ababa, Ethiopia. In Isingiro/Nakivale (Uganda), negative attitudes towards refugees are reported regardless of labor market concerns. We analyze the role of cultural diversity, intergroup contact, as well as actual versus perceived labor market competition across the four contexts by exploring individual-level heterogeneity analyses. Our results indicate that perceived labor market competition plays a more significant role in intensifying prejudice against refugees for host respondents in competitive labor markets (from the perspective of workers) and in industries with low refugee representation. Further analysis exploring variations based on prior interpersonal interactions and cultural similarities implies that intergroup engagements correlate with a reduction in out-group prejudice driven by perceived labor market competition.

Our study contributes to multiple discourses related to migration, out-group attitudes, and inter-group contact. First, past scholarship has debated whether anti-migrant prejudice is motivated by private economic concerns, such as anxieties over competition for jobs (Mayda, 2006; Müller and Tai, 2020) or sociotropic concerns, such as fears over the "identity of the nation" changing due to migration (Hainmueller and Hiscox, 2010; Hainmueller and Hopkins, 2014). Our work offers evidence that perceived, rather than actual, eco-

nomic competition influences anti-immigrant attitudes (Dennison and Dražanová, 2018). Secondly, we indirectly contribute to a recent literature that has applied "contact hypothesis" to see whether greater exposure to members of the outgroup improves attitudes and behaviors toward the outgroup (Betts et al., 2023; Mousa, 2020; Scacco and Warren, 2018). We descriptively show that the negative reaction to a refugee character holding the same occupation is driven by hosts who report limited contact with refugees.

Our findings also extend previous research on ethno-linguistic proximity between refugees and the host population. Existing studies suggest that ethnic diversity limits support for refugees, a concept known as the "group threat hypothesis" (Steele and Abdelaaty, 2019). Conversely, greater ethno-linguistic proximity is associated with more positive attitudes of hosts towards refugees (Betts et al., 2023).

Finally, we consider a dimension of inter-group attitudes in forced displacement settings previously unexplored: attitudes among refugees towards their hosts and each other. Such a perspective may shed light on the way members of minority groups may hold prejudice not only against the majority group but also against members of their own groups (Perlmutter, 2002). Our full results suggest that refugees do not hold more negative attitudes towards the vignette character when the character was a host community member, both when perceived labor market competition was high or low. But given small sample counts for refugees in some study sites, additional mediation analyses by locality are frequently under-powered.

Our paper proceeds as follows. Section 2 describes the knowledge discourses that our work builds on in greater detail. Following this, we provide contextual information about our study sites in Section 3. In Section 4, we describe our data and the design of our survey vignette and randomized experimental procedure. We introduce our estimation methodology in Section 5, and in Section 6, we explore our overall results, as well as important heterogeneity. Section 7 contextualizes our results within the local landscapes, while also discussing potential underlying mechanisms. We conclude in Section 8.

2 State of knowledge

Our work is motivated by the ongoing discourse on the labor market impacts of refugee hosting. When expressing grievances over the consequences of displacement, local host communities have often stressed rivalry over job opportunities and other scarce resources (Baylouni, 2020; Fajth et al., 2019). Because of these concerns, the impact of refugees on host labor markets has received considerable scholarly attention in recent years (Aksu et al., 2022; Caruso et al., 2021; Fallah et al., 2019; Maystadt and Verwimp, 2014; Ruiz and Vargas-Silva, 2016). While the labor market impacts are often small or null, certain host sub-groups are more negatively affected than others (Maystadt and Verwimp, 2014; Ruiz and Vargas-Silva, 2018; Von Der Goltz et al., 2023).

The study also contributes to several important research areas related to migration, out-group perceptions, and societal harmony. First, our work corresponds to the discourse on prejudicial attitudes towards out-group members in migration settings. We follow past studies on forced displacement (Adida et al., 2018; Hangartner et al., 2019; Hatton, 2017), but given ambiguities in delineating migration that is voluntary versus involuntary (Bakewell, 2021), we align our work with the voluntary migration discourse as well. Studies of anti-migrant attitudes evaluate whether private economic concerns or sociotropic factors are more influential in fueling negative attitudes towards migrants. Private economic factors include perceived threats to an individual's income and wealth, either because the individual believes that migrants represent increased job competition or that state services for migrants will increase their tax burden (Müller and Tai, 2020). Studies examining personal economic factors often compare attitudes among hosts depending on skill level. If private economic concerns fuel anti-migrant attitudes, then one would expect that low-skilled hosts are more likely to feel threatened by low-skilled migrants (Hainmueller and Hiscox, 2010; Mayda, 2006).

The results of past studies on the private economic determinants of anti-migrant attitudes have been mixed. For example, Mayda (2006) provides descriptive evidence that prejudice against low-skill migrants attenuates in countries with a large share of high-skill workers, suggesting that private threats of job competition are an important determinant of prejudice against migrants. By contrast, Hainmueller and Hopkins (2014) argue that anti-migrant attitudes often manifest among low-skilled and high-skilled hosts, weakening the hypothesis that private economic factors fuel prejudice. Through their online survey in high-income countries, Valentino et al. (2019) reject hypotheses based on narrow economic threats, either through labor market competition, perceptions of higher tax burden or threats to welfare benefits. In the context of post-Apartheid South Africa, Facchini et al. (2013) found that labor markets are not likely to explain the observed variation in individual attitudes towards immigration. Ethnicity or religion are stronger drivers of individual attitudes.

We build on this discourse by examining low-income country contexts in which refugee and host skill sets may be more similar and markets are incomplete. With few exceptions (Facchini et al., 2013; Mayda, 2006), the past work on anti-migrant prejudice has focused on wealthy country contexts. In high-income countries, low-skilled migration often does not lead to economically meaningful increases in unemployment or lower wages for hosts. Scholars have argued that losses for low-skilled host workers do not manifest because low-skilled migrants serve as a substitute for capital investments (Clemens et al., 2018) and/or because firms upgrade low-skill host workers to more managerial tasks (Foged and Peri, 2016).

But in low-income countries like Uganda or Ethiopia, domestic workers tend to have less specialized skill sets, so refugee labor may serve as a substitute for the labor of certain segments of the population. Moreover, constraints on savings and investment limit the

substitutability between capital and low-skilled labor and the potential skill upgrading of hosts. As a result, local workers may feel threatened by the influx of new arrivals who are seen as direct competitors for jobs. Moreover, the weakness of social protection systems may make economic concerns more salient (Alrababa'h et al., 2021; Becker et al., 2022).

When studying attitudes towards migrants and private economic concerns, it is important to consider whether perceived concerns represent real phenomena. There is suggestive evidence that the perception of refugees "stealing jobs" may persist even in contexts where the labor market effect of refugees on hosts may be small or nil. For instance in Jordan, it has been argued that refugees primarily compete with migrant workers in the labor market (Assaad and Salemi, 2019; Fallah et al., 2019), while the public perception is still that refugees are replacing Jordanian workers (Baylouni, 2020). Our study offers insights into the relationship between perceived, but not realized, competition over jobs and anti-migrant attitudes.

Past research on anti-migrant attitudes has also examined the role of "sociotropic", or "sociopsychological" factors. Such factors include beliefs regarding national identity, the value of diversity, etc. Several studies have argued that these sociotropic factors are a strong predictor of prejudice against migrants (Card et al., 2012; Hainmueller and Hopkins, 2014; Valentino et al., 2019). But as with the private economic concerns hypothesis, the majority of past work has focused on high-income country settings. Recent scholarship has argued that sociotropic concerns are less important in low-income countries given the weakness of the welfare state and higher cultural heterogeneity (Alrababa'h et al., 2021; Becker et al., 2022).[1] Our study does not directly test sociotropic factors and their relationship to prejudice in refugee settings, but by focusing on private economic concerns, our study still contributes to the overall understanding of anti-migrant attitudes.

Our methodology draws insights from past work using vignettes to develop our experiment. The vignette we designed is intended to solicit, but not transform, respondent attitudes about the out-group. As opposed to conventional conjoint experimental methodologies, which are commonly used to gauge the relative importance of various attributes of a hypothetical individual presented in table format (Alrababa'h et al., 2021; Becker et al., 2022; Hainmueller et al., 2014), we use a one-shot narrative vignette. This approach allows us to embed randomized elements within an engaging story and to measure how this implicit treatment influences subsequent responses in the survey.

Previous studies have used vignette experiments to understand and attempt to change negative out-group perceptions. These studies often use simulations or stories intended to help respondents empathize with the experiences of a vulnerable out-group (Adida et al., 2018; Cattaneo and Grieco, 2021; Chatruc et al., 2021; Rodríguez Chatruc and Rozo, 2021; Simonovits et al., 2018). In some cases, the vignette is intended to remind or inform respondents of an important characteristic that the respondent shares with the out-

[1] One possible exception is South Africa (Facchini et al., 2013).

group, such as belonging to the same religious sect (Lazarev and Sharma, 2017) or sharing a family history of forced displacement (Dinas et al., 2021). Vignettes have also been used to expose survey respondents to more accurate information about migrants (Blinder and Schaffner, 2020; Facchini et al., 2022; Grigorieff et al., 2020; Haaland and Roth, 2020; Hopkins et al., 2019). Such interventions have been shown to improve respondents' stated willingness to engage with the out-group, but only along certain social dimensions, and the impacts may be short-lived. Our approach is similar to Lazarev and Sharma (2017), but instead of focusing on a cultural commonality across groups, we explore the differences in attitudes when the groups share occupational characteristics, which may represent competition instead of accord.

Additionally, our work contributes to the study of social cohesion and local integration in refugee hosting or post-conflict settings. Several past studies have attempted to apply the "contact hypothesis" to see if greater exposure to out-group members improves attitudes and behaviors towards the out-group (Betts et al., 2023; Mousa, 2020; Scacco and Warren, 2018). For example, based on observational data, Lebanese respondents exhibit favorable attitudes towards refugees if they reported recent contact with Syrian refugees (Ghosn et al., 2019). Others have studied the impact of cash transfers to refugees and hosts on social cohesion. When cash transfers are targeted at both groups, refugee recipients' willingness to engage with the host community increases, but cash transfers have a limited impact on improving host attitudes towards refugees (Valli et al., 2019). When the hosts receive cash transfers in Uganda, in particular when framed as tied to the refugee policy, they tend to hold favorable attitudes towards refugees (Baseler et al., 2022). And when cash transfers target refugees only, evidence suggests that hosts do not become more hostile towards refugees (Lehmann and Masterson, 2020). While cash for refugees may not lead to violence between groups, encouraging prosocial behavior between groups may require a better understanding of inter-group prejudice.

Finally, our examination of in- vs. out-group attitudes among refugees corresponds to a small discourse on the ways in which refugees perceive other refugees. Past qualitative work on refugees in Nakivale has noted on some longstanding frictions between different ethnic or national groups (Bjørkhaug, 2020). Recent work has also considered how past displacement experiences influence current attitudes towards new refugee arrivals (Gihleb et al., 2022).

3 Context

The study focuses on refugee-hosting areas in Uganda and Ethiopia, two of the three countries in Sub-Saharan Africa (SSA) with the largest refugee populations. Uganda and Ethiopia, like several other East African countries, have a longstanding history of hosting refugees and maintaining an open-door approach towards refugee arrivals, where some nationalities seeking asylum are eligible for *prima facie* refugee status determina-

tion (UNHCR and OPM, 2020; UNHCR and RSS, 2022). Additionally, both countries host refugees facing protracted displacement, commonly referred to as a condition where refugees have resided in the host country for a duration of five years or longer (Milner and Loescher, 2011). For these refugees, voluntary return to their home country is often unfeasible in the near future, further necessitating local inclusion efforts.

With approximately 1.5 million refugees being hosted, Uganda is the country with the highest refugee population in Sub-Saharan Africa and the third highest globally (UNHCR, 2022a). Refugees in Uganda come primarily from South Sudan, the Democratic Republic of Congo, Burundi, Somalia, Rwanda, Eritrea, and Ethiopia. Instead of relying on geographically small camps, Uganda uses a model of hosting refugees in settlements, designating a total of 13 settlements of considerable land area.

Nakivale settlement, evaluated as part of this study, is one of Uganda's oldest refugee settlements, which was officially recognized as a settlement in 1960 and allocates about 185 km^2 for refugees (Bjørkhaug, 2020). It is located in Southwestern Uganda in Isingiro district. Isingiro district and the Nakivale settlement host refugees from DRC, Rwanda, Burundi, Eritrea, Ethiopia, and Somalia, among others. Thus, it has a diverse profile of refugees living alongside Ugandan nationals. To augment social integration in settlement areas, health, education, and other welfare-enhancing services for refugees are shared with hosts, resulting in improved public service delivery (Zhou et al., 2023). Refugees in settlements systematically receive humanitarian aid.

