# Contact in the Workplace and Social Cohesion: Experimental Evidence from Uganda[*]

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May 2024
**Preliminary**

## Abstract

Social cohesion is a driver of trust among members of the same community and consequently it is key to local economic development. A high influx of outsiders such as refugees might disrupt this cohesion, as the arrival of foreigners may change social relations. Therefore, how to construct social cohesion in refugee-host countries is both desirable and necessary for policy. We conduct a randomized control trial with refugee job seekers and native workers in locally owned and managed firms in Uganda. We measure social cohesion through a compound measure incorporating attitudes, implicit and explicit biases, and behaviors in real and hypothetical activities. Does inter-group contact in the workplace promote social cohesion between people from two different communities? Our sets of findings are two. First, explicit bias decreases for both groups, while implicit bias increases only for native workers. Second, both groups of workers improve their behaviors towards the opposite group, but in a slightly different way: while local workers want to have more refugee business partners, refugee workers want to be more employed by Ugandan firms. These findings underscore the role of workplace-based contact in developing social cohesion by reducing explicit biases and increasing positive behaviors among people from different communities.

# 1   Introduction

Social cohesion is a key factor for growth and development, especially in countries with high levels of diversity (Easterly et al. 2006; Munshi 2011). However, forced displacement can threaten this cohesion by disrupting and changing social relations in host countries (De Berry and Roberts 2018). According to the UNHCR, in 2024 there are around 110 million forcibly displaced people, with 36.4 million being refugees. Researchers, governments and international organizations in refugees' host countries are therefore interested in understanding what policies or programs can enhance social cohesion with conflict-affected populations. This question is of particular importance for low and middle-income countries, host to three-quarters of the world's refugees. This paper uses an experiment in Uganda, the largest refugee-hosting country in Africa and the fifth worldwide, to study if work contact between refugees and local workers can increase social cohesion. We randomly match 377 refugees and 273 local workers to work for the same company. We then randomly group these couples into a control arm and three types of 'work contact' treatments: (i) a *"direct"* contact treatment where refugees complete a 1-week internship at a local firm; (ii) an *"indirect"* contact treatment where participants watch a video documentary showing the daily interactions of a refugee and a Ugandan working together at a firm in the capital city Kampala; (iii) a combination of both treatments. To assess the impact of work contact (both direct and indirect) on social cohesion between refugees and local workers, we define a new compound measure of social cohesion that comprises several dimensions: implicit bias, explicit stereotypes, attitudes, and behaviors both in hypothetical and real-world scenarios. Our sets of results are two. First, we find an overall positive impact of work contact on social cohesion. Work contact decreases explicit bias both among local and refugee workers. At the same time, implicit bias increases for local workers. Second, actual behaviors move in the same direction as explicit bias, however: treated local workers are more willing to have a refugee business partner in a hypothetical scenario, while more refugees are willing to work in a similar internship program in the future, especially with Ugandan firms. This effect is large as it is equivalent to 90% increase over the mean. We also find that treated refugees are less willing to have any partner in a hypothetical business scenario. Together, we interpret these results as evidence that through work contact, refugee workers learn that they can look for salaried jobs in established firms instead of becoming self-employed.

The fact that implicit bias increases for local workers, while explicit bias and behaviors improve is intriguing. We provide suggestive evidence regarding local workers' increase in implicit bias as not being driven by negative work contact but rather by the fear of increased job competition: through work contact with a refugee, local workers learn that refugee workers are more

skilled than they initially believed. Second, an increase in implicit bias does not translate into discriminatory behavior, as the effect on the behavioral outcomes is positive.

Our study makes a number of methodological contributions. First – and in contrast to much of the existing literature – we measure biases and behavioral change with contact both for the majority group (i.e. the local workers) and the minority group (i.e. the refugees). Second, by measuring both implicit and explicit bias and actual behaviors, we can use the latter to interpret the former and thus contribute to the discussion on how to measure and interpret implicit bias through implicit association tests (IATs). Third, we take seriously the possibility of experimenter demand effects and design a number of safeguards to protect against them: (i) we collect behavioral measures, which we expect to be less subject to demand effects; (ii) we match enumerators and respondents by nationality, as we piloted that participants are more willing to admit biases when paired with an enumerator of the same nationality; (iii) we elicit respondents' beliefs about the study's purpose at the end of the program, to assess whether the purpose of this study was obfuscated to the participants.

This paper relates to four bodies of work in different fields. First, to the vast literature on the reduction of prejudice using contact theory (Bursztyn et al. 2023; Corno et al. 2022; Lowe 2021; Mousa 2020; Okunogbe 2023; Rao 2019; Scacco and Warren 2018). These papers study activities that promote direct contact between different groups. Our contribution is to promote contact using a different activity, namely work, which is arguably the most important in the daily lives of adults. Second, to the recent literature of the integration of refugees in low- and middle-income countries (Bahar et al. 2021; Caria et al. (2023)). These papers focus on the impact of labor or governmental programs on labor market outcomes. Our contribution is to explore if a labor market program can also promote social cohesion between refugees and locals. Third, to the literature on post-conflict reconstruction using employment programs (Blattman and Annan 2016). Many governments and donors use job programs to promote peace between different groups, but there is little empirical evidence that they actually do (Verwimp et al. 2019). Thus, we will provide empirical evidence on the role of an employment program in building social cohesion in a conflict-affected community. Finally, to the literature on implicit bias measurement and interpretation (Cunningham and De Quidt 2023). Implicit bias has been mostly measured using implicit association tests, but in the psychology field there is an open debate about the validity of the tool (Singal 2017): some studies have found that it measures empathy or exposure to stereotypes (Andreychik and Gill 2012; Uhlmann et al. 2006) and there is no evidence to support the claim that the IAT score is related to discriminatory behavior (Paluck et al. 2020). In economics, IATs are increasingly used, but there is some evidence that implicit

bias does not always translate into prejudiced behavior (Alesina et al. 2018). We contribute to this literature by collecting several outcomes together with IATs, so as to understand their relation to behavior and what it might be capturing.

The remainder of the paper is organized as follows. Section 2 summarizes the literature on contact theory and on the measurement and use of implicit attitudes. Section 3 describes the context and provides some stylized facts. Section 4 details the conceptual framework, experimental design and sampling. Section 5 describes the main outcomes of the paper and provides some descriptive statistics. Section 6 outlines the specification used in the analysis, reports and discusses the results of the experiment. Section 7 concludes the paper.

## 2   Literature Review

In this section we review the current literature on the contact hypothesis, the interventions aimed at reducing prejudice, and the measurement of implicit bias.

The contact hypothesis, proposed by Allport in 1954, is a theory that explains how contact between different groups can reduce prejudice and discrimination. The hypothesis states that under certain conditions, direct contact between individuals from different groups can increase mutual understanding and reduce prejudice (Allport 1954).

According to Allport, there are four essential conditions for contact to be effective in reducing prejudice: (1) there is equal status between majority and minority groups; (2) contact is endorsed by institutional support, laws or custom; (3) groups work for a common goal; and (4) there is intergroup cooperation. Allport believed that these conditions would allow people from different groups to see each other as individuals rather than as members of a particular group. This would help to reduce stereotypes and prejudice by breaking down the social barriers that exist between different groups.

The contact hypothesis has been widely used and studied to promote social cohesion or to reduce prejudice in a variety of fields (Bertrand and Duflo 2017). In experimental economics and political science, direct contact has been studied using natural experiments or randomized controlled trials in specific settings: in sports (Mousa 2020; Lowe 2021) in education (Rao 2019; Scacco and Warren 2018) in locations such as university rooms (Carrell et al. 2015; Corno et al. 2022) or neighbourhoods (Bursztyn et al. 2023; Okunogbe 2023).

Most of the above-mentioned papers collected explicit attitudes and behavioral outcomes, finding similar patterns in the results. Mousa (2020) found that Christians assigned to play on a soccer team with Muslim teammates were more likely to engage in tolerant behaviors toward Muslim teammates up to 6 months after the intervention ended, yet the tolerant behavior did not

generalize to other Muslims or to attitudes. Lowe (2021) instead found that adversarial contact in cricket teams in India had a mixed effect and, in some cases, negative, supporting Allport's rule that members from different groups need to have contact while working towards common goals, in order to achieve positive outcomes. In education, Scacco and Warren (2018) found that randomly assigning Muslims and Christians to computer classes reduced the tendency to discriminate in behavioral games, but not in prejudiced self-reported attitudes.

Corno et al. (2022) is one of the few studies that collected three types of outcomes: explicit attitudes, implicit bias, and behaviors. They studied the random allocation of white and black students in rooms at a South African university. They find that exposure to a roommate from a different race reduces the implicit bias of white students, improved the academic ability of black students, and improved explicit attitudes and friendship patterns for white students. They conclude that their results are encouraging because South Africa has a deep history of prejudice and conflict between groups, and it should be more difficult to reduce prejudice in such a context. In the psychology field, Paluck et al. (2020) run a meta-analysis of interventions to reduce prejudice. They find that there is enthusiasm about implicit bias and its reduction, but there is no clear evidence that implicit bias reduction is correlated or leads to a reduction in prejudiced behavior. In their analysis, only two experiments measured implicit and behavioral change. Also, they conclude that attitudes and behaviors, although correlated, diverge. Interventions seem to be more effective at changing behavior than attitudes.

Regarding the measurement of implicit attitudes, implicit bias has been mostly measured using implicit association tests (IATs). The IATs are psychological tools that capture biases using *categorization tasks* (Greenwald and Banaji 1995). In the socio-psychological literature, there is a wide discussion regarding the IAT validity and interpretation (Singal 2017). Mainly, the discussion deals with two points: if the IAT actually measures prejudice and if the IAT's score is a predictor of discriminatory behavior.

The co-creators of the IAT showed in a meta-analysis that the IAT correlated with discriminatory behavior (Greenwald et al. 2009). Nevertheless, the meta-analysis has been criticized for including studies and outcomes that do not actually measure discriminatory behavior (Singal 2017). Another meta-analysis has shown the contrary, that the IAT score does not translate into prejudiced behavior (Oswald et al. 2013). However, this analysis has also been criticized for including studies with small sample sizes (Corno et al. 2022).

Both opponents and proponents agree that the evidence is very thin, especially experimental evidence. A recent meta-analysis by Paluck et al. (2020) concluded that only 2 experimental studies included both implicit and behavioral outcomes. Also, they concluded that there appears

to be no correlation between implicit and explicit stereotypes, confirming "the notion that the two measures gauge distinct (and largely unrelated) response tendencies".

Regarding the discussion about what the IAT is actually measuring, there have been studies that show alternative explanations. For instance, Uhlmann et al. (2006) have shown in an experimental study that the IAT is measuring familiarity with negative stereotypes regarding a specific group. Others have shown that the IAT might be measuring empathy towards a group (Andreychik and Gill 2012).

In economics, IATs are increasingly used as a proxy for prejudice, but very few papers use it as an outcome. Beaman et al. (2009) find that a quota to reserve political seats for women in the local government in India does not improve the implicit or explicit distaste for female leaders, and it actually improves the relative explicit preference for male leaders. Yet, it improves some behavioral outcomes in hypothetical scenarios, such as female leader effectiveness. Alesina et al. (2018), find that while math teachers with stronger implicit bias grade immigrant students lower grades than local students, literature teachers do not act upon their implicit bias.

# 3 Context

Due to conflicts, economic, political, and climate instability, the number of displaced people has increased in many regions around the world. According to the UNHCR, in 2024 there are around 110 million forcibly displaced people. Of those, 36.4 million are refugees.[1] Three-quarters of the world's refugees are hosted by low- and middle-income countries. Uganda is the sixth-largest refugee host country in the world and the first in Africa, currently hosting around 1.5 million refugees. The country has been praised worldwide for its progressive refugee policy: refugees have freedom of movement and have the right to live and work outside the settlements. Refugees can choose where to register. They can choose between settlements situated in rural areas or to become urban dwellers, by going to live in major cities such as the capital Kampala. Conditional on choosing to live in a settlement, refugees can also receive a plot of land to cultivate and receive aid. However, some frictions to their integration remain. If refugees decide to leave the settlements, they do not receive aid; when needed, getting an official work permit is difficult; some employers hesitate to hire refugees because they are unsure about the laws and policies; and refugees are less likely to be employed than Ugandans and often accept jobs below their skills and education level (Loiacono and Silva-Vargas 2019; Loiacono and Silva-Vargas 2024). Additionally, a continuous influx of refugees is posing new dilemmas and open questions,

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[1]https://www.unhcr.org/refugee-statistics/, accessed May 2024.

particularly, what the best policy to promote social cohesion would be to avoid conflict and stimulate economic growth in the host country.

## 3.1 Study pilot and stylized facts

Between 2019 and 2020, we collected two rounds of pilot data with 421 urban refugees and 401 local firm owners in two large cities in Uganda. Our pilot data show some interesting insights: 83% of refugees in Kampala believe that Ugandans are not trustworthy, and 70% have low levels of generalized trust. Yet, only 42% report low levels of trust towards refugees of their same nationality. Around half of the sample believes that Ugandans are prejudiced towards refugees and rate their interactions with Ugandans negatively. Very few refugees have established work contact with Ugandans, suggesting that refugees are segregated with respect to the local communities. Only 20% were paid employees at the time of the interview, and out of this, 40% had a Ugandan employer. Despite residing in urban areas rather than isolated settlements, only 16% claim to have weekly economic interactions with locals. We believe that these findings provide suggestive evidence that meaningful work contact between refugees and local peers is limited.

We observe similar trends among Ugandan respondents. Out of 401 firm owners, 46% have economically interacted with refugees; 86% report that they do not trust refugees while only 15% say the same for Ugandans of their own ethnicity; 69% believe that hosting refugees does not help the country economically and socially and 68% believe that hosting refugees creates more competition for opportunities in the country. Surprisingly, although Uganda is the first host country in Africa in terms of the number of refugees, only 7% of the firms reported ever having hired a refugee, and a substantial number of firms do not know the refugee policy: 61% do not know that refugees can live outside the settlements, and 59% do not know that refugees can work anywhere in Uganda.

We find interesting correlations. Refugees that have more interactions per week with locals have more trust towards Ugandans, report that Ugandans are less prejudiced towards refugees, and rate their interaction with locals more positively (Figure 1). For Ugandans, if firm owners ever interacted economically with refugees, they trust refugees more, they are less likely to agree that refugees create competition with Ugandan workers, and they agree more that refugees help the country economically and socially.

These correlations are consistent with the contact hypothesis and are suggestive evidence that economic interactions, more positive attitudes and beliefs towards the out-group are correlated.

Therefore, working together not only could yield economic returns but also could improve social outcomes.

Finally, at the end of 2020, we run qualitative discussions with both groups (61 refugees and 120 locals) to understand what type of actions or activities show integration between both groups in urban areas. Ugandans agreed that the main activities to promote cohesion are to support refugee businesses and to work together, while for refugees, important activities are to attend social and religious gatherings and work together.

# 4    Research Design

In this section we describe the experimental design, introducing a conceptual framework that motivates our intervention and specifying the hypothesis we want to test.

## 4.1    Conceptual framework and hypotheses

The contact hypothesis is a widely proposed theory for reducing prejudice. Developed by the sociologist Gordon Allport in 1954, the original theory states that contact between different groups may reduce prejudice if four conditions are met: (1) there is equal status between majority and minority groups; (2) contact is endorsed by institutional support, laws, or custom; (3) groups work for a common goal; and (4) there is intergroup cooperation (Allport 1954). However, direct contact can also lead to negative outcomes, such as an increase in prejudice, due to misunderstandings (Paluck et al. 2019) or because an individual has never seen examples of in-group members positively interacting with out-group members. In this case, they do not know how to positively approach the new contact experience.

Exposure to role models with whom a member of a group can identify with can also be a powerful method to induce attitude and behavioral change (Riley 2022; Bernard et al. 2015; DellaVigna and La Ferrara 2015). In this sense, observing in-group role models positively interacting with out-group members can induce an indirect or vicarious contact experience, which has been shown to be an effective method to reduce prejudice (Murrar and Brauer 2018).

Following the contact and role model theories, our project tests if work contact, promoted through direct or indirect contact in the workplace, can improve social cohesion outcomes for both groups. Direct contact consists of refugees and local workers working together directly in a firm, while indirect contact is promoted by showing a video documentary that portrays a refugee and a Ugandan national working together in a firm in Kampala.

The direct contact respects Allport's four conditions. First, to respect the equal status condition, we focus on firm workers from two groups - refugees and locals - that work on similar tasks

within a firm. This eliminates any potential hierarchy difference between the employees. For institutional support, we focus only on firms that are willing to participate in the program, thus endorsing the contact between employees. The third and fourth conditions are respected because workers work for the same firm and in the same department, and thus, cooperate towards common goals.

Regarding the role model requirement: that people need to identify with the person they are observing, the video documentary shows relatable and real characters from both groups: a Ugandan worker from Kampala – to relate to local workers – and a refugee worker. We avoid mentioning the nationality of the refugee, in order to make him relatable to all refugee respondents. The documentary is in English with subtitles in the 6 languages spoken by our respondents.[2]

Based on the conceptual framework, we test our main hypothesis that contact in a work setting has a positive effect on social cohesion between refugee workers and local workers (see Section 5 for a detailed description of our measures of social cohesion).

## 4.2 Experimental design and randomization

Our main treatment is work contact which includes direct and indirect contact at the workplace. We begin by describing what we define "direct" contact. Then we move on to explain the "indirect" contact treatment. The summary of our research design is shown in figure A.1.

### 4.2.1 Direct contact

In order to promote direct contact, we run a job placement program that assists displaced populations in finding jobs in Uganda. The program provided a one-week internship to skilled refugees at Ugandan firms that were willing to participate. Refugee workers are skilled in vocational occupations such as carpentry, tailoring, and hairdressing (Loiacono and Silva-Vargas 2024). In order to match refugees with firms, we first tested refugees' skills. The test is an official exam run by the Directorate of Industrial Training, the agency established by the Ministry of Education to be in charge of the vocational education curriculum in Uganda. We also had the support of two large refugee-led NGOs based in Kampala to organize the skills testing. Refugees who passed the test were randomly matched to firms in the same sector as the refugees' occupation. We offered a subsidy to refugees for the one-week internship.[3] Half of the subsidy was paid upon beginning the internship, the other half upon completing it. Local workers are

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[2]The languages are: Luganda, Swahili, Frech, Kinyarwanda, Kirundi, English
[3]They were offered 50,000UGX, that is approximately 15USD. This subsidy was substantial and equal to about 85% of the monthly median earnings of the refugees.

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employees already working at the firm. Section 4.3 explains the sampling procedure, that is how local workers were selected.[4]

### 4.2.2 Indirect contact

The indirect contact took place through a video documentary that we shot in Kampala in March 2021. The video is a short 4-minute documentary about relatable and real-life characters from both groups: Elvis Zani, a Ugandan worker from Kampala – to relate to local workers – and Paul Kithima, an urban refugee worker in Kampala. We avoid mentioning the nationality of the refugee worker to make the main character relatable to all refugees belonging to any nationality. Both workers work together in permaculture.[5] We chose this specific case as we wanted the characters to work in a sector that does not belong to the direct contact treatment, in order to avoid any priming effect.