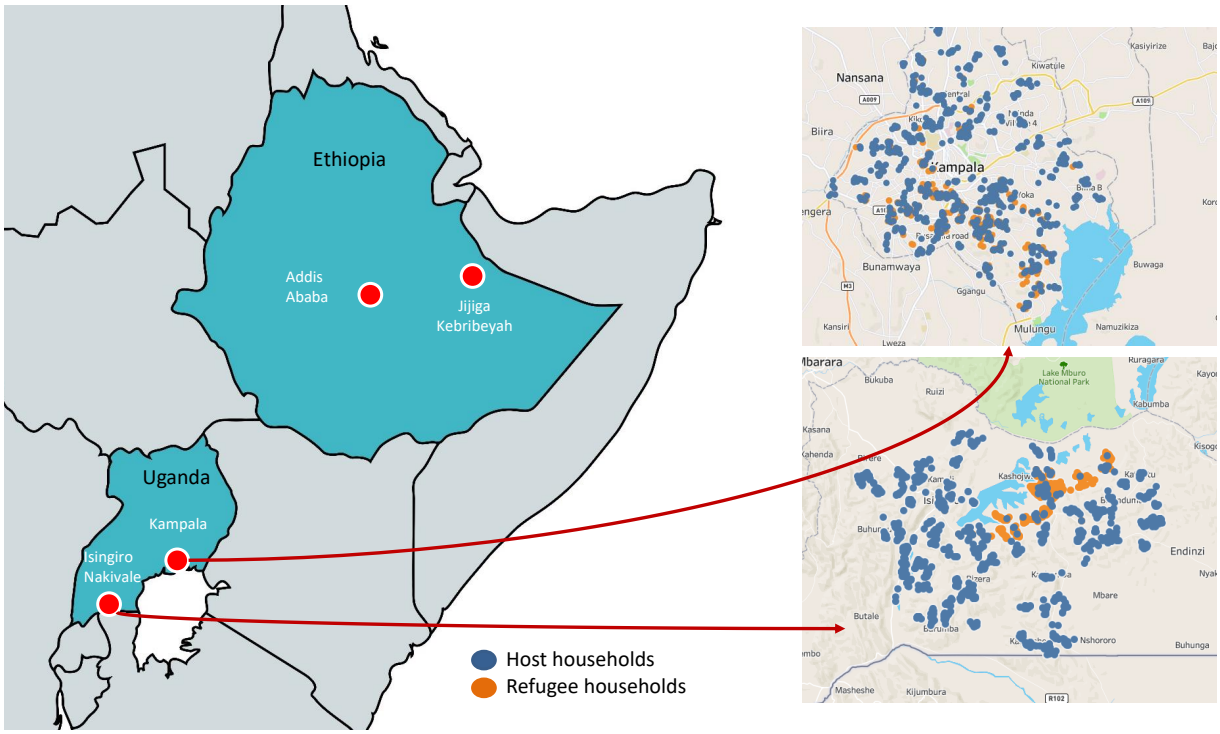
Uganda's refugee hosting policies emphasize refugee self-reliance (Betts et al., 2023; Clements et al., 2016). Refugee households that reside in settlements receive land for cultivation, providing opportunities for agricultural subsistence or market activity (Betts et al., 2017, 2019; Kadigo and Maystadt, 2023). The rights of refugees in Uganda were extended by the Uganda Refugee Act of 2006. This legislation, along with its associated policies and regulations, bestows upon refugees the rights to freedom of movement, access to social services provided by the country, and the freedom to seek employment or establish their own businesses. Due to this freedom of mobility, a considerable proportion of the refugee population resides outside the planned settlements, opting to live in neighboring towns (UNDP, 2017; UNHCR and Government of Uganda, 2022). With about 6% of the total Ugandan refugee population, Kampala district hosts the highest number of urban refugees. The overall refugee population residing in Kampala was slightly increasing over the five years leading up to the survey, with 98,000 refugees registered in 2017 and 114,000 by April 2022 (Saliba and Silver, 2020; UNHCR Uganda, 2022). At the time of the survey, refugees represented about 3.1% of the population residing in the Kampala metropolitan area, which totals about 3.7 million people (World Population Review, 2023b). Refugees in Kampala are self-settled in scattered locations but usually concentrated in particular areas that form neighborhoods of refugees from the same country. For instance, Congolese and South Sudanese refugees are concentrated in Katwe and

Nsambya, Eritrean and Ethiopian refugees in Kabalagala, Somali refugees in Kisenyi and Burundi and Rwanda refugees in Nansana and Namungoona.

These self-settled refugees are usually registered as urban refugees and therefore are not entitled to the humanitarian aid provided to those in the settlements. Some endure deplorable living conditions, often settling in Kampala's slums among the urban poor. Nonetheless, the registered urban refugees can benefit from free access to some essential services such as medical services and can be beneficiaries from targeted development projects.

Given the opportunities offered to refugees and the use of inclusive services to improve social harmony, Uganda has been praised for advancing a set of refugee management policies aimed at improving local inclusion of refugees. But critics have pointed out that these efforts can only go so far in fostering self-reliance and inclusion. For example, studies of the land allocation policy have argued that the policy may not truly foster self-reliance due to poor land quality, limited land quantity, and the challenges refugees face when trying to get their agricultural products to market (Betts et al., 2019; Bohnet and Schmitz-Pranghe, 2019; Kaiser, 2006). Moreover, descriptive and qualitative studies of urban refugees in Uganda provide evidence of discrimination and prejudice (Höök et al., 2015; Stark et al., 2015), suggesting that policies toward improving relations between refugees and host communities in some settings cannot completely prevent bias.

Figure 2: Map showing study sites and sampled households in Uganda



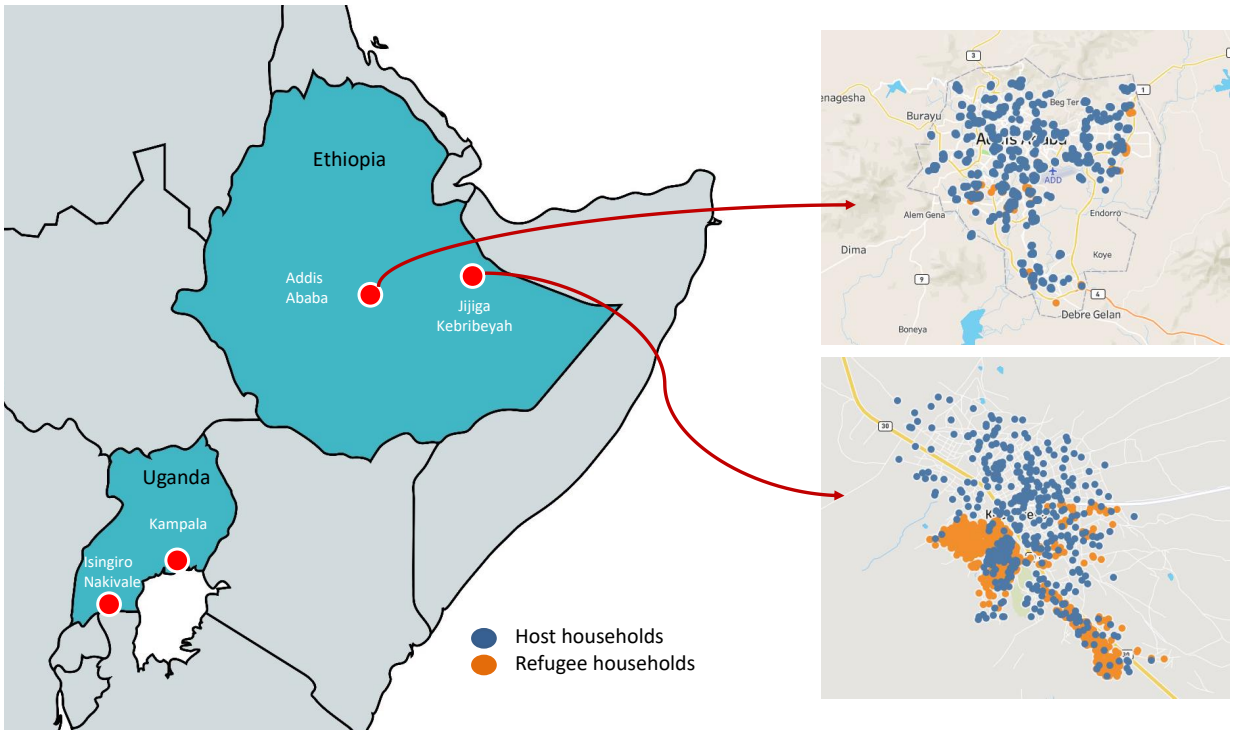
Source: Authors' formulation supplemented by data from the World Bank.

Ethiopia is home to the third largest refugee community in Sub-Saharan Africa and ranks ninth globally, accommodating approximately 823,000 refugees (UNHCR, 2022a). The refugee population is predominantly from South Sudan, Somalia and Eritrea. Historically, Ethiopian refugee hosting policies were highly restrictive: With few exceptions, refugees were required to live within camps and refugee labor was prohibited (Betts et al., 2019). Although this framework was not conducive to refugee integration, inclusive services at camp locations were designed to be shared with hosts (Jahre et al., 2018), which may have served to abate anti-refugee sentiments.

In recent years, Ethiopia's strict rules were increasingly relaxed. In 2010, the country began allowing Eritrean refugees who were not dependent on humanitarian assistance to settle outside camps (Abebe, 2018; Betts et al., 2023). On 17 January 2019, the Ethiopian Parliament revised its refugee laws. Because of these amendments, all refugees are now granted access to a wide range of nationally provided services, have the right to work and own property, and have freedom of movement, among other provisions (UNHCR, 2020). As such, refugees were able to relocate to areas outside of camps during the period that preceded the collection of the data used in this study, though many refugees also remained in camps.

The ongoing conflict in the Tigray region of Ethiopia has impacted the distribution of refugee populations over the country. Many refugees (especially Eritreans) have fled from Tigray to Addis Ababa, resulting in a strong increase of the refugee population in the capital between January 2021 and July 2022. In 2022, Addis Ababa accommodated approximately 72,000 refugees, constituting around 1.4% of the city's local population (UNHCR, 2022b; World Population Review, 2023a). This marked a substantial rise of nearly 350% within five years, compared to the approximately 21,000 refugees residing in the capital in 2017 (UNHCR, 2017). Despite the greater relative increase in refugees residing in Addis Ababa over the past five years compared to Kampala, the total number and their proportion relative to the local population still remain significantly lower.

Figure 3: Map showing study sites and sampled households in Ethiopia



Source: Authors' formulation supplemented by data from the World Bank.

4 Data

The research design and all statistical tests have been pre-specified in a pre-analysis plan registered with the AEA RCT registry (Bousquet et al., 2022) before data analysis. We describe any deviation from this pre-analysis plan in Appendix Section A.1. We embedded our experiment in a large survey collected from January 2022 to July 2022 in Uganda and Ethiopia. In Uganda, we sample hosts and out-of-camp refugees in urban Kampala ($N = 889$ hosts, 458 refugees), refugees in Nakivale settlement ($N = 702$), and hosts near Nakivale in the Isingiro district ($N = 660$). Our urban Ethiopia sample is drawn from Addis Ababa ($N = 1,219$ hosts, 198 refugees). We also sample refugees in Kebribeyah camp ($N = 301$), and Ethiopian hosts in and nearby the nearby rural town Kebribeyah within the Jijiga zone ($N = 199$). The samples were drawn to represent the refugees and host populations in the two urban and two rural settings. We describe our sampling frame in greater detail in Appendix Section A.2.

Our vignette exposes respondents to a narrative describing a fictional character looking for a job. We modify certain words in the vignette to align with or differ from the respondent's occupation as well as citizenship status (refugee or host). The occupation wording uses either a shortened string of the respondent's own occupation, or a randomly drawn occupation of a pre-specified list of twelve plausible occupations, always matching the respondent's own education level (Table A5). The occupation and citizenship

status are randomly assigned across four treatment groups (Table A6). The gender and residence of the fictitious character always align with the one of the respondent. More information is given in Appendix Section A.3. The narrative takes the following form in Uganda (symmetrically for Ethiopia):

> "[AIDA/ROBERT] is a [GROUP: Ugandan/ refugee living in Uganda]. [She/He] (has lived in Uganda [her/his] entire life and) moved to [Isingiro district/Kampala] five years ago. [She/He] has been working as a [OCCUPATION: String of same/ different occupation as respondent] for a long time so [she/he] has a lot of experience in [her/ his] occupation. [She/He] also speaks many Ugandan local languages and English very well. [She/He] enjoys working in this profession and would recommend [her/his] friends to work in the same sector. But while being a [OCCUPATION: String of same/ different occupation as respondent] fulfills [her/him], [she/he] is sometimes very tired after work. Due to difficult circumstances, [she/he] has to change jobs while keeping her/his current profession. So far, she/he has struggled finding a job."

Immediately following the vignette, the respondents replied to questions that made them relate to the story ("What would you recommend Aida/Robert to do?") and to a set of questions meant to gauge their self-reported attitudes towards the fictitious character. These include questions on social inclusion (feeling comfortable interacting with the character), private interactions (accepting someone like the character as a neighbor or spouse of a family member) and labor market inclusion (respondent's willingness to work alongside or for the character). As described in detail in Appendix Section A.4, we use the self-reported attitudes towards the vignette character, measured on a 5-point Likert scale, to construct a prejudice index using the method introduced by Anderson (2008). Higher values of that index indicate more negative views toward the fictitious character. We consider disparities in attitudes by group membership to be evidence of prejudice, understood as a "negative bias toward a social category of people" (Paluck and Green, 2009, p. 340).

5 Method

Our research design allows us to examine three different hypotheses. Hypothesis 1 (H1) is that both host communities and refugees hold more prejudicial views against members of the out-group, compared to members of the in-group. Examining H1 requires that we compare self-reported attitudes towards vignette characters who are out-group members versus in-group members, regardless of the occupation of the vignette character. Hypothesis 2 (H2) is that perceptions of labor market competition may have adverse effects on the views of others, independent of their group membership. We explore this

hypothesis by examining how respondents react to vignette characters with the same occupation versus a different one, holding the vignette character's status (refugee or citizen) constant. Hypothesis 3 (H3) is that discrimination against members of the out-group is more pronounced when perceptions of labor market competition are strong. H3 is our hypothesis of primary interest and analyzes whether discrimination against the out-group members is driven by private concerns of livelihood losses.

We use the experimental randomization and prejudice index to estimate the following Ordinary Least Squares (OLS) regression for refugees and hosts separately:

$$Y_i = \alpha_0 + \alpha_1 OutGroup_i + \alpha_2 SameOcc_i + \alpha_3 OutGroup_i \times SameOcc_i + X_i'\gamma + u_i \quad (1)$$

The dependent variable, denoted as Y_i, captures prejudice directed toward the fictional character in social, private, and work-related contexts. This composite measure (Anderson index) standardizes the six prejudice-related questions. It exhibits a mean of zero and a standard deviation of one, offering a normalized view of prejudice levels across the various dimensions. $SameOcc_i$ is a binary indicator of whether the vignette character has the same occupation as the respondent, and $OutGroup_i$ is a binary indicator of whether a host (refugee) respondent is matched to a vignette character who is a refugee (host). The interaction $SameOcc_i \times OutGroup_i$ indicates whether the vignette character is both an out-group member and in the same occupation as the respondent. The intercept (α_0) represents the average index score for those exposed to a vignette character who is an in-group member working in a different occupation.

The coefficients of this specification require particular care in translating. The α_1 coefficient estimates the effect of exposure to a vignette character in the respondent's out-group who is working in a different occupation, relative to a vignette character from the respondent's in-group working in a different occupation. It is important to note that this estimate represents differential reactions from respondents who are all assigned to a vignette character working in a different occupation. The α_2 coefficient represents the effect of exposure to a vignette character in the respondent's in-group who works in the same occupation as the respondent, relative to an in-group vignette character working in a different occupation. This estimate only reflects the outcomes for respondents matched to an in-group character. Finally, α_3, our coefficient of primary interest, directly tests hypothesis H3. It reports the effect of exposure to an out-group member in the same occupation relative to all other treatments. We cluster our standard errors at the enumeration area level in accordance with our two-stage sampling design (Abadie et al., 2017).

To examine H1, we must evaluate the combined effects of exposure to an out-group member regardless of their occupation. Likewise, examining H2 requires we isolate the impact of exposure to a vignette character with the same occupation, regardless of whether

they are a host or refugee We do so by determining the partial effects, which we report consistently throughout the Appendix.[2]

Since randomization is implemented at the individual level, the treatment assignment is expected to be uncorrelated with the individual characteristics of respondents. Balance tests reported in Appendix Section A.5 (Table A7) demonstrate that randomization created four comparable treatment groups, with only a few imbalances that do not exceed the extent we would expect under random assignment. Following the pre-analysis plan, we control for a vector of demographic characteristics, X_i, including the country of residence, location of the household (urban or rural), gender and age of the respondent, whether the respondent attained at least primary education, and their employment. We report descriptive statistics for dependent, explanatory and control variables in Tables A8 and A9.

Reactions to a vignette character with the same occupation as the respondent help us understand whether the respondent's attitudes are shaped by perceptions of higher labor market competition. By contrast, when the vignette character is in a different occupation, we consider the hypothetical context to be one of lower perceived labor market competition. Our results provide evidence of prejudice if respondents systematically report more negative social attitudes towards the vignette character when he or she is from a certain group (hosts or refugees). Since all other attributes of the fictional character are held constant, we believe that such an attitudinal asymmetry is evidence that respondents subjectively hold negative beliefs towards this group. To evaluate our assumption that the vignette character working in the same occupation invokes a sense of job rivalry among respondents, we test whether the treatment arm "same occupation" indeed induces a higher level of perceived labor market competition. Using an index of labour market competition as the outcome variable (constructed from 2 questions; *"(1) Do you feel in competition with Aida/Robert?"* and *"(2) Do you think Aida/Robert might take away your job?"*), we observe that respondents who were exposed to a narrative with "same occupation" react by indicating higher competition with the fictitious individual, independently of whether Aida/Robert belonged to the in-group or out-group (Table A10). The results support our argument that our treatment of "shared occupation" actually triggers perceived labor market competition.

There are some interpretive limitations to our study. Self-reporting is prone to several sources of bias. In our context, social desirability bias and hypothetical bias (Schwarz, 1999) could influence our estimates. These biases would only impact the validity of our results if they are correlated with our experimental treatment. Or in other words, if respondents exhibit different behaviors depending on whether they are presented with a vignette about an in-group or out-group member, or a vignette character holding the same or different occupation. Given the one-shot nature of our vignette, and its embeddedness within the survey module, respondents were unaware of the experimental nature of the

[2]In the Appendix tables of regression outcomes, these partial effects are labeled as H1 and H2, respectively.

module. According to Zizzo (2010), employing this between-session design, where experimental treatment effects are analyzed across respondents rather than within them, serves as an effective strategy to obscure the actual experimental objectives and consequently minimize experimenter demand effects. Moreover, due to limited respondent-interviewer interactions and the homogeneous administration of the experiment across respondents, we anticipate minimal experimenter demand effects in our study (De Quidt et al., 2019).

Recent scholarship on validating vignette experiments has arrived at conflicting results. The findings suggest that self-reported behaviors in vignette experiments are less representative of true behavior when the cost of engaging in such behaviors is high (Whiting and Ma, 2021). But when actions require negligible costs, vignette experiments more closely capture true behavior (Hainmueller et al., 2015). Given the low costs associated with the actions we analyze (inter-group contact), we argue that the self-reported attitudes offer a reasonably accurate portrayal of real-life attitudes.

6 Results

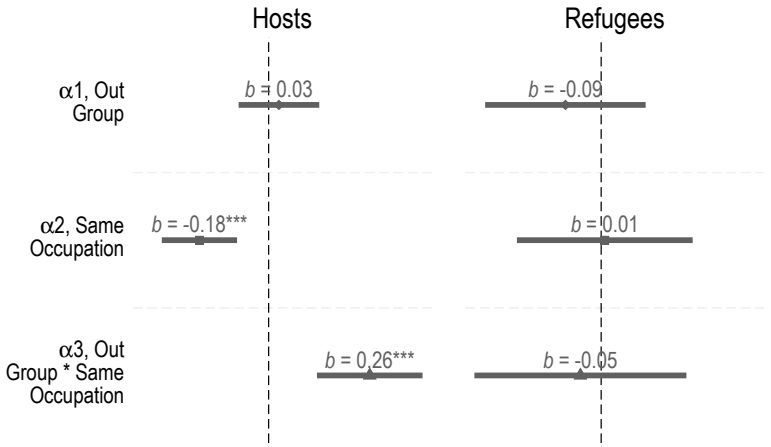
Our experiment explores how perceived labor market competition influences attitudes towards an out-group member. The main results, as shown in Figure 4 (details in Appendix Section A.6, Table A11) use an Anderson index that pools all six attitudes questions. Overall, the results show that hosts do not report significantly more adverse views when presented with an out-group member (a refugee) compared to an in-group member, working in a different occupation. The α_1 coefficient is not significantly different from zero. Moreover, when exposed to an in-group vignette character with the same occupation, they hold more open attitudes (α_2, -0.18 standard deviations, significant at the 1% level) than towards an in-group character with a different occupation. But we find that hosts express significantly more prejudicial attitudes regarding the out-group than the in-group when exposed to a narrative about a fictitious individual sharing their same occupation (α_3, +0.26 standard deviations, significant at the 1% level).

These significantly more negative views triggered by high perceived labor market competition lend support to H3, which posits that negative attitudes towards refugees are influenced by private labor market concerns. The magnitude of this coefficient is at the lower range of values considered a "medium effect" within the Anderson index. [3]

The open attitudes expressed by hosts when exposed to an in-group vignette character with the same occupation (α_2) point to the possibility that shared labor market identity reduces prejudice within identity group. When hosts are exposed to a refugee sharing their same occupation, the salience of this channel seems however to decline, with the refugee identity rather triggering feelings of perceived labor market competition.

[3] Schwab et al. (2020) describes cutoffs to interpret this index. A change of 0.2 standard deviations is considered a "small" effect size, a change of 0.5 standard deviations represents a "medium" effect size, and a change of 0.9 standard deviations indicates a "large" effect size.

Figure 4: Main results



A positive (+) sign means an increase in prejudice. Coefficients b represent changes in standard deviation. An explanation of the coefficients' interpretation can be found in Equation A1. We report the Anderson *sharpened False Discovery Rate (FDR) q-values* Anderson (2008), applied over each group individually. Detailed results are presented in Table A11. Sample: n = 2,967 for hosts and n = 1,749 for refugees. Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All models include the same control variables. Controls include age, gender, household size, education, and employment status, country of residence, and urban/rural areas.

Partial effects analysis suggests that among hosts, attitudes towards out-group members are more negative than attitudes towards in-group members (Table A11), which aligns with expectations under H1. But it is clear that the supportive finding for H1 is driven by negative reactions to out-group members in the same occupation as the host respondent (α_3). We do not find support of H2 among hosts (Table A11), as we measure no significant difference in host self-reported attitudes towards vignette characters in the same occupation overall. However, this insignificant pooled result is overshadowed by contrasting effects: sharing the same occupation with an out-group member leads to an increase in prejudice, while sharing the same occupation with an in-group member results in a decrease in prejudice.

For the pooled results for refugees, we do not find statistically significant effects across the variables of interest. It is important to note that the sample size for refugees is smaller than that of hosts. We estimated the minimum detectable size (MDS) for the pooled refugee sample as 0.15 standard deviations (Table A23). But even if a larger refugee sample yielded statistically significant coefficients, the results would likely lack economic significance, given the small magnitude of the point estimates. Our results therefore suggest that the refugee sample viewed the character the same regardless of their identity group or occupation.

We consider our results with clustered standard errors as a conservative approach. To ensure that we may not be overlooking results that are significant without clustering, we estimate our main specifications without any standard error adjustments (Table A14). Applying a less conservative approach to standard error estimation, our results remain unchanged.

The main findings, depicted in Figure 4, rely on the pooled Anderson index, which captures the overall prejudice level across all six attitude questions. To test the robustness of these findings, we modify the construction of the dependent variable by examining potential variations in attitudes across the three different spheres of interaction. The individual results based on indices disaggregated into social, private, and work interactions are mostly in line with these pooled results, and we document these results in Appendix Section A.7 (Table A12).

Results also hold when the dependent variable is transformed into a binary indicator in which 1 is equal to a high level of prejudice: these findings are shown in Table A13. Our experiment used desired jobs for the occupations of unemployed respondents (see Appendix Section A.7.4). It is important that we ensure that our results are not driven by idiosyncratic or strategic responses among those not currently working, but seeking work. We therefore estimate our main specification separately for those employed and unemployed. The results in (Table A15) indicate that our main findings hold when we restrict the sample to those who are employed.

Is the mediating effect of labor market perception restricted to certain types of respondents? Our pooled results do not vary by respondent gender but differ by respondent education (Table A17). While α_3 is statistically zero among hosts with less than primary education, for hosts with primary education or higher, exposure to a character who is a refugee in the same occupation results in a 0.23 standard deviation increase in unfavorable attitudes. Interestingly, refugees with lower levels of education seem more willing to interact with hosts than with other refugees ($\alpha_1 = -0.33$ for refugees with less than primary education).

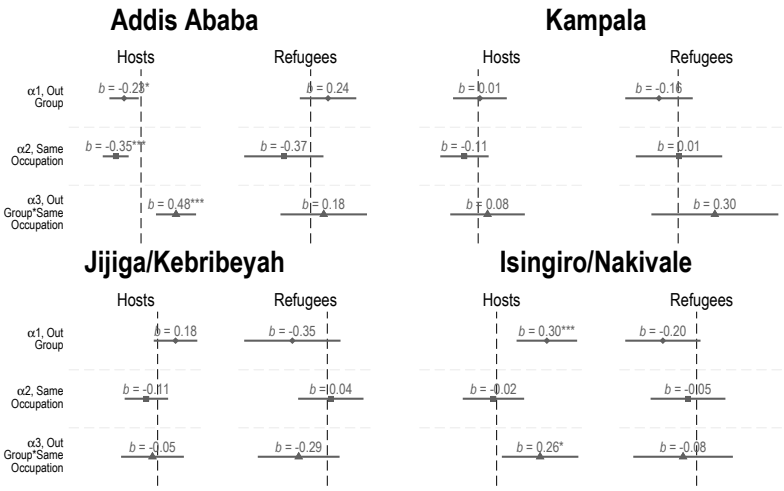
Heterogeneity by locality

The regional analysis in Figure 5 (details in Appendix Section A.8) provides evidence of stronger out-group prejudice among hosts in urban Addis Ababa, Ethiopia, and rural Isingiro/Nakivale, Uganda, although the underlying mechanisms differ between the two regions.