In the video, both characters talk about their experience working together, what they learned from each other, and what they think about refugees and Ugandans collaborating in the workplace. The video also has a musical background without lyrics that was piloted and it is relatable to all nationalities. Moreover, the video is in English with subtitles in 6 languages (the languages spoken by our respondents) and respondents could decide in which language they wanted the subtitles to be in. The video was piloted with both groups in June 2021 in order to make sure the main message was transmitted, and no other factors were seen as major points. Figure A.2 shows a snapshot of the video.[6]

The placebo video was shown to people that were not assigned to the indirect intervention. The placebo video is a 3-min YouTube video that shows animals in the East African Savannah. We chose this placebo video because we needed something all nationalities could relate to, that was not in any specific language and that would not create any particular emotion related to work or contact between groups.[7]

For the analysis, we consider 1 treatment group, which comprises respondents that randomly received direct contact, indirect contact, or both. The control group is composed of refugee workers that are not matched to any firm and local workers that are not matched to work together with refugees, and workers that watch the placebo video.

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[4]Loiacono and Silva-Vargas 2024 provides a more detailed description of the program as its focus is the impact of internships on firms' willingness to hire refugees

[5]Permaculture is a holistic design system and philosophy that uses principles of ecology and sustainability to create sustainable human settlements and agricultural systems. It emphasizes the use of local resources and the integration of different elements to create a self-sustaining system (Permaculture Research Institute, 2021).

[6]The intervention video can be seen in this link https://www.youtube.com/watch?v=8zTT0VbgKJo

[7]The placebo video can be seen in this link https://www.youtube.com/watch?v=GBrfomUQXI0. For the version we showed participants, we deleted the beginning where countries are mentioned.

Finally, picture A.3 shows a Ugandan and a refugee participant during the matching phase.

### 4.2.3 Randomization

There were 3 randomization stages. The first one randomized refugees and firms into direct contact or in the control group. We randomized pairs of firms and refugees working in the same sector: if the refugee was a hairdresser, she was matched to a beauty saloon, etc. The pair was randomly assigned to direct contact following a specific procedure as described in Loiacono and Silva-Vargas (2024). The second randomization cross-randomized refugees and local workers into indirect contact or in the control group. Finally, due to the cross-randomization, some respondents received both interventions.

### 4.2.4 Logistics

In order to match refugees and firms, we took refugees to the assigned firms for their first day of work. We organized different groups – according to the location of firms – and gave detailed instructions on the phone to the refugees on how to reach us at a pre-specified landmark, close to the business premises. We instructed enumerators on different tasks to perform during that day: (i) check attendance; (ii) show treatment video individually; (iii) take refugees to the assigned firm; (iv) introduce them to the firm owner; (v) pay refugees the first part of their subsidy. After the week, we sent the rest of the subsidy to refugees by mobile money.

The video was shown individually to respondents by the enumerators using tablets. For refugees, it happened during the "job placement day", when respondents gathered in groups in order to go to the firms they were assigned to. Local workers watched the video soon after the baseline survey.

### 4.2.5 Measures to minimize confounds

In order to avoid spillover, priming and experimenter demand effects we followed several methods.

1. We reduced experimenter demand effects by matching refugee enumerators with the refugee sample – matched by nationality – and Ugandan enumerators with locals. We tested this in our pilot and found that respondents changed answers to some sensitive questions when interviewed by people from different groups compared to their own group.

2. By design, the social cohesion purpose of the study is obfuscated to participants: participants know they are part of a job program, which is about employment assistance, and

it is presented in this way to respondents in the consent forms. To confirm this, we elicit refugee workers' beliefs about the study purpose at the end of the program and confirmed that they believed the program was only about job assistance.

3. In order to reduce priming effects regarding the video treatment, main outcomes are collected a week after showing the video to local workers, and six months after for the refugee sample, thus any short-term priming effects are no longer relevant.

4. In order to avoid any effect on social cohesion due to the single act of showing a video to some respondents in front of other respondents, we showed a placebo video to those not assigned to the video treatment.

5. Lastly, to avoid spillover effects regarding the content of the video, we told respondents that the information of the video was confidential and that is why it was shown individually.

## 4.3 Sampling

In this subsection we describe more in detail the procedure we followed to sample our participants.

**Refugees**. With the collaboration of refugee leaders and refugee-led organizations, we composed a database of 1,088 skilled refugees who were (i) job seekers, (ii) were not looking for jobs but were interested in applying to one if possible, or (iii) were not in permanent employment. We set an appointment and approached the respondents with two messages: first, to ask some questions regarding their skills and work experience; and second, to explain what the research program was and get consent for it.

The listing was conducted between February and April 2021. From this list, 1,019 refugees agreed to be registered for the program. The first part of the program took place between April 19th and April 24th and consisted of testing refugees on their skills. A final number of 537 refugee workers successfully passed the test of skills. After the skills testing, refugees were invited to participate in the baseline and reminded that some could receive a one-week of internship offer. For our final sample, we had to drop out refugees that never found a match (N=126).[8] Furthermore, we had an attrition at endline of 24 refugees. Our final sample is composed by 377 refugee workers.[9]

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[8]That is, firms in the sample of Loiacono and Silva-Vargas (2024) were not interested in hiring these refugees

[9]During the skills testing some refugees were dropped because they lost interest after registration or because they did not have any of the skills among the ones listed by the program. During the week of skills testing, 402 refugees did not show up. Of the 548 that showed up for the exam dates, 11 people did not pass the test.

**Local workers**. In June 2021, we conducted a listing survey with firms in Kampala, active in sectors that match the occupations of refugee workers. Using the Uganda Census of Establishment Data 2010, the team of enumerators was assigned to different parishes daily and was instructed to interview all the firms that fell within a sector of interest. Enumerators were instructed to (i) look for the owner, the manager, or any employee with faculty to make managerial decisions; and (ii) the owner must be a Ugandan national.

Due to a second wave of COVID-19 in the country, the activities stopped and resumed between September-October 2021, when new firms were recruited. A total of 1,196 firms were recruited but only 536 were willing to hire a refugee. To select local workers, the sampling procedure was: (i) if the firm had only one worker, we interviewed that worker; (ii) if the firm had more than one worker, we asked the owner or manager of the firm which workers were most likely to work in close contact with a new employee.

Since not all the firms in the sample had at least one worker, our final sample of local workers is 273. These are the workers present at baseline and endline. If the worker changed between the two surveys, we kept the baseline answers of the baseline worker, but use the endline replies of the new worker. For this reason, our results are representative of all local workers in the firm, and not of the individual local worker.

**Interventions and follow-ups**. The matching of refugees and firms and the 1-week internship happened in October 2021. Soon after the internship, we carried out the endline of firms and local workers between November and December 2021. The endline of refugees happened between July and August 2022. A timeline of data collections and project implementation is reported in figure A.4.

**Covid-19** Uganda has a high informal sector, employing around 80% of the population. In this sector, people cannot work remotely and the informal economy is essential for the daily livelihoods of the majority of the population. Moreover, due to COVID-19 lockdowns, 95% of employees were let go and some moved back to agriculture (Alfonsi et al. 2021). Yet, urban refugees do not have plots of land in the country, and therefore, they have remained in the cities facing higher levels of hunger and unemployment. According to the World Bank, refugees in Uganda will need higher assistance in order to avoid a poverty trap due to COVID-19 (Aramanov et al. 2021). Appendix C describes the COVID-19 prevention plan that we followed during our activities.

# 5  Data

In this section we describe the data we collect and detail how we use them in our analysis.

## 5.1 Outcome variables

We collect data at baseline and endline. Due to the design of the project, for local workers, there was around 1 month between baseline and endline data collection. For refugee workers, there are around 6 months between baseline and endline.

We have four main types of outcomes to capture the most important dimensions of social cohesion: implicit bias, explicit stereotypes, attitudes, and behaviors. A meta-analysis of contact projects to reduce prejudice found that behavioral change is not accompanied by attitudinal change, few studies capture both dimensions, and there is almost no evidence that implicit bias is related to discriminatory behavior (Paluck et al. 2020). For this reason, we collect implicit bias, explicit stereotypes, attitudes towards the out-group, and hypothetical behaviors, which are collected both at baseline and endline. Real incentivised behavior is collected only at endline. We specify each component and outcome below.

### 5.1.1 Implicit bias: Implicit Association Tests measurement

Implicit association tests (IATs) are psychological tools that capture biases using "categorization tasks" (Greenwald and Banaji 1995). A series of stimuli is shown on the screen, and the respondent must sort them into two categories. The main assumption is that the stronger the association a respondent makes between a stimulus and a group (in our case, refugee or local), the faster they make these associations.

We followed the "classic" IAT design with seven rounds (Greenwald et al. 2003). Two initial training rounds to practice sorting stimuli into two categories of the same concept (stimuli into positive or negative or into refugee or local). A "stereotypical" pairing where stimuli from all concepts are shown. Respondents categorize these stimuli into the two concepts "stereotypically" combined on the same side of the screen: e.g. for local workers, refugees and negative are on one side, local and positive on the other (Figure A.9 in the appendix B). Another training round, where respondents practice swapping left and right for one category. Finally, the "non-stereotypical" pairing: concepts are "not stereotypically" combined: e.g. for local workers, refugees and positive are now on the same side, local and negative on the other. We go a step further and randomize the order of the "stereotypical" and "non-stereotypical" rounds.