In Addis Ababa, we estimate a marginally significant (10% level) and negative α_1, suggesting less negative attitudes towards refugees in the absence of shared occupational status. Moreover, α_2 is negative and significant, alluding perhaps to a sense of worker camaraderie among hosts. But despite these relatively prosocial views for refugees in different occupations and Ethiopians in the same occupation, attitudes are significantly less open towards a refugee vignette character when they work in the same occupation. Our estimated α_3 in Addis Ababa is a significant 0.48 standard deviation increase, reflecting more adverse attitudes when perceived labor market competition is high.

In Isingiro/Nakivale, our research provides evidence of generally negative host views towards refugees, regardless of the occupation of the refugee character in the vignette.

Figure 5: Results by locality



The figure includes four panels, each showing results to one of our four locations. A positive (+) sign means an increase in prejudice. Coefficients b represent changes in standard deviation. An explanation of the coefficients' interpretation can be found in Equation A1. Detailed results are presented in Table A12. Sample: $n = 848$ for hosts and $n = 198$ for refugees in Addis Ababa ; $n = 570$ for hosts and $n = 301$ for refugees in Jijiga/Kebribeyah ; $n = 691$ for hosts and $n = 545$ for refugees in Kampala ; $n = 858$ for hosts and $n = 705$ for refugees in Isingiro/Nakivale. Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All models include the same control variables. Controls include age, gender, household size, education, and employment status, country of residence, and urban/rural areas.

(α_1 is significant and shows a 0.3 standard deviation increase in the prejudice index). Additionally, there is suggestive evidence that these effects are exacerbated in environments where labor market competition is perceived to be high, although the coefficient of interest, α_3, is estimated with low precision. No significant differences in attitudes across treated groups could be observed in the two remaining sites, Kampala (Uganda) and Jijiga/Kebribeyah (Uganda).

As in the pooled results, we find little evidence that refugees hold different attitudes towards the vignette character when we modify its group membership (refugee/ host) or occupation (same/ different). However, we cannot reject the possibility that null results for refugees are partly due to small sample sizes (Table A23). For example, our survey only captured 198 refugees in Addis Ababa, and with this sample size, the locality regression may be underpowered.

7 Discussion

The results of our experiment support the argument that host community members hold prejudicial views of refugees when perceived labor market competition is high. Our heterogeneity analysis reveals important differences across study locations, highlighting the importance of contextual background in shaping attitudes towards refugees.

Our pooled result on out-group prejudice towards a fictitious refugee character described as having the same occupation is mainly driven by Ethiopian respondents in Addis Ababa. Among the four study sites of our analysis, Addis Ababa is unique in its exposure

to recent inflows of Eritrean refugees from Tigray to the capital. The refugee population in Addis Ababa doubled between January 2021 and July 2022 (UNHCR, 2022b). Our findings may speak to growing concerns over job competition in Addis Ababa due to the internal displacement of refugees who are eligible to work (Miller and Graham, 2021). But even with this population increase, refugees in Addis Ababa represent a small fraction of the city's population (only 1.2% as of 2022), which is the primary reason our refugee sample from urban Ethiopia is so small. Consequently, we posit that the recorded levels of prejudice are more likely attributable to perceived rather than actual labor market threats; the perception of a doubling of the refugee population seems to outweigh the reality of the still comparatively low number of refugees. We explore the assumption that perceived rather than actual labor market competition is negatively influencing out-group attitudes further in the subsequent analysis at the individual level.

For Isingiro/ Nakivale, we find evidence of negative attitudes towards refugees that are independent of private labor market concerns. Relative to other sites, a large share of the Isingiro/Nakivale population consists of refugees. Additionally, Uganda's self-reliance refugee policy emphasizes sharing resources with hosts and integration of refugees into markets. Hence, the feeling of competition for resources and stimulation of sociotropic concerns might play a role in enhancing generalized out-group antagonism. For instance, Betts et al. (2023) show that villagers in Nakivale view refugees as competitors and a threat to their livelihood since they rely on farming and animal husbandry on which some of the refugees do as well. This is further exacerbated by the feeling that refugees are taking up their land which these livelihood activities require, making landowners view refugees as competitors. Our results, therefore, echo recent publications that stress the limits of inclusive services and refugee self-reliance policies in fostering societal harmony (Omata, 2022). If hosts experience refugee hosting as a net loss, this could shape their broader perceptions of refugees.

We cannot formally test for the role of different political, social and cultural contexts in shaping out-group attitudes across our four study sites, given limitations on statistical power. However, we are able to identify potential mechanisms of increased out-group prejudice by focusing on individual-level heterogeneitiy in our pooled sample. The contrasting results between Addis Ababa and Isingiro/Nakivale suggest that perceived threats of job competition - rather than actual labor market competition - might be one of the primary drivers of prejudicial attitudes towards refugees working in the same job as hosts. To further examine this possibility at the individual level, we examine heterogeneity by labor market competitiveness from the perspective of workers, proxied by the share of respondents in a given industry-location who work more than the legal maximum of 48 hours per week. We consider labor hours exceeding the legal maximum as a signal of particularly competitive local labor market where vacancy rates are low and consequently wages are low, increasing the incentive to work more hours per week.

Table 1: Summary Table: Refugee-Host relationships

	(1)		(2)	
	HOSTS as respondents			
PANEL A: Working hours beyond legal threshold	*High share over-worked*		*Low share over-worked*	
α1: OutGroup (1) vs InGroup (0)	-0.12	(0.10)	0.14*	(0.08)
α2: Same (1) vs Different (0) Occupation	-0.31***	(0.08)	-0.08	(0.08)
α3: OutGroup x Same Occupation	0.39***	(0.12)	0.16	(0.11)
H1: OutGroup (1) vs InGroup (0)	0.08	(0.07)	0.21***	(0.06)
H2: Same (1) vs Different (0) Occupation	-0.11*	(0.06)	-0.01	(0.06)
N	1321		1644	
Mean	0.01		0.02	
PANEL B: Over-representation by industry	*Hosts overrepresented*		*Refugees overrepresented*	
α1: OutGroup (1) vs InGroup (0)	0.07	(0.08)	-0.02	(0.11)
α2: Same (1) vs Different (0) Occupation	-0.16**	(0.07)	-0.21**	(0.10)
α3: OutGroup x Same Occupation	0.29***	(0.10)	0.10	(0.15)
H1: OutGroup (1) vs InGroup (0)	0.22***	(0.05)	-0.03	(0.09)
H2: Same (1) vs Different (0) Occupation	-0.02	(0.05)	-0.16*	(0.09)
N	2076		751	
Mean	0.02		0.02	
PANEL C: Contact	*No out-group friends*		*Some out-group friends*	
α1: OutGroup (1) vs InGroup (0)	0.04	(0.07)	0.02	(0.11)
α2: Same (1) vs Different (0) Occupation	-0.19***	(0.07)	-0.15	(0.13)
α3: OutGroup x Same Occupation	0.31***	(0.10)	-0.09	(0.15)
H1: OutGroup (1) vs InGroup (0)	0.20***	(0.05)	0.07	(0.08)
H2: Same (1) vs Different (0) Occupation	-0.04	(0.05)	-0.11	(0.08)
N	2227		740	
Mean	0.02		0.01	
PANEL D: Out-group language	*Different language (main out-group language)*		*Shared language (main out-group language)*	
α1: OutGroup (1) vs InGroup (0)	0.02	(0.07)	0.08	(0.14)
α2: Same (1) vs Different (0) Occupation	-0.18***	(0.07)	-0.15	(0.15)
α3: OutGroup x Same Occupation	0.31***	(0.09)	0.01	(0.20)
H1: OutGroup (1) vs InGroup (0)	0.18***	(0.05)	0.09	(0.09)
H2: Same (1) vs Different (0) Occupation	-0.03	(0.05)	-0.15	(0.11)
N	2468		499	
Mean	0.03		-0.05	

Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All the models include the same control variables. Controls include age, gender, household size, education, employment, country of residence, and urban/rural areas. The sample is stratified according to the percentage of respondents reporting weekly working hours exceeding the legal threshold of 48 hours. Panel A consists of respondents employed in industry-location groups where the percentage of individuals working beyond the legal limit exceeds (falls below in column 2) the median share. The median share of such workers across all industries in the four different localities stands at 56%. Detailed results – including when the respondent is a refugee – are presented in Appendix Table A18. In Panel B (hosts or refugees over-represented), we include respondents working in industries where the proportion of hosts (refugees) exceeds the local average. Detailed results are presented in Appendix Table A19. In Panel C, the 5-scale source question -*Over the course of my life, I have had many friends who are [Ugandan/Ethiopian nationals]/[Refugees]*, respectively- was transformed into a binary with the unit agreeing with the statement, and the null disagreeing or being neutral. Detailed results are presented in Appendix Table A20. Panel D comprises respondents with a distinct ethno-linguistic identity compared to the other group. The criteria for this distinction are defined independently for each locality, taking into account the predominant language spoken by the out-group. Detailed results are presented in Appendix Table A21.

As summarized in Panel A of Table 1, we find that the mediating role of perceived labor market competition in triggering out-group prejudice is stronger in sectors with competitive labor markets, as proxied by excessive working hours (see Appendix Table A18 for full results). Interestingly, hosts in such competitive labor markets report significantly more

positive views of an in-group vignette character working in the same occupation (α_2). The significant and positive finding for α_3 and significant, negative result for α_2 among hosts in competitive labor markets may mean that respondents in industry-locations with high competition among workers are concerned about this competition, but only when the source of the competition is perceived as the refugee population.

The results reported in Panel A Table 1 suggest that when workers face more competition for jobs, perceptions of refugee labor market competition may influence host attitudes towards refugees they see as job threats. Consequently, we also examine variations in our outcome by the share of refugees working in the respondent's industry. Specifically, we identify whether the pool of workers in a respondent's industry-location have a higher share of hosts than the location's average share across all workers. As summarized in Panel B of Table 1, we find that in industry-locations where hosts are over-represented relative to the location's average, host attitudes towards a refugee vignette character sharing the same occupation are more antagonistic, as compared to host respondents working in industries where hosts are not over-represented (see Table A19 for detailed results). This finding suggests that host prejudice towards refugees working in the same occupation manifests among hosts who face the least competition with refugees in the labor market. It is possible that host respondents in competitive labor markets correctly identify labor market competition as a salient concern but mistakenly allocate the responsibility for this competition. In these contexts, refugees may serve as a scapegoat for societal concerns. This possibility aligns with past work highlighting how societies assign blame to refugees for social or economic problems (Baylouni, 2020; Hanson-Easey and Augoustinos, 2010; Savun and Gineste, 2019).

Contrasting results across studied sites also suggest that the mediating role of perceived labor market competition is not determined by the numbers of refugees, but by the nature of refugee-host relationships. This qualification is further supported when the sample is stratified by respondents indicating whether or not they have at least one friend who is a member of their out-group. For hosts, this would mean having at least 1 friend who is a refugee. Panel C of Table 1 (and Table A20) suggests that hosts with limited refugee contact are driving the significant main result for α_3. Although prior contact may be endogenous to other factors, this additional analysis may suggest that addressing prejudicial attitudes could be aided by interventions that increase inter-group contact.

When the respondent is a refugee, the results by locality are either not statistically significant or are more likely to go in the opposite direction. It is unclear whether this represents refugee enthusiasm for building local ties with hosts or refugee antagonism toward other refugees. We recognize that refugee respondents may still interpret a refugee vignette character as an out-group member if they imagine that the character is of a different nationality as their own. Past literature points out that not all refugee communities within the same hosting areas get along (Bjørkhaug, 2020). Among refugees, contact also seems to matter for the outcomes of the experiment. In particular, the

refugee respondents' prejudice index is on average 0.37 standard deviation lower towards a host character relative to a refugee character (α_1) (Table A20).

The contrast in Addis Ababa (Ethiopia) and Isingiro/Nakivale (Uganda) and the nature of the interactions between hosts and refugees may also be explained by the ethnolinguistic proximity between them. In their quasi-experimental evidence on social cohesion in Ethiopia, Kenya and Uganda, Betts et al. (2023) find that ethno-linguistic proximity between refugees and hosts is associated with more positive host attitudes towards refugees. The spatial heterogeneity of our sample also implies differences in the ethnolinguistic similarity of refugee and host groups across the four study sites. While refugees and hosts speak mostly the same language (Somali) in the Jijiga/ Kebribeyah area, the ethno-linguistic composition in the other study contexts is more diverse. Turning to an individual-level heterogeneity analysis, we find that prejudice towards the refugees is exclusively driven by those respondents who are not sharing the ethno-linguistic characteristics of the refugees within the same locality (Panel D of Table 1 and Table A21). This supports the argument that ethno-linguistic proximity could be partially explaining the prejudice of hosts towards refugees in Addis Ababa (Ethiopia) and Isingiro/Nakivale (Uganda). Prejudice also appears to be smaller when the respondent is part of an ethnolinguistic minority group, indicating possible empathy towards the out-group (Table A22).

8 Conclusion

Fostering refugee inclusion is critical for improving refugee livelihoods in cases of protracted displacement. Our study examines the role of perceived job market competition on out-group attitudes in refugee hosting settings in East Africa. Our vignette experiment seeks to stimulate realistic reactions to a fictional character whose profile is identical across all respondents, with the exception of two attributes: we randomize whether the character is a refugee or host, and we randomize whether the character works in the same occupation as the respondent or in an occupation requiring a similar education level as the respondent's. After exposure to our vignette, respondents self-report their attitudes towards the character within the context of their private, social, and working life. We exploit the random assignment of the character's occupation and citizenship status to estimate differences in self-reported attitudes operationalized within an Anderson Index.

Our pooled results suggest that host attitudes towards refugees are largely mediated by perceived job market competition, as proxied by the vignette character working in the same job as the respondent. But heterogeneity analysis by locality reveals that these results are largely driven by host respondents in Addis Ababa.

Given variation in outcomes by localities of different attributes, we explore heterogeneity by labor market characteristics. Our results suggest that host respondents hold more negative attitudes towards refugees working in the same occupation in labor markets characterized by high competition among workers and low refugee representation.

This finding implies that hosts may have a salient concern over job competition but may mistakenly associate refugees as a factor negatively influencing their labor market opportunities. Such misattribution may be more likely in cases where host workers have less contact with refugees. Furthermore, ethnolinguistic distance or the lack of inter-group contact may also explain some of the prejudice of hosts against the refugees.

Our study is not without limitations. In particular, our findings may not be externally valid to other refugee-hosting countries or contexts. With only four case study settings, it is difficult to reliably determine the mechanisms that influence variation in attitudes and the mediating role of perceived labor market perception across the study sites. For example, in Addis Ababa, we do not know if the negative host reactions to the refugee vignette character working in the same job are indirectly related to the Tigray War and whether we would find the same result at times of peace. We encourage future efforts that seek to understand the factors that influence in-group and out-group attitudes in refugee hosting settings, considering the role of labor market competition. More work needs to be done to understand the triggers of perceived labor market competition among hosts and how fostering integration and policy to both protect and educate hosts may alleviate these concerns.

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A Appendix

A.1 Deviation from the Pre-Analysis Plan (PAP)

Tables A1 and A2 provide a summary of deviations from the PAP, encompassing both supplementary analyses that were not pre-registered and adjustments or omissions of exclusions initially specified in the study. These deviations are not motivated by the magnitude or statistical significance of the estimated coefficients, but by methodological improvements, conceptual clarifications or unexpected practical challenges.

Table A1: Deviation from the PAP

Exclusions	**Explanation**
The term "discrimination"	In the PAP, particularly when formulating our hypotheses for testing, we use the term "discrimination." For example, we state, "*H3: Discrimination against members of the out-group is more pronounced when preconceived notions of labor market competition are strong*". We have replaced this term with "prejudice," which conveys self-reported attitudes, as the term "discrimination" implies that we would be evaluating revealed preferences through observed actions or measuring psychometrics, which is not within the scope of our study.
Target sample size	We aimed to have a total sample of 8,000 households, comprising 4,000 host community members (nationals) and 4,000 refugees, both employed and unemployed, distributed between rural and urban areas in Uganda and Ethiopia. Due to difficulties to locate refugee households (especially in urban areas), low response rates and logistical and budget constraints, the target sample size could not be reached for all sub-groups (see Table A4). Further reduction occurred during the third sampling stage, where individuals were randomly selected to participate in the experiment, limited by age constraints (only respondents of working age were included). As outlined in Section A.2 above, this adjustment in sample size did not impact the implementation of our experiment because randomization was carried out at the individual level. For some heterogeneous analyses for the group of refugees, smaller sample size is however limiting statistical power of our analysis.

Continued on next page

Exclusions	Explanation
Reporting the ***H1*** & ***H2*** regression coefficients	According to the PAP, we are testing 3 hypotheses; ***H1***, ***H2*** & ***H3*** with the following regression. $$y_i = \alpha_0 + \alpha_1 OutGroup_i + \alpha_2 SameOcc_i + \alpha_3(OutGroup_i * SameOcc_i) + X_i'\gamma + u_i \quad \text{(A1)}$$ The answer to Hypothesis ***H3*** is derived from α_3 in our long model (1). However, ***H1*** & ***H2*** could in principle be answered with a "short model", which involves regressing the dependent variable on two separate dummies for both treatments. The partial effects of this fully saturated long model are equivalent to the coefficients of the short model, so we refrain from reporting separate regressions. On the one hand, α_1 represents the coefficient of prejudice for those who see the vignette of an out-group but with different occupation and α_2 represents the coefficient of prejudice for those who see the vignette of a character with same occupation but belonging to the in-group. On the other hand, *H1* represents the coefficient of prejudice for those who see the vignette of an out-group irrespective of the occupation characteristic and *H2* represents the coefficient of prejudice for those who see the vignette of a character with same occupation irrespective of belonging to the out-group or in-group. When providing answers to our hypotheses (1 & 2), we always interpret the H coefficients together with the underlying α coefficients. Contrary to the PAP, we do not only report our H coefficients, because from a political perspective, we would not have a similar distribution in the general household sample as in the experimental sample. Therefore, the underlying α coefficients are what are truly important. Hence, we present the α coefficients in the figures within the main text and infer all estimates for the three hypotheses from the long model, reporting marginal effects as *H1* & *H2* coefficients in the Tables A11 and A16 in Annex A.6.
Heterogeneity by key occupational characteristics	We intended to examine the relative effect of being categorized by occupation, for instance as either employers, own account workers, or wage workers, on attitudes. Whilst the analysis, split between self-employed workers and wage workers (available upon request) leads to some new results on the group of refugees, the sample distribution does not offer enough variation or large enough sample size to avoid significant concerns with statistical power.

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Exclusions	Explanation
Analysis on the entire outgroup	In the PAP, we planned to examine whether our treatment had an impact on prejudice towards a generalized out-group, independently of the fictitious character. We thus included a set of questions measuring private and work-related prejudice that was not framed for Aida/ Robert, but for the out-group overall. These questions were administered in the module following the experiment and relate to both nationals and refugees (i.e., a refugee would answer a question related to a host, and vice versa). We do not observe any differences in results between Panel A and B, both at the aggregated and individual-variable levels. However, we initially intended to mirror our experimental setting, i.e., let all individuals also answer the questions on the "in group". Because of field constraints, we couldn't implement this setup during our data collection. We henceforth decided not to show the analysis in the paper, albeit the partial results are available upon request.
Marital status as covariate	We exclude marital status from the list of covariates in the regressions. As this variable contains missing observations, the inclusion as a control variable would reduce sample size. Since treatment group assignment is balanced along the respondents' marital status, the exclusion as a control does not bias our coefficients of interest α_1, α_2 and α_3.

Table A2: Addition to the PAP

Additional Analysis	Explanation
Heterogenous analyses by locality, gender, education level, duration of stay, & ethno-linguistic proximity.	The initial plan was to divide the analysis by country to explore the potential impact of differing refugee management approaches in Ethiopia and Uganda. However, given the substantial differences in local characteristics, we found it more meaningful to conduct a split analysis by country and further segment it by locality. Additionally, since we assigned respondents to view a vignette narrative featuring a character of the same gender, we did not consider gender as a treatment variable. This approach allows us to investigate whether the attitudes of males are comparable to those of females within this context. Similarly, we applied this approach to assess the relative importance of education level, which can serve as a proxy for skill level and, consequently, predisposition to certain types of jobs in the market. Furthermore, in alignment with the contact theory, where we examine the significance of having friends from the out-group, we also explore the relevance of factors such as the duration of refugees' stay and ethno-linguistic proximity, which may serve as mediating variables.

A.2 Sampling and data collection

Our study uses a vignette experiment that was embedded in a large survey on refugee-host interactions and labor market integration, designed and commissioned by the World Bank.[4] FAFO, an implementation partner, collected survey responses from late January 2022 to late July 2022 in Uganda and Ethiopia.

The data from the larger survey is described in World Bank (2023). Samples were drawn to represent the refugee population and host populations in two urban and two rural settings. In Ethiopia, data was collected from the city of Addis Ababa as the urban location with 150 EAs. Jijiga (45 EAs) and Kebribeyah, including Kebribeyah refugee settlement, (35 EAs) serve as the rural locations.

The sampling exercise relied on pre-existing sampling frames containing the primary sampling units (PSUs), which correspond to enumeration areas (EAs). In Ethiopia, the Central Statistical Agency provided a sampling frame that was originally intended for use in a planned (but never implemented) 2020 Census. In Uganda, the sampling frame was provided by the Uganda Bureau of Statistics (UBOS). The sampling procedure incorporated modifications to capture sufficient sample sizes for both refugees and hosts.

In the first round of EA selection, the team used a Probability Proportionate to Size (PPS) approach to select the first set of EAs. This first set of EAs contains both host and refugee households. To obtain sufficient numbers of refugee households in the final sample, the study team conducted a second sampling round that selected additional EAs bordering those chosen in the first round of EA selection. For Addis Ababa, where refugee households are difficult to capture using conventional sampling methods, the team used an Adaptive Cluster Sampling strategy (ACS) in which refugee households were identified for sampling.

Following a complete listing of households, the samples were drawn to represent the population of refugees and host populations in two urban and two rural settings. In Ethiopia, data was collected from the city of Addis Ababa as the urban location with 150 AEEs. Jijiga (45 EAs) and Kebribeyah, including Kebribeyah refugee settlement, (35 EAs) serve as the rural locations.[5] In Uganda, the rural EAs fall in the Isingiro district (75 EAs) and the Nakivale refugee settlement (40 EAs).[6] For urban Uganda, the EAs fall in the Kampala district with 150 EAs.[7]

[4]The survey aims at gathering comparable data in four refugee-hosting localities in Uganda and Ethiopia. It collects household-level information on socio-demographic characteristics as well as individual data on labor market characteristics, refugee-host interactions and social networks for one randomly selected individual (RSI) per household. The survey experiment described here is part of the RSI questionnaire.

[5]In the rest of the manuscript, we mention Jijiga/Kebribeyah as the aggregation between Jijiga and Kebribeyah, both considered rural areas.

[6]In the rest of the manuscript, we mention Isingiro/Nakivale as the term that encompasses both the town of Isingiro and the Nakivale settlement, both considered rural areas.

[7]Our results are representative of host and refugee outlooks in the four study sites examined. The findings may not be externally valid to other refugee-hosting countries or contexts. Throughout, we discuss the exact findings in relation to the experiment, and additional discussion of what these results may convey (in terms of respondent's behaviors) are primarily speculative.

In the second stage of the sampling, households were then sampled from the EAs. In each of the two countries, a total of 1,000 host households and 1,000 refugee households were drawn as the target populations. The total sample, therefore, consists of 8,000 households disaggregated by urban-rural location, refugee-host population, and country (Table A3).

Table A3: Initial Sampling Allocation

Country	Rural / Urban	Location Name	Enumeration areas	N
Uganda	Rural	Isingiro District	Isingiro district: 75 Nakivale settlement: 40	1,000 hosts, 1,000 refugees
Uganda	Urban	Kampala District	Kampala: 150	1,000 hosts, 1,000 refugees
Ethiopia	Rural	Somali region	Jigjiga: 45 Kebribeyah camp: 35	1,000 hosts, 1,000 refugees
Ethiopia	Urban	Addis Ababa	Addis Ababa: 150	1,000 hosts, 1,000 refugees

A third sampling stage was performed to obtain a randomly selected individual (RSI) for the experiment; only one individual per household, of working age (18 – 65 years) irrespective of employment status (employed or unemployed). Field constraints limited our sample sizes in some locations. Our final sample is described in Table A4. This change in sample size does not affect the rollout of our experiment, since the randomization was performed at the individual level.

Table A4: Study sample

Country	Rural / Urban	Location Name	Enumeration areas	N
Uganda	Rural	Isingiro District	Isingiro/Nakivale: 94	858 hosts, 705 refugees
Uganda	Urban	Kampala District	Kampala: 195	691 hosts, 545 refugees
Ethiopia	Rural	Somali region	Jijiga/Kebribeyah: 31	570 hosts, 301 refugees
Ethiopia	Urban	Addis Ababa	Addis Ababa: 262	848 hosts, 198 refugees

A.3 Additional information on the experiment

We implement the survey experiment with all respondents who are currently employed or unemployed: respondents out of the labor force are excluded from the experiment. For each respondent, we randomize the vignette character's citizenship status as being a national or a refugee, meaning that refugee and host respondents alike are randomly exposed to a story about an in-group or out-group member. We use information from the

labor module to determine the respondent's primary occupation, and we randomly set the vignette character's occupation to be the same as or different than the respondent's. When interviewing respondents who are unemployed at the time of the interview, we inquire about their preferred occupation in the labor module and incorporate this desired occupation within the vignette. We designed the randomization such that when matching to vignette characters with a different occupation. The vignette character's occupation is at the same skill level as the respondent. For example, a respondent who is a farmer may be matched with a respondent who is a waiter or cleaner.