Faster associations reflect higher implicit associations between the concepts. For example, if a respondent responds faster when refugees and negative are on the same side, she associates refugees with negative stereotypes. The final IAT score is the normalized difference in response times between the "stereotypical" and "non-stereotypical" groups. A higher score is a proxy for more implicit bias.

We run two implicit association tests (IATs): one to measure implicit biases towards the out-group's work characteristics ("Work IAT") and one to measure implicit biases towards the out-group's general, stereotypical characteristics ("General IAT"). The reason why we use two different IATs is that, in our context, a co-worker could be differently biased towards the work abilities of the out-group member but not in general against them, and/or viceversa. For example, a person can be unbiased towards refugees as neighbors or friends because he or she implicitly believes refugees have positive general characteristics (such as being friendly or generous). Yet, the same person can be biased towards refugees as co-workers because he or she implicitly believes refugees have fewer skills. The order of the two IATs was randomized in each survey.

The words for the Work and General IATs were selected for two main reasons: first, they were piloted extensively with Ugandan workers and refugee workers to capture words that would reflect mostly one of each context (work or general). Second, the words could be translated in 6 languages (5 for refugees and 2 for locals). The words we use for each IAT are specified in Figure A.9 in the appendix B. We coded the two IATs on SurveyCTO in order to be able to run the IATs on tablets.

For the main analysis, we construct an index averaging the two IATs scores. We refer to this index as "Implict Bias". Figure 2a and 2b show the density of the Work and General IAT at baseline respectively. The IATs are coded so that higher values denote more implicit bias. The pattern that emerges is that locals are implicitly more biased than refugees: the mean of the General IAT for locals is 5 times higher than the one for refugees (which is close to zero). For Work IAT, the mean for locals is double. K-Smirnov tests show that the distributions differ significantly one from each other.

### 5.1.2 Explicit bias: Explicit stereotypes and attitudes

To measure explicit stereotypes, we directly ask the respondent to rank the same stimuli shown in the two IATs (Figure A.9 in appendix B) related to the out-group using a 7-points Likert-scale. For attitudes, we ask respondent if they agree with a series of statements related to culture, trust, safety, intermarriage, job collaboration, and perceived discrimination. We ask the same statements for local and refugee workers. Again, respondents could select any answer using a 7-points Likert-scale. Attitudes were selected after collecting pilot data and focus group discussions with refugees and locals where we directly asked them which attitudes were signals of integration of refugees in the country. Appendix B lists the statements.

We randomize the order of the explicit stereotypes, attitudes and IATs. For the main analysis, we create an index that combines explicit stereotypes and attitudes. We use the GLS weighting procedure as described in Anderson (Anderson 2008).[10] We refer to this index as "Explicit Bias".

### 5.1.3 Behaviors

For this dimension, we collect evidence of two types of behaviors: real and hypothetical. For real behavior we ask refugee workers that if they would like to participate in a similar program (the internship at firms) in the future, they can send a SMS to a telephone number. In the SMS, they need to specify if they would like to work with a Ugandan firm or with a refugee firm.[11]
For hypothetical behaviors, we ask a question at baseline and endline. We elicit respondents' willingness to work with an out-group member in the future. The question asks to imagine a hypothetical scenario where respondents can start a new business. They can choose the number of business partners and their nationality. All questions are reported in the appendix B.

### 5.1.4 Correlations and IAT interpretation

In our baseline data, we find two opposite trends. First, for locals, we observe that the combined IAT index is not correlated with explicit bias: while the point estimate is negative, it is not significantly different from zero.[12] When we look at the correlations with Work IAT and General IAT separately, only the Work IAT is significantly and negatively correlated with the full explicit bias index (Figure A.5 in appendix A). Instead for refugees, we observe the opposite. The IAT is positive and significantly correlated with explicit bias, both the full IAT index as well as the General and Work IAT separately.

These correlations are suggestive evidence that the IAT might be measuring different things for different groups. The main motive why this might be happening is that refugees might feel more open to explicitly express their bias (i.e. talking with refugee enumerators), while locals might feel judged expressing their implicit bias explicitly, as they are the majority group and "hosts" of a vulnerable group.

Another possible explanation could be that refugees, who have had several interactions with the out-group while living in Uganda, had experienced more difficulties with the out-group. Therefore, the IAT is indeed measuring general bias towards the out-group. Table A.1 shows

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[10]We use the command `swindex` in Stata (Schwab et al. 2020).

[11]The SMS outcome was only asked to the refugee sample, because they could indeed benefit from a similar internship program in the future.

[12]We evaluate baseline correlations using the following specification: $y_i = \beta_0 + \beta_1 x_i + \varepsilon_i$, where $y_i$ is the combined index for explicit bias, and $x_i$ are three different covariates: i) the combined IAT, ii) the work-related IAT, and iii) the general IAT.

correlations between the full IAT and some single variables that compose the explicit bias index. The table suggests that the IAT is correlated to negative attitudes: believing that Ugandans are less friendly, that intermarriage is not good, that their culture is not similar and trusting more refugees. Instead for local workers, Table A.2 shows that the IAT is correlated to positive attitudes: trust more refugees, and that refugees are more likely to be serious and diligent (coefficient of the variable "Unserious").

When we look at behavioral outcomes that were collected also at baseline, we observe that locals' combined IAT is negative and significantly correlated with altruism (Table A.2), while for refugees is the opposite (Table A.1). Refugees' IAT is also positively correlated with reciprocity. As for business partners in a hypothetical scenario, only the refugees' IAT is negatively correlated with having any business partner.

These correlations can be suggestive evidence that refugees that have experienced more difficulties in the country increase their altruism and reciprocity towards the most vulnerable groups. Indeed, the refugees' IAT is correlated to more trust towards other refugees.

## 5.2 Descriptive statistics

In this study, our sample is composed by 650 employees working in firms situated in Kampala, Uganda. Of these, 273 are local workers, e.g. native people born in Uganda, and 377 are refugee, mostly of Congolese nationality. Since we pooled the treatments into one for the main analysis, our sample in each group is as follows: 236 local workers and 288 refugee workers in the treatment group; 37 local workers and 89 refugee workers in control group.

Tables 1 and 2 report summary statistics at baseline for the main outcomes of interest and some controls for local and refugees workers, respectively. The tables report the control group (column 1), the pooled treatment group (column 2), and the full sample (column 3). The last column is the difference in means between the control and pooled treatment group.

Almost all outcome variables and controls are balanced between groups for both samples.[13] On average, the sample of refugee workers is older than local workers: 34 vs 24 years old. Refugee workers have more experience in the sector compared to local workers: 57.5 vs 42.5 months. Yet refugee workers have lower English and Luganda (self-reported) scores. Females are the majority in both samples. Furthermore, local workers are more biased at baseline than refugees: their General IAT score is 5 times higher than refugees' one, while their Work IAT score is almost

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[13]There are two variables that are statistically different between control and treatment groups for local workers: if they want a business partner from the same group (local) or any business partner. Including the baseline value of these variables in the main analysis does not change the results.

double. Also, 45% of local workers said that they would like an out-group business partner, while 85% of refugee stated the same.

# 6    Analysis

## 6.1    Empirical strategy

To estimate the effect of our pooled treatment on social cohesion, we pool the two samples. We do so in order to estimate the effect of the treatment on both refugee and local workers' outcomes, and assess if the effect is different between the two samples. Therefore, our total sample is composed by 650 workers.

For the analysis of implicit and explicit bias, we pool the indices together into one variable called "Bias Index". We do so to jointly test across regression equations, increasing the statistical power while reducing the concern of multiple hypothesis testing. Therefore, each observation is repeated twice, one for implicit bias and one for explicit bias. Our total sample in this case would be 1300.

For the analysis of implicit and explicit bias we run the following specification:

$$
\begin{aligned}
BiasIndex_{i1} = {} & \beta_1 T \times local \times implicit + \beta_2 T \times local \times explicit + \\
& + \beta_3 T \times refugee \times implicit + \beta_4 T \times refugee \times explicit \\
& + \beta_5 local \times implicit + \beta_6 local \times explicit + \\
& + \beta_7 refugee \times implicit + \beta_8 refugee \times explicit + \\
& + \alpha BiasIndex_{i0} + X_i'\delta + \varepsilon_i
\end{aligned}
\tag{1}
$$

where $BiasIndex_{i1}$ takes the value from the implicit or explicit bias measures for worker $i$ at follow-up. The first four explanatory variables are dummies equal to 1 for workers assigned to the treatment and the other two conditions. For example, $T \times local \times implicit$ is a dummy equal to 1 for local workers assigned to the treatment group interacted with the index for implicit bias, and so on. We include four indicators, such as $local \times implicit$, that are dummies equal to 1 when the worker is local and the index is implicit, and so on for the rest of the indicators. We control for the baseline value of the outcome $BiasIndex$ and $X_i'$ is a matrix of the randomization strata (the occupations of the refugee workers). This specification uses robust standard errors. Our coefficients of interest are $\beta_1$, $\beta_2$, $\beta_3$, and $\beta_4$. A positive value indicates an increase in bias. Both the implicit and explicit were normalized from 0 to 1 for comparison. We also run a test of equality between the local and refugee workers to test if the coefficients are equal to each other. The second specification is as follows:

$$y_{i1} = \beta_1 Treatment_i + \beta_2 Local_i + \beta_3 Treatment_i \times Local_i + \alpha y_{i0} + X_i'\delta + \varepsilon_i \qquad (2)$$

where $y_{i1}$ is the outcome of worker $i$ at follow up. $Treatment_i$ equals to 1 if the worker was assigned to either direct or indirect contact. $Local$ is a dummy equal to 1 if the worker is Ugandan. $Treatment \times Local$ is an interaction term. When possible, we control for the baseline value of the outcome $y$ and $X_i'$ is a matrix of the randomization strata.

Our coefficients of interest are $\beta_1$ and $\beta_3$. The former shows whether the treatment had a significant effect for refugee workers, the latter whether the effect for locals was different from that for refugees. To get the effect for locals, we sum $\beta_1$ and $\beta_3$ and run the test $\beta_1 + \beta_3 = 0$. The third specification is as follows:

$$y_{i1} = \beta_1 Treatment_i + X_i'\delta + \varepsilon_i \qquad (3)$$

where $y_{i1}$ is the outcome of worker $i$ at follow up. $Treatment_i$ equals to 1 if the worker was assigned to the treatment. $X_i'$ is a matrix of the randomization strata. Our coefficient of interest is $\beta_1$ which shows whether the treatment had a significant effect for the workers.

## 6.2 The Impact of Contact on Implicit and Explicit Bias

Table 3 contains our first results on the effect of exposure to work contact for local and refugee workers, compared to workers that do not work with the out-group. The dependent variable is explicit and implicit bias, using specification 1. Column 1 reports estimated coefficients for refugees and local workers separately on an aggregate index of bias. In the Appendix, Tables A.3 and A.4 report also the results with the treatments separately.

First, for local workers, we find that work contact has a significant effect on both implicit and explicit bias. We see that explicit bias significantly decreases by 0.056 percentage points (approximately 10% over the mean among local explicit bias), while implicit bias significantly increases by 0.084 percentage points (that is about 18% over the control mean among locals). For refugee workers, we see a similar trend: explicit bias significantly decreases by 0.039 percentage points, while implicit bias also increases, but it is not significant. In the second half of Table 3 we condut a Wald test of equality of coefficients and we fail the reject the null of equality of the effect of the treatment on both implicit and explicit bias for local versus refugee workers.

Other experimental work has found the opposite, that contact reduces implicit bias. Corno et al. (2022) found that sharing an university room with a student from a different race reduces the general implicit bias of the majority group, i.e. white students, but has no effect on academic

implicit bias (that could be compared to our work IAT). We believe our context is different since work contact provides a layer of competition between workers inside the same firm. In fact, columns 2 and 3 show the effect of contact on work and general bias separately. We see that the effect is significant for local workers' work implicit bias, and it is not significant for general implicit bias. Therefore, the increase in implicit bias is led by work-induced implicit bias. In the discussion section 6.4 we provide suggestive evidence that local workers' exposure to the refugees' skills may contribute to the increase in implicit bias, leading to a possible interpretation of the implicit bias as fear of job competition. In terms of magnitude, the increase in implicit bias is relatively small compared to the findings of Corno et al. (2022). They note a significant increase of around 75% over the mean in the Race IAT score, which, as per their coding, signifies a reduction in bias. In our study, we observe a 18% increase over the mean in implicit bias among locals, indicating a rise in bias. Even when interpreting the IAT score purely as a measure of implicit bias, our observed increase remains small in comparison to other studies.

### 6.2.1 The Impact of Contact on Hypothetical and Real Behaviors

Table 4 contains our second set of results. The dependent variable is partners in a hypothetical business scenario, using specification 2. In the Appendix, Tables A.3 and A.4 report also the results with the treatments separately.

Working together for one week or watching a video where two workers from different groups collaborate, increases the local workers' willingness to have a business partner from the out-group, an effect of almost 17 percentage points, which is around 42 percent increase over the mean. For refugee workers work contact decreases their willingness to work with a local but it is not significant. Yet, the refugee worker's willingness to work with any partner significantly decreases by 5 percentage points. We can reject that the effect is the same between groups in these two variables.

Table 5 shows the final set of results using specification 3. We asked refugee workers to send an SMS if they are interested in working in a similar internship program in the future, and the nationality of the potential employer. We find that the effect is significant and positive: treated refugees are 11 percentage points more willing to work in a similar program compared to the control group, which implies an effect of 90% over the mean. Moreover, the effect is significant and positive for their willingness to work with a Ugandan firm, but not for a refugee firm. In the Appendix, Table A.5 reports also the results with the treatments separately.

## 6.3 Robustness checks

In this subsection we perform some robustness checks to our main analysis. We begin by studying whether results are affected by attrited workers at endline. To do so we bound our estimates using the Kling and Liebman sensitivity bounds (Kling and Liebman 2004). In this analysis we ask what the results would have been if "unfound" workers differ by 0.25 s.d. from those who are found.

Table A.6 shows that our main results fall within the 0.25SD bounds, as the point estimates are virtually unchanged.

The second robustness check is shown in Table A.7. For this robustness check we construct the explicit index using the Principal Component Analysis method and choosing the first component. The refugee workers' explicit bias goes down and it is significant, as in our main analysis. The local workers' explicit bias is not significant in this analysis but the coefficient is negative, as in our main analysis. Also, we cannot reject the null hypothesis that they are not different from each other.

Finally, we run another robustness check by adding more variables to the explicit index for locals. The variables were collected only for local workers because of the content of the question tailored on the local population. We asked workers to what extent they agree with the following questions: (i) Working with a refugee will reduce my productivity, (ii) Refugees increase job competition in the country. Finally, we asked: (iii) Think about the current law on refugees in Uganda, do you think that the law should allow all refugees to work anywhere in Uganda? Possible answer was between Yes or No. Table A.8 shows the results. We find that the explicit bias reduces as in our main analysis, although not significantly.

## 6.4 Discussion

Contact on the workplace improve refugee and local workers' attitudes and behaviours towards each other. We believe that the results of our study demonstrate two key points. First, it appears that treated local workers are keen to work with refugee workers in the future due to the high level of skills that the refugee workers possess, as the sample of refugee workers was selected based on their good skills. This is not what the local workers initially expected. As shown by Figure A.6, the locals' original beliefs regarding the refugees' experience in the sector was 32 months, but in reality, this sample of refugee workers had an average experience of 57.5 months, almost double the local workers' original expectations. Additionally, the average experience of the local workers was 42.5 months, which is lower than that of the refugees. Additionally, Figure A.7 demonstrates that local workers typically have less education compared to refugees.

The local workers' exposure to the refugees' skills may also contribute to an increase in implicit bias. As they work alongside these highly skilled workers, they may develop an implicit fear of job competition. Our regression analysis (Equation 2) was performed with single outcome variables relating to job competition and work collaboration, taking into consideration that these views may not align with the workers' implicit feelings. Figure A.8 shows that the impact of work contact on these variables is not statistically significant. However, the coefficient for the view that refugees increase job competition is positive, while the coefficients for negative views on work collaboration are negative. In any case, despite this small increase in implicit fear or bias, treated local workers express a desire to collaborate with refugee workers in future business ventures.

Second, treated refugee workers are less interested in starting a business with any partners, but they are more interested in employed work, particularly in Ugandan firms. This provides suggestive evidence that treated refugee workers have learned about the advantages of working for an established company rather than becoming entrepreneurs, which is instead a common coping strategy among refugees in Kampala to improve their livelihoods and sustain themselves.

# 7   Conclusion

Using a randomized controlled trial with local and refugee workers, this paper examines the impact of work contact on social cohesion in Uganda, the largest refugee-host country in Africa. The study shows that work contact can improve social cohesion by reducing explicit biases and increasing positive behaviors. Local workers have a small increase in implicit bias, but this does not lead to discriminatory behavior. In fact, they are more willing to work with refugee workers in hypothetical business scenarios, likely due to their exposure to the higher skills of the refugees compared to their own. For refugee workers, explicit biases significantly decrease, and their willingness to participate in similar job programs in the future increases, particularly with Ugandan firms. This study highlights the importance of work contact as a means of promoting social cohesion in refugee-hosting countries and adds to the existing literature on the integration of refugees into society and the economy.

Regarding the measurement and interpretation of implicit bias, this study supports the socio-psychological literature that states that implicit and explicit biases are distinct and largely unrelated. Although implicit bias increases, explicit bias decreases. This study also provides evidence on the relationship between implicit bias and prejudiced behavior, showing that implicit bias does not necessarily lead to discriminatory behavior. Alesina et al. (2018) found that math

teachers with strong implicit biases tended to give lower grades to immigrant students compared to local students, while literature teachers did not act on their implicit biases.

Our study is an important contribution to the discussion, particularly in light of the recent surge in workplace implicit bias trainings aimed at mitigating prejudiced behavior. Our findings suggest that these interventions may not be optimal for achieving the desired outcome, thereby warranting careful consideration and potential reevaluation of prevailing approaches in addressing workplace discrimination.

Regarding the external validity of our findings. It is important to note that our findings may not be applicable to all refugee-hosting countries. Our two samples are plausibly representative of workers and refugees in urban areas, who tend to have higher skills compared to those in rural areas due to better access to education and employment opportunities. However, in some countries, refugees may be required to stay in settlements and may not have the same access to skills development and employment opportunities as those in urban areas. In future studies, a different type of contact in the workplace could be tailored to study what aspects of work collaboration increase social cohesion.