We use information from the labor module to determine the respondent's primary occupation, and we randomly set the vignette character's occupation to be the same as or different than the respondent's. The tablet used to collect responses was programmed to auto-fill the occupation of the vignette character based on the respondent's answers in the labor module, which took place before the experiment in the questionnaire. The enumerators were responsible for ensuring that the survey program correctly auto-filled the occupation of the fictitious individual within the narrative.

If the respondent reported that they were currently working, the enumerator had to shorten the string occupation indicated in the survey to a shorter string of 1-2 words for example; "Primary school teacher for Maths" to "Teacher". Further, the enumerator asked whether the reported occupation requires at least a secondary level of schooling and recorded "yes" or "no".

If the respondent reported that they were currently not employed, but were actively searching for a job, the enumerator asked what occupation the respondent is searching for. They then had to shorten the string occupation indicated in the survey and determine whether the reported occupation would require at least a secondary level of schooling or not, as well. These steps are crucial for the auto-filling of the fictitious individual's occupation in the narrative.

Table A5 lists the occupations we used when matching respondents to occupations different than their own by skill level.[8]

Table A5: A draw of occupations disaggregated by skill level

List A: Below secondary schooling	List B: Above secondary schooling
Farmer	Lawyer
Shopkeeper	Doctor
Waiter	Teacher
Cleaner	Banker
Security officer	Architect

We carefully chose the names given to the fictitious character in the vignette to ensure the names were neutral with respect to ethnic and religious connotations. The enumera-

[8]Enumerators are required to confirm that the occupation which is randomly selected for the narrative is noticeably different from the one provided by the respondent. If the chosen occupation is too similar, the random draw of occupations from Table A5 is repeated until a sufficiently distinct occupation is found.

tors read out the narrative to the respondents, and enumerators were trained to carefully and vividly administer the experiment without compromising its integrity by strictly adhering to the prescribed language.

Given the exogenous variation in the fictitious character's citizenship and occupation, the narrative vignette resulted in the treatment arm matrix shown in Table A6. For refugees and hosts alike, the respondents assigned to treatment arm T1 received a narrative about an in-group member working in the same occupation as theirs. Those assigned to T2 listened to a narrative about an in-group member working in an occupation different from theirs. Respondents in the treatment arm T3 received a narrative about an outgroup member working in the same occupation as theirs, while the treatment group T4 was exposed to a narrative about an outgroup member in a different occupation. Due to random assignment with equal probabilities, the sample groups for the four treatment arms are roughly the same size. Note that the randomization was performed at the individual level before the start of the experimental module. That way, each individual is randomly allocated to one of the following treatment arms, providing balance and our identification strategy.

Table A6: Treatment arm matrix

	Same occupation	Different occupation
In-group	T1	T2
Out-group	T3	T4

The survey was programmed to automatically fill the fictitious individual's occupation in the narrative with the shortened string that is the same occupation as the respondent if the respondent being interviewed was assigned to the T1 and T3 treatment arms. If the respondent being interviewed was assigned to the T2 and T4 treatment arms, the narrative that was read to them had the auto-filled fictitious individual's occupation, which was different from the respondent's occupation. However, the skill level is expected to match the schooling level of the respondent, to avoid hierarchical judgments about the fictitious individual. Hence, the auto-filled occupation was randomly drawn from a list of occupations in the same skill level as the occupation of the respondent or the occupation which the respondent is searching for.

To verify that the occupation to be autofilled in the narrative was indeed different from the respondent's occupation, the enumerator was shown both the respondent's own occupation and the one randomly drawn by the computer from the above list. They then confirmed that the two occupations were indeed different before the narrative was presented with the randomly drawn occupation string being used as the occupation of the fictitious individual in the narrative.

A.4 Measuring attitudes using the Anderson index

The following list contains all of the questions that the respondent answered immediately after being read the vignette.

1. I would feel comfortable when interacting with Aida/Robert.
2. I would get along with Aida/Robert.
3. I am comfortable if someone like Aida/Robert lives close to me.
4. I am comfortable if someone like Aida/Robert marries a family member.
5. Someone like Aida/Robert can work with me.
6. Someone like Aida/Robert can become my supervisor.

Possible responses to the questions are organized along a five-point Likert scale (strongly agree, agree, neither agree nor disagree, disagree, strongly disagree). The original questions (5-point Likert scales) are then entered into an index as continuous variables with values ranging from 1 to 5. Higher values indicate more negative views toward the fictitious character.

Following the Anderson approach (Anderson, 2008), we use this data to generate a single, continuous indicator of respondent attitudes towards the vignette character, aggregated across all three dimensions of interactions. As in the single measures, higher index values reflect more negative attitudes. The Anderson method of index construction uses the generalized least-squares weighting method. A standardized inverse-covariance weighted average is generated for each observation from the individual indicators/variables. According to Muller (1989) and cited in Schwab et al. (2020), a change of 0.2 standard deviation is considered a small effect size, a change of 0.5 standard deviation represents a medium effect size, and a change of 0.9 standard deviation indicates a large effect size.

We construct our attitudes index following methods described in Anderson (2008). We construct the prejudice index using the *swindex* command in Stata (Schwab et al., 2021). As described by Schwab et al. (2020), the process involves normalizing each indicator by demeaning it (subtracting the mean of the indicator in the reference group) and then dividing each indicator by the reference group's standard deviation. Then, we construct weights for each of the six indicators using the inverse of the covariance matrix of the normalized indicators. By employing this approach, the weighting of highly correlated indicators in the resulting index is reduced, while giving more prominence to uncorrelated or less correlated indicators. This enhances the efficiency of the index. The weight refers to the relative importance that an indicator brings to the index. A less or uncorrelated indicator essentially introduces new information not provided by the other indicators to the index, thus receiving more weight. Because we normalize the indicators and rescale the index based on the full sample, it becomes normally distributed with mean zero and standard deviation one, and thus will have an "effect size" interpretation.

A.5 Additional descriptive statistics

In this section, we present a set of balance tables. Given our confidence in the effectiveness of our randomization strategy, we do not expect to observe significant imbalances in characteristics between groups, as the population distributions should not differ significantly. Therefore, we provide simple t-test comparisons of means between groups. We observe a few characteristics with significant differences, but they represent only a small fraction (9 out of 100). Additionally, we conducted Kolmogorov-Smirnov tests for equality in distribution.[9] A significant p-value in these tests would suggest significant differences in the distribution of individual characteristics between groups. However, we find only a few variables that exhibit differences between the groups (age, for instance). Therefore, we are confident that our groups are indeed balanced across key demographic characteristics, and we can draw balanced conclusions from our results.

Table A7: Balance Tables

Variable	(T1) Mean	(T2) Mean	(T3) Mean	(T4) Mean	(T1)-(T2) Diff.	(T1)-(T3) Diff.	(T1)-(T4) Diff.	(T2)-(T3) Diff.	(T2)-(T4) Diff.	(T3)-(T4) Diff.
Panel A: Pooled Sample										
Country is Ethiopia	0.39	0.43	0.39	0.42	-0.05	-0.00	-0.03	0.05	0.02	-0.03
Urban	0.58	0.63	0.63	0.61	-0.05	-0.04*	-0.03	0.01	0.02	0.02
Age	33.60	32.95	32.90	32.85	0.65	0.70	0.75	0.05	0.10	0.05
Male	0.47	0.46	0.45	0.48	0.02	0.02	-0.01	0.00	-0.02	-0.03
At least primary	0.61	0.61	0.62	0.59	0.01	-0.00	0.03	-0.01	0.02	0.03
Household Size	5.16	5.09	5.09	5.16	0.07	0.07	-0.00	-0.00	-0.08	-0.07
Employed	0.77	0.75	0.79	0.78	0.01	-0.02	-0.01	-0.03	-0.03	0.01
Panel B: Hosts										
Country is Ethiopia	0.46	0.49	0.46	0.47	-0.04	-0.01	-0.01	0.03	0.02	-0.01
Urban	0.69	0.73	0.73	0.73	-0.05*	-0.05*	-0.04	0.00	0.00	0.00
Age	34.27	32.67	33.30	34.29	1.60**	0.97	-0.01	-0.63	-1.62***	-0.99
Male	0.50	0.46	0.42	0.46	0.04	0.09***	0.05	0.04	0.01	-0.04
At least primary	0.63	0.66	0.65	0.61	-0.02	-0.02	0.02	0.00	0.05	0.04
Household Size	4.94	4.85	4.71	4.90	0.10	0.24	0.05	0.14	-0.05	-0.19
Employed	0.86	0.85	0.86	0.86	0.01	0.01	0.00	-0.01	-0.01	-0.01
Panel C: Refugees										
Country is Ethiopia	0.26	0.35	0.26	0.34	-0.10	-0.00	-0.08	0.10	0.01	-0.08
Urban	0.40	0.49	0.44	0.43	-0.09	-0.04	-0.03	0.05	0.06	0.01
Age	32.39	33.34	32.20	30.72	-0.95	0.19	1.66**	1.14	2.62	1.48
Male	0.42	0.45	0.51	0.52	-0.03	-0.09*	-0.10*	-0.06	-0.07	-0.01
At least primary	0.57	0.54	0.55	0.55	0.04	0.02	0.03	-0.01	-0.01	0.00
Household Size	5.54	5.42	5.75	5.56	0.12	-0.20	-0.01	-0.33	-0.14	0.19
Employed	0.59	0.62	0.66	0.66	-0.03	-0.08	-0.07	-0.04	-0.04	0.00

Note: The Diff columns are the difference-in-means of treatment status on the demographic variables. Stars indicate whether this difference is significant. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The analysis uses weighted data and relies on cluster-robust standard errors.

[9] Not shown. Available on request

Table A8: Summary Statistics in Uganda

	HOSTS			REFUGEES		
	Mean	SD	Obs	Mean	SD	Obs
Country is Uganda	0.00	0.00	1549	0.00	0.00	1250
Urban	0.57	0.50	1549	0.44	0.50	1250
Male	0.40	0.49	1549	0.48	0.50	1250
Age of the respondent	34.33	11.20	1549	33.02	11.18	1250
Household size	4.57	2.48	1549	5.43	2.82	1250
Received at least primary education level	0.66	0.47	1549	0.52	0.50	1250
Anderson Index: Prejudice by country; Social, private and and work	0.02	0.98	1549	0.05	1.10	1250
Anderson Index: Prejudice by refugee group and country; Social	0.01	0.99	1549	-0.00	1.07	1250
Anderson Index: Prejudice by refugee group and country; Private	0.01	0.97	1549	0.05	1.06	1250
Anderson Index: Prejudice by refugee group and country; Work	0.01	0.98	1549	0.04	1.09	1250
Anderson Index: Prejudice by refugee group and country; Labor market competition	0.01	0.97	1549	-0.02	1.00	1250
Treatment group assignment: Same occupation	0.52	0.50	1549	0.49	0.50	1250
Treatment group assignment: Out-group	0.50	0.50	1549	0.50	0.50	1250

Note: We use sampling weights.

Table A9: Summary Statistics in Ethiopia

	HOSTS			REFUGEES		
	Mean	SD	Obs	Mean	SD	Obs
Country is Ethiopia	1.00	0.00	1418	1.00	0.00	499
Urban	0.89	0.31	1418	0.40	0.49	499
Male	0.52	0.50	1418	0.49	0.50	499
Age of the respondent	32.81	9.98	1418	30.01	9.57	499
Household size	5.10	2.59	1418	6.15	3.63	499
Received at least primary education Level	0.63	0.48	1418	0.59	0.49	499
Anderson Index: Prejudice by country; Social, private and work	0.02	1.03	1418	-0.03	1.02	499
Anderson Index: Prejudice by refugee group and country; Social	0.02	1.02	1418	-0.09	1.12	499
Anderson Index: Prejudice by refugee group and country; Private	0.02	1.03	1418	0.05	0.99	499
Anderson Index: Prejudice by refugee group and country; Work	0.01	1.02	1418	-0.18	1.04	499
Anderson Index: Prejudice by refugee group and country; Labor market competition	0.03	0.95	1418	-0.24	1.13	499
Treatment group assignment: Same occupation	0.50	0.50	1418	0.38	0.49	499
Treatment group assignment: Out-group	0.50	0.50	1418	0.48	0.50	499

Note: We use sampling weights.