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# 8 Figures and Tables

**Figure 1:** Interactions with out-groups and social cohesion
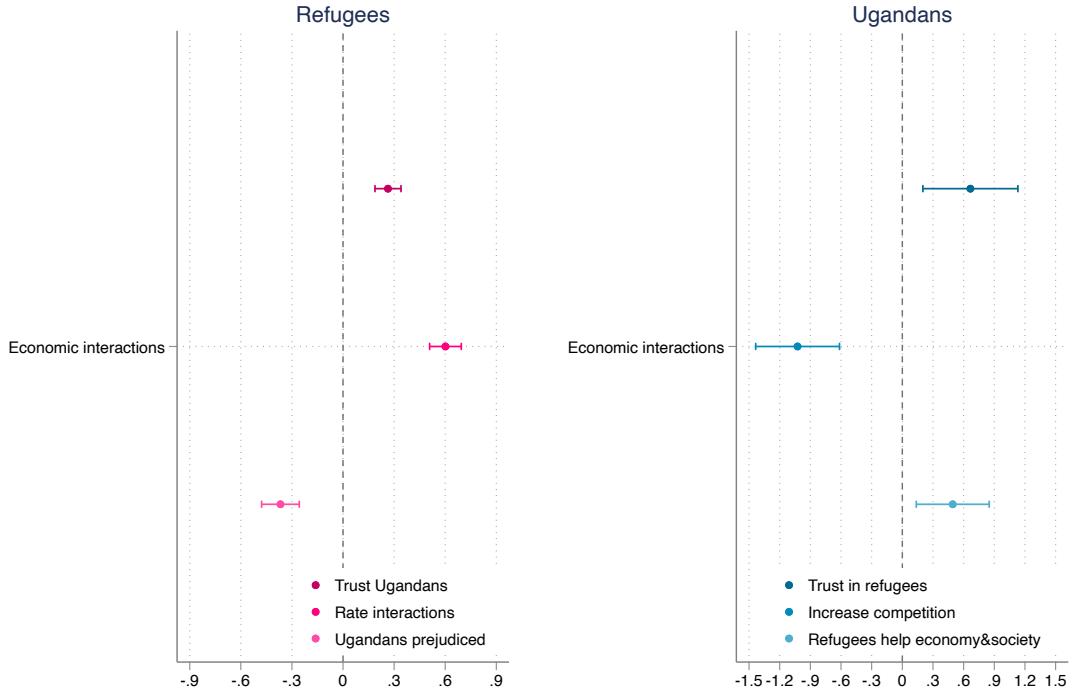


*Notes:* This graph uses the data from a pilot survey in the cities of Kampala and Mbarara, targeting approximately 400 refugees and 400 locals. It plots the coefficients from the following regression: $y_i = \beta_0 + \beta_1 x_i + \varepsilon_i$, where $x_i$ is number of days the refugee/firm owner has economic interactions with the out-group (Ugandans and refugees, respectively), and $y_i$ is one of the three social cohesion covariates asked to the refugees sample: *"Rate on a scale between 0 and 10, where 0 means Not at all and 10 Very much: i) how much do you trust Ugandans; ii) your interactions with Ugandans"; iii) how much you think Ugandans are prejudiced against refugees"* or those asked to the locals sample: *"Rate on a scale between 0 and 10, where 0 means Not at all and 10 Very much: i) how much do you trust refugees; ii) refugees increase job competition in the country; iii) refugees help the country economically and socially".* Standard errors are robust.

**Figure 2:** Distribution of Implicit Association Test scores

**(a)** Work IAT



**(b)** General IAT
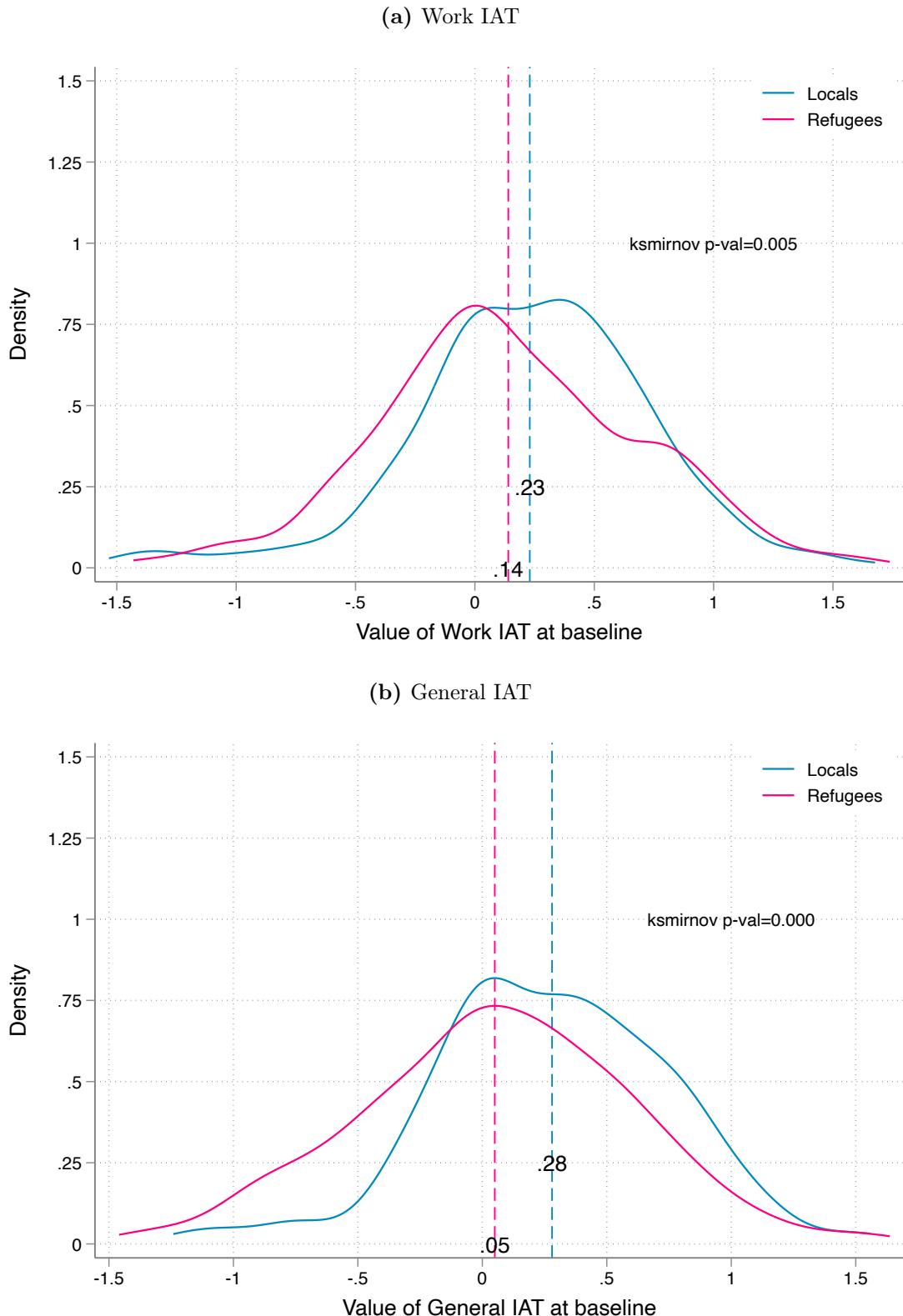


*Notes:* This graph depicts the distribution of the IAT score, where a higher score implies that there is higher bias against the out-group. Panel A plots the density of the scores from the Implicit Association Test (IAT) with general words concerning quality of the out-group. Panel B shows the same distribution for the score on the IAT with work-related words.

**Table 1:** Descriptive and balance checks: local workers

| Variable | N | (1) Control Mean/SE | N | (2) Pooled Treatment Mean/SE | N | (3) Full sample Mean/SE | T-test Difference (1)-(2) |
|---|---|---|---|---|---|---|---|
| Age | 37 | 25.243 | 236 | 24.186 | 273 | 24.330 | 1.057 |
| | | (1.287) | | (0.455) | | (0.430) | |
| English score | 37 | 0.605 | 236 | 0.565 | 273 | 0.570 | 0.040 |
| | | (0.041) | | (0.016) | | (0.015) | |
| Luganda score | 37 | 0.709 | 236 | 0.700 | 273 | 0.702 | 0.009 |
| | | (0.031) | | (0.014) | | (0.012) | |
| Female dummy | 37 | 0.568 | 236 | 0.644 | 273 | 0.634 | -0.077 |
| | | (0.083) | | (0.031) | | (0.029) | |
| Experience in months | 37 | 49.297 | 236 | 41.441 | 273 | 42.505 | 7.857 |
| | | (6.831) | | (2.815) | | (2.604) | |
| General IAT | 37 | 0.240 | 236 | 0.282 | 273 | 0.276 | -0.042 |
| | | (0.071) | | (0.031) | | (0.029) | |
| Work IAT | 37 | 0.338 | 236 | 0.214 | 273 | 0.231 | 0.124 |
| | | (0.079) | | (0.033) | | (0.031) | |
| Implicit bias index | 37 | 0.289 | 236 | 0.248 | 273 | 0.254 | 0.041 |
| | | (0.058) | | (0.023) | | (0.021) | |
| Explicit bias index | 37 | 0.000 | 236 | 0.074 | 273 | 0.064 | -0.074 |
| | | (0.164) | | (0.069) | | (0.064) | |
| Outgroup business partner | 37 | 0.351 | 236 | 0.466 | 273 | 0.451 | -0.115 |
| | | (0.080) | | (0.033) | | (0.030) | |
| Same business partner | 37 | 1.000 | 236 | 0.924 | 273 | 0.934 | 0.076* |
| | | (0.000) | | (0.017) | | (0.015) | |
| Any business partner | 37 | 1.000 | 236 | 0.928 | 273 | 0.938 | 0.072* |
| | | (0.000) | | (0.017) | | (0.015) | |

*Note*: This table shows descriptive statistics and balance across treatment and control groups in the sample of local workers. English and Luganda scores are an average of self reported measures of reading, writing, speaking and listening of the different languages. Experience in months is the experience in the sector. General and Work IATs are the scores obtained after completing the implicit association tests. Implicit bias index is the average of the two IATs. Explicit bias index is contructed using the GLS Anderson weighting procedure combining negative attitudes and explicit negative stereotypes. Business partners variables are dummies indicating if they wanted a partner or not. The value displayed for t-tests are the differences in the means across the groups. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively.