A.6 Results in tables

A.6.1 Index of labor market competition

Table A10: Labor Market Competition Index

	(1)		(2)	
TREATMENT VARIABLE	***HOSTS***		***REFUGEES***	
PANEL A: Index of Labor Market Competition				
α1: OutGroup (1) vs InGroup (0)	0.00	(0.06)	0.20	(0.16)
α2: Same (1) vs Different (0) Occupation	0.16**	(0.06)	0.54***	(0.16)
α3: OutGroup x Same Occupation	-0.04	(0.08)	-0.19	(0.18)
H1: OutGroup (1) vs InGroup (0)	-0.02	(0.04)	0.12	(0.10)
H2: Same (1) vs Different (0) Occupation	0.14***	(0.04)	0.45***	(0.10)
N	2967		1749	
Mean	0.02		-0.07	

Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All the models include the same control variables. Controls include age, gender, household size, education, employment status, country of residence, and urban/rural areas. We report the Anderson (2008) *sharpened False Discovery Rate (FDR) q-values*, applied over each group individually.

A.6.2 Table of Main results

Table A11: Prejudice Index

	(1)		(2)	
TREATMENT VARIABLE	***HOSTS***		***REFUGEES***	
PANEL A: Prejudice Index				
α1: OutGroup (1) vs InGroup (0)	0.03	(0.06)	-0.09	(0.13)
α2: Same (1) vs Different (0) Occupation	-0.18***	(0.06)	0.01	(0.14)
α3: OutGroup x Same Occupation	0.26***	(0.08)	-0.05	(0.17)
H1: OutGroup (1) vs InGroup (0)	0.16***	(0.04)	-0.12	(0.08)
H2: Same (1) vs Different (0) Occupation	-0.05	(0.04)	-0.02	(0.09)
N	2967		1749	
Mean	0.02		0.02	

Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All models include the same control variables. Controls include age, gender, household size, education, employment, country of residence, and urban/rural areas. We report the Anderson (2008) *sharpened False Discovery Rate (FDR) q-values*, applied over each group individually. An explanation of the coefficients' interpretation can be found in Equation 1 in the main text.

A.7 Robustness of main results

A.7.1 Main results by individual indicators

Table A12: Main Results by Individual Indicators

	(1)		(2)	
TREATMENT VARIABLE	***HOSTS***		***REFUGEES***	
PANEL A: Prejudice Index on Social Interactions - OLS and Margins				
α1: OutGroup (1) vs InGroup (0)	-0.01	(0.06)	-0.02	(0.15)
α2: Same (1) vs Different (0) Occupation	-0.13**	(0.06)	0.01	(0.15)
α3: OutGroup x Same Occupation	0.24**	(0.09)	-0.16	(0.18)
H1: OutGroup (1) vs InGroup (0)	0.11**	(0.04)	-0.09	(0.09)
H2: Same (1) vs Different (0) Occupation	-0.01	(0.04)	-0.07	(0.10)
N	2967		1749	
Mean	0.01		-0.03	
PANEL B: Prejudice Index on Private Interactions - OLS and Margins				
α1: OutGroup (1) vs InGroup (0)	0.06	(0.06)	-0.19	(0.11)
α2: Same (1) vs Different (0) Occupation	-0.19***	(0.06)	0.01	(0.13)
α3: OutGroup x Same Occupation	0.25***	(0.08)	0.07	(0.16)
H1: OutGroup (1) vs InGroup (0)	0.19***	(0.05)	-0.15	(0.08)
H2: Same (1) vs Different (0) Occupation	-0.07*	(0.04)	0.04	(0.08)
N	2967		1749	
Mean	0.01		0.05	
PANEL C: Prejudice Index on Work Interactions - OLS and Margins				
α1: OutGroup (1) vs InGroup (0)	-0.01	(0.06)	0.07	(0.13)
α2: Same (1) vs Different (0) Occupation	-0.13	(0.06)	0.02	(0.14)
α3: OutGroup x Same Occupation	0.16	(0.08)	-0.13	(0.17)
H1: OutGroup (1) vs InGroup (0)	0.08	(0.04)	0.01	(0.08)
H2: Same (1) vs Different (0) Occupation	-0.06	(0.04)	-0.05	(0.10)
N	2967		1749	
Mean	0.01		-0.02	

Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All the models include the same control variables. Controls include age, gender, household size, education, employment and marital status, country of residence, and urban/rural areas. An explanation of the coefficients' interpretation can be found in Equation 1 in the main text.

A.7.2 Prejudice indicator: Dummy outcome

Table A13: Prejudice Indicator: Dummy Outcome

	(1)		(2)	
TREATMENT VARIABLE	***HOSTS***		***REFUGEES***	
PANEL A: Prejudice Indicator (Dummy)				
α1: OutGroup (1) vs InGroup (0)	0.02	(0.03)	-0.02	(0.06)
α2: Same (1) vs Different (0) Occupation	-0.09***	(0.03)	0.03	(0.07)
α3: OutGroup x Same Occupation	0.13***	(0.04)	-0.06	(0.07)
H1: OutGroup (1) vs InGroup (0)	0.08***	(0.02)	-0.05	(0.04)
H2: Same (1) vs Different (0) Occupation	-0.02	(0.02)	0.00	(0.04)
N	2967		1749	
Mean	0.42		0.43	

Weighted regressions. The dependent variable is transformed to a "prejudice indicator" which takes value 1 if the respondent strongly disagrees, disagrees, or neither agrees nor disagrees with the positively framed questions concerning inter-group contact, and takes value 0 otherwise. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All the models include the same control variables. Controls include age, gender, household size, education, employment and marital status, country of residence, and urban/rural areas. An explanation of the coefficients' interpretation can be found in Equation 1 in the main text.

A.7.3 Clustered and non-clustered SEs

Table A14: Clustered and Non-Clustered SEs on Main Results

	(1)		(2)	
TREATMENT VARIABLE	***HOSTS***		***REFUGEES***	
PANEL A: Prejudice Index				
α1: OutGroup (1) vs InGroup (0)	0.03	(0.06)	-0.09	(0.13)
		[0.05]		[0.07]
α2: Same (1) vs Different (0) Occupation	-0.18***	(0.06)	0.01	(0.14)
		[0.05]		[0.07]
α3: OutGroup x Same Occupation	0.26***	(0.08)	-0.05	(0.17)
		[0.07]		[0.10]
H1: OutGroup (1) vs InGroup (0)	0.16***	(0.04)	-0.12	(0.08)
		[0.04]		[0.05]
H2: Same (1) vs Different (0) Occupation	-0.05	(0.04)	-0.02	(0.09)
		[0.04]		[0.05]
N	.	2967	.	1749
Mean	0.02		0.02	

Weighted regressions. We use the Anderson (2008) index and report the Anderson (2008) *sharpened False Discovery Rate (FDR) q-values*, applied over each group individually. Clustered standard errors are shown in parentheses *()* and unclustered standard errors in brackets *[]*. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All models include the same control variables: age, gender, household size, education, employment status, country of residence, and urban/rural areas.

A.7.4 Analysis on the unemployed

The main analysis includes the entire sample of individuals who received the treatment. However, one might question the practicality of presenting narratives about "occupations" to unemployed individuals. While we carefully designed the questionnaire to include them, we acknowledge that there may be relevance issues. Additionally, when we asked unemployed individuals about their ideal job, some may have answered with a broad response like "any job." Consequently, for individuals in the treatment group who received the "same occupation" vignette, they would have encountered a fictitious character with job characteristics that resembled "any job," potentially diminishing the relevance of the vignette and, consequently, our intended treatment. As a result, we decided to conduct robustness analyses on (1) a subset of employed individuals only and (2) when filtering the unemployed respondents' "ideal occupations" to distinguish between realistic and relevant items versus irrelevant ones. The results are presented in the table below.

For hosts (1), panels B and C yield results that are quite similar to the baseline results in Panel A. This finding reassures us that the treatment of the unemployed population does not significantly affect the results. In the case of refugees, we do observe some differential impact, particularly in panel B, where we find a significant decrease in prejudice against outgroup members who have the same occupation. This aligns with our earlier discussion that refugees either exhibit neutrality or experience a decrease in prejudice (as discussed in Table A16). Nonetheless, we continue to focus on the results of the entire sample due to considerations of sample size and statistical power, as agreed upon in the PAP. In the future, more attention should be given to addressing the treatment of unemployed individuals in survey designs.

Table A15: Prejudice Index, over different sample definition

	(1)		(2)	
TREATMENT VARIABLE	***HOSTS***		***REFUGEES***	
PANEL A: Full Sample of Employed and Unemployed				
α1: OutGroup (1) vs InGroup (0)	0.03	(0.06)	-0.09	(0.13)
α2: Same (1) vs Different (0) Occupation	-0.17***	(0.06)	0.01	(0.14)
H1: OutGroup (1) vs InGroup (0)	0.16***	(0.04)	-0.12	(0.08)
H2: Same (1) vs Different (0) Occupation	-0.05	(0.04)	-0.02	(0.10)
H3: OutGroup x Same Occupation	0.25***	(0.08)	-0.06	(0.17)
N	2967		1749	
Mean	-0.01		0.06	
PANEL B: SubSet of Cleaned Unemployed Occupations				
α1: OutGroup (1) vs InGroup (0)	0.03	(0.06)	-0.28**	(0.12)
α2: Same (1) vs Different (0) Occupation	-0.18***	(0.06)	-0.14	(0.12)
H1: OutGroup (1) vs InGroup (0)	0.16***	(0.04)	-0.22***	(0.08)
H2: Same (1) vs Different (0) Occupation	-0.05	(0.04)	-0.08	(0.09)
H3: OutGroup x Same Occupation	0.25***	(0.08)	0.14	(0.15)
N	2917		1669	
Mean	-0.01		0.09	
PANEL C: Employed Only				
α1: OutGroup (1) vs InGroup (0)	0.05	(0.06)	-0.20*	(0.12)
α2: Same (1) vs Different (0) Occupation	-0.16**	(0.07)	-0.05	(0.11)
H1: OutGroup (1) vs InGroup (0)	0.18***	(0.05)	-0.10	(0.08)
H2: Same (1) vs Different (0) Occupation	-0.03	(0.04)	0.05	(0.10)
H3: OutGroup x Same Occupation	0.26***	(0.09)	0.21	(0.17)
N	2551		1179	
Mean	-0.01		0.04	

Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. All the models include the same control variables. Controls include age, gender, household size, education, employment and marital status, country of residence, and urban/rural areas. An explanation of the coefficients' interpretation can be found in Equation 1 in the main text. Panel A shows the baseline results as in Table A11.

A.8 Additional tables

Table A16: Prejudice Index, by Locality

	(1)		(2)	
TREATMENT VARIABLE	***HOSTS***		***REFUGEES***	
PANEL A.1: Addis Ababa				
α1: OutGroup (1) vs InGroup (0)	-0.23*	(0.12)	0.24	(0.23)
α2: Same (1) vs Different (0) Occupation	-0.35***	(0.11)	-0.37	(0.33)
α3: OutGroup x Same Occupation	0.48***	(0.17)	0.18	(0.36)
H1: OutGroup (1) vs InGroup (0)	-0.00	(0.08)	0.30	(0.20)
H2: Same (1) vs Different (0) Occupation	-0.11	(0.08)	-0.28	(0.22)
N	848		198	
Mean	0.05		-0.14	
PANEL A.2: Jijiga/Kebribeyah				
α1: OutGroup (1) vs InGroup (0)	0.18	(0.13)	-0.35	(0.28)
α2: Same (1) vs Different (0) Occupation	-0.11	(0.13)	0.04	(0.19)
α3: OutGroup x Same Occupation	-0.05	(0.19)	-0.29	(0.23)
H1: OutGroup (1) vs InGroup (0)	0.15*	(0.09)	-0.47*	(0.24)
H2: Same (1) vs Different (0) Occupation	-0.14	(0.10)	-0.10	(0.17)
N	570		301	
Mean	-0.04		-0.01	
PANEL A.3: Kampala				
α1: OutGroup (1) vs InGroup (0)	0.01	(0.13)	-0.16	(0.17)
α2: Same (1) vs Different (0) Occupation	-0.11	(0.12)	0.01	(0.21)
α3: OutGroup x Same Occupation	0.08	(0.18)	0.30	(0.31)
H1: OutGroup (1) vs InGroup (0)	0.05	(0.09)	-0.01	(0.13)
H2: Same (1) vs Different (0) Occupation	-0.07	(0.10)	0.15	(0.18)
N	691		545	
Mean	0.03		0.13	
PANEL A.4: Isingiro/Nakivale				
α1: OutGroup (1) vs InGroup (0)	0.30***	(0.11)	-0.20	(0.13)
α2: Same (1) vs Different (0) Occupation	-0.02	(0.11)	-0.05	(0.13)
α3: OutGroup x Same Occupation	0.26*	(0.14)	-0.08	(0.18)
H1: OutGroup (1) vs InGroup (0)	0.43***	(0.09)	-0.24***	(0.08)
H2: Same (1) vs Different (0) Occupation	0.10	(0.07)	-0.09	(0.08)
N	858		705	
Mean	0.01		-0.04	

Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All models include the same control variables. Controls include age, gender, household size, education, employment and marital status, country of residence, and urban/rural areas. An explanation of the coefficients' interpretation can be found in Equation 1 in the main text.