**Table 2:** Descriptive and balance checks: refugee workers

| Variable | N | (1)<br>Control<br>Mean/SE | N | (2)<br>Pooled Treatment<br>Mean/SE | N | (3)<br>Full sample<br>Mean/SE | T-test<br>Difference<br>(1)-(2) |
|---|---|---|---|---|---|---|---|
| Age | 89 | 33.989 | 288 | 33.642 | 377 | 33.724 | 0.346 |
| | | (1.005) | | (0.614) | | (0.525) | |
| English score | 89 | 0.449 | 288 | 0.414 | 377 | 0.422 | 0.035 |
| | | (0.030) | | (0.016) | | (0.014) | |
| Luganda score | 89 | 0.382 | 288 | 0.374 | 377 | 0.376 | 0.008 |
| | | (0.032) | | (0.016) | | (0.014) | |
| Female dummy | 89 | 0.618 | 288 | 0.667 | 377 | 0.655 | -0.049 |
| | | (0.052) | | (0.028) | | (0.025) | |
| Experience in months | 89 | 61.373 | 288 | 56.254 | 377 | 57.462 | 5.120 |
| | | (9.028) | | (4.847) | | (4.268) | |
| General IAT | 89 | 0.099 | 288 | 0.039 | 377 | 0.053 | 0.060 |
| | | (0.055) | | (0.033) | | (0.028) | |
| Work IAT | 89 | 0.187 | 288 | 0.122 | 377 | 0.138 | 0.065 |
| | | (0.051) | | (0.033) | | (0.028) | |
| Implicit bias index | 89 | 0.139 | 288 | 0.083 | 377 | 0.096 | 0.056 |
| | | (0.048) | | (0.028) | | (0.024) | |
| Explicit bias index | 89 | -0.000 | 288 | 0.011 | 377 | 0.009 | -0.011 |
| | | (0.106) | | (0.060) | | (0.052) | |
| Same business partner | 89 | 0.955 | 288 | 0.934 | 377 | 0.939 | 0.021 |
| | | (0.022) | | (0.015) | | (0.012) | |
| Outgroup business partner | 89 | 0.809 | 288 | 0.872 | 377 | 0.857 | -0.063 |
| | | (0.042) | | (0.020) | | (0.018) | |
| Any business partner | 89 | 0.978 | 288 | 0.972 | 377 | 0.973 | 0.005 |
| | | (0.016) | | (0.010) | | (0.008) | |

*Note*: This table shows descriptive statistics and balance across treatment and control groups in the sample of refugee workers. English and Luganda scores are an average of self reported measures of reading, writing, speaking and listening of the different languages. Experience in months is the experience in the sector. General and Work IATs are the scores obtained after completing the implicit association tests. Implicit bias index is the average of the two IATs. Explicit bias index is contructed using the GLS Anderson weighting procedure combining negative attitudes and explicit negative stereotypes. Business partners variables are dummies indicating if they wanted a partner or not. The value displayed for t-tests are the differences in the means across the groups. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively.

**Table 3:** The Effect of Contact on Implicit and Explicit Bias

| | (1)<br>Bias Index | (2)<br>Work bias | (3)<br>General bias |
|---|---|---|---|
| T × Local × Implicit | 0.084** | 0.083** | 0.040 |
| | (0.035) | (0.037) | (0.029) |
| | [0.017] | [0.026] | [0.162] |
| T × Local × Explicit | -0.056* | -0.053 | -0.025 |
| | (0.033) | (0.035) | (0.026) |
| | [0.093] | [0.122] | [0.322] |
| T × Refugee × Implicit | 0.021 | 0.011 | 0.016 |
| | (0.024) | (0.024) | (0.029) |
| | [0.377] | [0.650] | [0.594] |
| T × Refugee × Explicit | -0.039** | -0.046** | -0.041** |
| | (0.019) | (0.023) | (0.020) |
| | [0.043] | [0.049] | [0.040] |
| Observations | 1200 | 1172 | 1170 |
| Mean DV | 0.480 | 0.445 | 0.470 |
| Mean DV Local Implicit Bias | 0.460 | 0.426 | 0.534 |
| Mean DV Refugee Implicit Bias | 0.405 | 0.460 | 0.476 |
| Mean DV Local Explicit Bias | 0.533 | 0.443 | 0.448 |
| Mean DV Refugee Explicit Bias | 0.531 | 0.441 | 0.448 |
| $H_0$ : T × Local × Implicit=Refugee | 0.134 | 0.105 | 0.547 |
| $H_0$ : T × Local × Explicit=Refugee | 0.659 | 0.853 | 0.623 |

*Notes:* This table reports results from specification 1. Explicit bias index is constructed using the GLS Anderson weighting procedure combining negative attitudes and explicit negative stereotypes. Implicit bias is an average of Work IAT score and General IAT score. Both indices are normalized 0 to 1 for comparisson. An increase means more prejudice. Control for refugees strata (refugees' occupations). Robust standard errors in parenthesis and p-values in brackets. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively. The sample is not 1300 because we have 56 missing IATs at baseline and 44 missing IATs at endline.

**Table 4:** The Effect of Contact on Desired Hypothetical Business Partners

|  | (1) Out-group | (2) Same group | (3) Any partner |
|---|---|---|---|
| Treated | -0.063 | -0.027 | -0.051** |
|  | (0.044) | (0.034) | (0.025) |
|  | [0.155] | [0.436] | [0.044] |
| Local | -0.393*** | -0.009 | -0.054 |
|  | (0.092) | (0.053) | (0.048) |
|  | [0.000] | [0.869] | [0.261] |
| Treated × Local | 0.231** | 0.059 | 0.094* |
|  | (0.098) | (0.058) | (0.054) |
|  | [0.019] | [0.316] | [0.083] |
| Observations | 650 | 650 | 650 |
| Mean DV | 0.722 | 0.921 | 0.952 |
| Mean DV Locals | 0.405 | 0.919 | 0.919 |
| Mean DV Refugees | 0.854 | 0.897 | 0.966 |
| Treated + Local × Treated | 0.168 | 0.032 | 0.043 |
| $H_0$: Treated + Treated × Local=0 | 0.055 | 0.501 | 0.362 |

*Notes:* This table reports results from specification 2. The outcome variables are dummies indicating if respondents want a business partner or not. Control for refugees strata (refugees' occupations). Robust standard errors in parenthesis and p-values in brackets. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively.

**Table 5:** SMS sent by refugee workers

|  | (1) Sent SMS | (2) SMS Ugandan | (3) SMS Refugee |
|---|---|---|---|
| Treated | 0.113** | 0.062** | 0.052 |
|  | (0.044) | (0.025) | (0.038) |
|  | [0.010] | [0.016] | [0.174] |
| Observations | 377 | 377 | 377 |
| Mean DV | 0.124 | 0.034 | 0.090 |

*Notes:* This table reports results from specification 3. Sent SMS outcome is a dummy indicating if refugee workers sent a SMS to participate in similar future internship programs. SMS for Ugandan and for refugee firm indicate what type of firm the worker would like to work in future interventions. Control for refugees strata. Robust standard errors in parenthesis and p-values in brackets. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively.

# A  Appendix A: Figures and extra analyses

**Figure A.1:** RCT Design
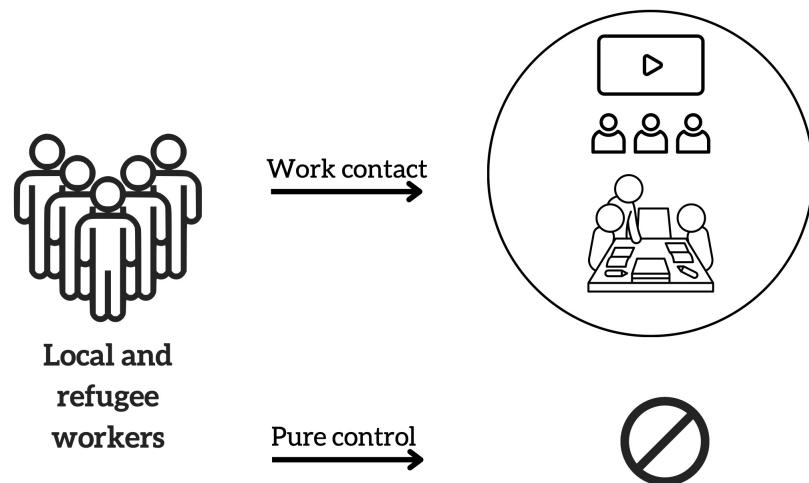


*Notes:* This graph shows the experimental design. Couples of refugee and Ugandan workers are assigned to either a "Work contact" treatment arm or to a pure control group, where no contact takes place.