Table A17: Prejudice Index, by Gender and Education Level

TREATMENT VARIABLE	(1) *HOSTS*		(2) *REFUGEES*	
PANEL A: GENDER				
PANEL A.1: Women				
α1: OutGroup (1) vs InGroup (0)	0.08	(0.08)	-0.04	(0.14)
α2: Same (1) vs Different (0) Occupation	-0.16*	(0.08)	0.07	(0.15)
α3: OutGroup x Same Occupation	0.24*	(0.12)	-0.09	(0.19)
H1: OutGroup (1) vs InGroup (0)	0.20***	(0.06)	-0.08	(0.11)
H2: Same (1) vs Different (0) Occupation	-0.04	(0.06)	0.03	(0.11)
N	1626		934	
Mean	0.01		0.05	
PANEL A.2: Men				
α1: OutGroup (1) vs InGroup (0)	-0.02	(0.09)	-0.24	(0.19)
α2: Same (1) vs Different (0) Occupation	-0.18**	(0.08)	-0.13	(0.19)
α3: OutGroup x Same Occupation	0.28**	(0.12)	0.09	(0.26)
H1: OutGroup (1) vs InGroup (0)	0.12*	(0.06)	-0.20	(0.14)
H2: Same (1) vs Different (0) Occupation	-0.05	(0.05)	-0.08	(0.13)
N	1341		815	
Mean	0.02		0.01	
PANEL B: EDUCATION LEVEL				
PANEL B.1: Below Primary Education				
α1: OutGroup (1) vs InGroup (0)	0.09	(0.11)	-0.33***	(0.11)
α2: Same (1) vs Different (0) Occupation	-0.20*	(0.11)	-0.19	(0.13)
α3: OutGroup x Same Occupation	0.25	(0.15)	0.01	(0.14)
H1: OutGroup (1) vs InGroup (0)	0.21***	(0.07)	-0.33***	(0.10)
H2: Same (1) vs Different (0) Occupation	-0.07	(0.07)	-0.19**	(0.09)
N	1027		831	
Mean	-0.00		0.01	
PANEL B.2: At Least Primary Education				
α1: OutGroup (1) vs InGroup (0)	0.02	(0.08)	0.07	(0.16)
α2: Same (1) vs Different (0) Occupation	-0.14**	(0.07)	0.12	(0.16)
α3: OutGroup x Same Occupation	0.23**	(0.10)	-0.07	(0.23)
H1: OutGroup (1) vs InGroup (0)	0.14**	(0.05)	0.03	(0.11)
H2: Same (1) vs Different (0) Occupation	-0.03	(0.05)	0.08	(0.13)
N	1929		911	
Mean	0.02		0.03	

Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. All models include the same control variables. Controls include age, gender, household size, education, employments, country of residence, and urban/rural areas. An explanation of the coefficients' interpretation can be found in Equation 1 in the main text.

Table A18: Prejudice Index, by industry-location groups of high/ low competition

TREATMENT VARIABLE	(1) *HOSTS*		(2) *REFUGEES*	
Working hours beyond legal threshold				
PANEL A.1: Low share over-worked				
α1: OutGroup (1) vs InGroup (0)	0.14*	(0.08)	-0.14	(0.11)
α2: Same (1) vs Different (0) Occupation	-0.08	(0.08)	-0.10	(0.12)
α3: OutGroup x Same Occupation	0.16	(0.11)	0.00	(0.15)
H1: OutGroup (1) vs InGroup (0)	0.21***	(0.06)	-0.13	(0.10)
H2: Same (1) vs Different (0) Occupation	-0.01	(0.06)	-0.10	(0.09)
N	1644		970	
Mean	0.02		0.01	
PANEL A.2: High share over-worked				
α1: OutGroup (1) vs InGroup (0)	-0.12	(0.10)	-0.07	(0.18)
α2: Same (1) vs Different (0) Occupation	-0.31***	(0.08)	0.10	(0.17)
α3: OutGroup x Same Occupation	0.39***	(0.12)	-0.02	(0.27)
H1: OutGroup (1) vs InGroup (0)	0.08	(0.07)	-0.08	(0.13)
H2: Same (1) vs Different (0) Occupation	-0.11*	(0.06)	0.09	(0.14)
N	1321		779	
Mean	0.01		0.04	

Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All the models include the same control variables. Controls include age, gender, household size, education, employment, country of residence, and urban/rural areas. The sample is stratified according to the percentage of respondents reporting weekly working hours exceeding the legal threshold of 48 hours. Panel A.1 encompasses respondents in industry-location groups where the proportion of workers exceeding this threshold falls below the median. Panel A.2, consists of respondents employed in industry-location groups where the percentage of individuals working beyond the legal limit exceeds the median share. The median share of such workers across all industries in the four different localities stands at 56%.

Table A19: Prejudice Index, by refugee and host over-representation by industry

TREATMENT VARIABLE	(1) *HOSTS*		(2) *REFUGEES*	
Refugee and Host Over-Representation by Industry				
PANEL A.1: Hosts overrepresented				
α1: OutGroup (1) vs InGroup (0)	0.07	(0.08)	-0.12	(0.16)
α2: Same (1) vs Different (0) Occupation	-0.16**	(0.07)	-0.02	(0.17)
α3: OutGroup x Same Occupation	0.29***	(0.10)	-0.17	(0.20)
H1: OutGroup (1) vs InGroup (0)	0.22***	(0.05)	-0.20**	(0.10)
H2: Same (1) vs Different (0) Occupation	-0.02	(0.05)	-0.11	(0.10)
N	2076		1199	
Mean	0.02		0.01	
PANEL A.2: Refugees overrepresented				
α1: OutGroup (1) vs InGroup (0)	-0.02	(0.11)	-0.09	(0.13)
α2: Same (1) vs Different (0) Occupation	-0.21**	(0.10)	-0.03	(0.15)
α3: OutGroup x Same Occupation	0.10	(0.15)	0.34	(0.26)
H1: OutGroup (1) vs InGroup (0)	0.03	(0.09)	0.06	(0.13)
H2: Same (1) vs Different (0) Occupation	-0.16*	(0.09)	0.15	(0.13)
N	751		515	
Mean	0.02		0.03	

Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All the models include the same control variables. Controls include age, gender, household size, education, employment, country of residence, and urban/rural areas. The sample is divided based on the prevalence of hosts and refugees in the respondent's industry. This categorization is determined separately for each of the four localities, taking into account the local concentration of refugees in each of the 18 industries. In Panel A.1 (hosts over-represented), we include respondents working in industries where the proportion of hosts exceeds the local average. Panel A.2 (refugees over-represented) comprises respondents in industries where the proportion of refugees surpasses the local average.

Table A20: Prejudice Index, by Degree of Contact with the Out Group

TREATMENT VARIABLE	(1) *HOSTS*		(2) *REFUGEES*	
PANEL A: CONTACT				
PANEL A.1: No out-group friends				
α1: OutGroup (1) vs InGroup (0)	0.04	(0.07)	0.11	(0.16)
α2: Same (1) vs Different (0) Occupation	-0.19***	(0.07)	0.26	(0.17)
α3: OutGroup x Same Occupation	0.31***	(0.10)	-0.41*	(0.22)
H1: OutGroup (1) vs InGroup (0)	0.20***	(0.05)	-0.10	(0.10)
H2: Same (1) vs Different (0) Occupation	-0.04	(0.05)	0.06	(0.10)
N	2227		1035	
Mean	0.02		0.00	
PANEL A.2: Some out-group friends				
α1: OutGroup (1) vs InGroup (0)	0.02	(0.11)	-0.37**	(0.16)
α2: Same (1) vs Different (0) Occupation	-0.15	(0.13)	-0.35**	(0.16)
α3: OutGroup x Same Occupation	0.09	(0.15)	0.38	(0.24)
H1: OutGroup (1) vs InGroup (0)	0.07	(0.08)	-0.21*	(0.12)
H2: Same (1) vs Different (0) Occupation	-0.11	(0.08)	-0.17	(0.14)
N	740		714	
Mean	0.01		0.07	

Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All the models include the same control variables. Controls include age, gender, household size, education, employment, country of residence, and urban/rural areas. The 5-scale source question -*Over the course of my life, I have had many friends who are [Ugandan/Ethiopian nationals]/[Refugees]*, respectively- was transformed into a binary with the unit agreeing with the statement, and the null disagreeing or being neutral.

Table A21: Prejudice Index, by shared ethno-linguistic identity with the out-group

TREATMENT VARIABLE	(1) *HOSTS*		(2) *REFUGEES*	
PANEL A: OUT-GROUP LANGUAGE				
PANEL A.1: Different language (main out-group language)				
α1: OutGroup (1) vs InGroup (0)	0.02	(0.07)	-0.11	(0.11)
α2: Same (1) vs Different (0) Occupation	-0.18***	(0.07)	-0.03	(0.12)
α3: OutGroup x Same Occupation	0.31***	(0.09)	0.06	(0.16)
H1: OutGroup (1) vs InGroup (0)	0.18***	(0.05)	-0.08	(0.07)
H2: Same (1) vs Different (0) Occupation	-0.03	(0.05)	-0.00	(0.09)
N	2468		1443	
Mean	0.03		0.03	
PANEL A.2: Shared language (main out-group language)				
α1: OutGroup (1) vs InGroup (0)	0.08	(0.14)	-0.36	(0.27)
α2: Same (1) vs Different (0) Occupation	-0.15	(0.15)	0.04	(0.18)
α3: OutGroup x Same Occupation	0.01	(0.20)	-0.29	(0.23)
H1: OutGroup (1) vs InGroup (0)	0.09	(0.09)	-0.47*	(0.23)
H2: Same (1) vs Different (0) Occupation	-0.15	(0.11)	-0.11	(0.17)
N	499		306	
Mean	-0.05		-0.03	

Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01. All the models include the same control variables. Controls include age, gender, household size, education, employment, country of residence, and urban/rural areas. The sample has been categorized into two groups for analysis. Panel A.2 includes respondents who share the primary ethno-linguistic identity of the other group, indicating a significant similarity with the main ethnic group among refugees/hosts. Conversely, Panel A.1 comprises respondents with a distinct ethno-linguistic identity compared to the other group. The criteria for this distinction are defined independently for each locality, taking into account the predominant language spoken by the out-group.

Table A22: Prejudice Index, by ethnolinguistic majorities/ minorities

TREATMENT VARIABLE	(1) *HOSTS*		(2) *REFUGEES*	
PANEL A: ETHNO-LINGUISTIC MAJORITY/ MINORITY				
PANEL A.1: Linguistic minority (own group)				
α1: OutGroup (1) vs InGroup (0)	-0.21*	(0.12)	-0.30	(0.21)
α2: Same (1) vs Different (0) Occupation	-0.20*	(0.11)	-0.14	(0.14)
α3: OutGroup x Same Occupation	0.41**	(0.18)	0.31	(0.27)
H1: OutGroup (1) vs InGroup (0)	0.00	(0.09)	-0.17	(0.14)
H2: Same (1) vs Different (0) Occupation	-0.00	(0.09)	0.03	(0.12)
N	633		315	
Mean	0.03		0.12	
PANEL A.2: Linguistic majority (own group)				
α1: OutGroup (1) vs InGroup (0)	0.08	(0.07)	0.03	(0.13)
α2: Same (1) vs Different (0) Occupation	-0.17**	(0.07)	0.06	(0.14)
α3: OutGroup x Same Occupation	0.23**	(0.09)	-0.17	(0.17)
H1: OutGroup (1) vs InGroup (0)	0.20***	(0.05)	-0.05	(0.09)
H2: Same (1) vs Different (0) Occupation	-0.05	(0.05)	-0.02	(0.10)
N	2334		1434	
Mean	0.01		-0.01	

Weighted regressions. We use the Anderson (2008) index. Standard errors clustered at the PSU level. Significance levels: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. All the models include the same control variables. Controls include age, gender, household size, education, employment, country of residence, and urban/rural areas. The sample has been categorized into two groups for analysis. Panel A.1 includes respondents whose own language belongs to the local minority (always defined WITHIN their own group of hosts/ refugees; and defined separately for each of the four localities). Panel A.2. comprises respondents from the ethno-linguistic majorities.

Table A23: Retrospective power calculations

Group	Location	Minimum Detectable Size (MDS)
Refugees	All	0.15
	Jijiga	0.36
	Addis Ababa	0.44
	Isingiro	0.24
	Kampala	0.28

We use power calculation tools from the Jameel AbdelLatif Poverty Action Lab (JPAL) to estimate the minimum detectable size (MDS) based on our data properties and regression specification. For our estimates, we set the desired power size as 80% and test for the MDS based on a 5% significance level. The table reports MDS for the α_3 coefficient. All power calculations are based on a specification with all covariates included, with α_1 and α_2 treated as covariates. Since one respondent is assigned to this treatment arm for every three assigned to an alternative treatment arm, we set the treatment/control ratio to 0.33. The table reports MDS for regressions focused on refugee respondents, given the lower sample sizes in some of these regressions. Additional power calculations are available upon request.