**Figure A.2:** Snapshot of the video documentary



*Notes*: Elvis and Paul collaborating on a permaculture project. © Mariajose Silva-Vargas

**Figure A.3:** Example of contact on the workplace



*Notes:* Sifa, a Congolese worker (on the right) working for Mariam, a Ugandan firm owner (on the left).
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**Figure A.4:** Timeline



**MAY 2021**
Baseline of refugees who passed skilled certification test

**SEPT. 2021**
Tracking refugees

**NOV- DEC. 2021**
Follow up firms workers (those that were present at baseline & endline)

**FEB - APRIL 2021**
Census of skilled refugees

**JUNE 2021**
First recruitment of firms

**OCT. 2021**
New firms recruitment + baseline workers

Matching refugees with firms

**JUL-AUG. 2022**
Endline refugees

COVID-19 Lockdown

2 Terror attacks

Census refugees = 1,088
Refugees that passed skills test = 537
Final refugee sample = 377

Firms recruited = 1,196
Firms willing to hire a refugee = 536
Local workers baseline & endline = 273

*Notes*: Timeline of data collection and project implementation, following the events from Loiacono and Silva-Vargas 2024. Box on the bottom left of the picture details number of participants to the experiment.

**Figure A.5:** Correlations Between Explicit and Implicit Bias
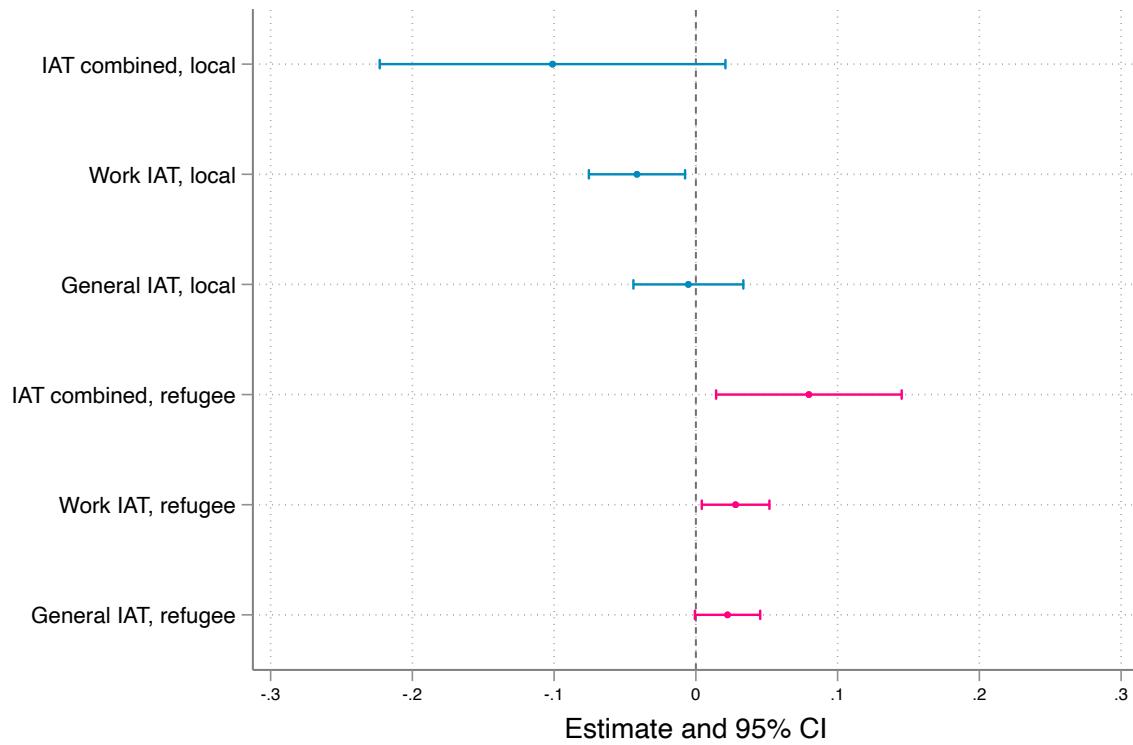


*Notes:* This graph plots the coefficients from the following regressions: $y_i = \beta_0 + \beta_1 x_i + \varepsilon_i$, where $y_i$ is the combined explicit bias index constructed as described in Section 5.1.4 and each $x_i$ are individual controls in different regressions (the average (combined) IAT score, the work-related IAT and the general stereotypes IAT). Standard errors are robust.

**Figure A.6:** Work-relate experience in the sector in months
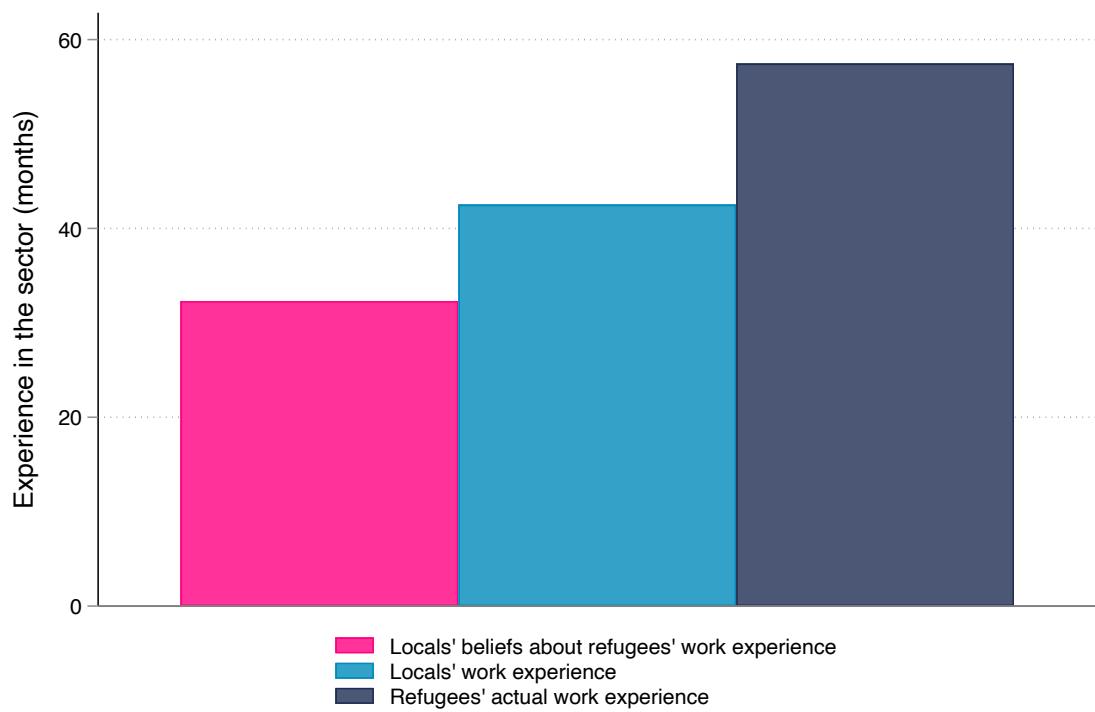


*Notes:* This graph plots number of month of work experience. First bar to the left represents Ugandan workers' beliefs about refugee workers number of months of work-related experience. Second bar shows the actual number of months of work-related experience in the sample of local workers. Finally, third bar plots the actual number of work-related experience in the sample of the refugee workers.

**Figure A.7:** Years of education
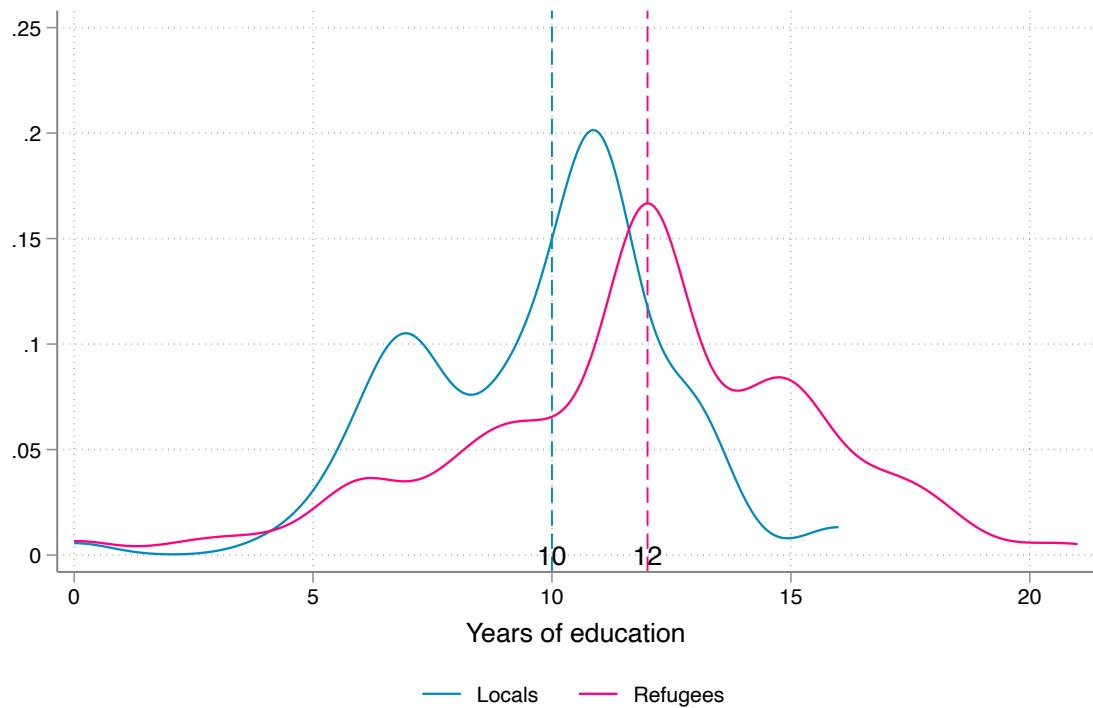


*Notes:* This graph plots the distribution of years of education of local and refugee workers.

**Figure A.8:** Effect on locals' job views



- Work together is bad for Ugandans and refugees
- Ugandans and refugees should not collaborate and work together
- Refugees increase job competition in the country
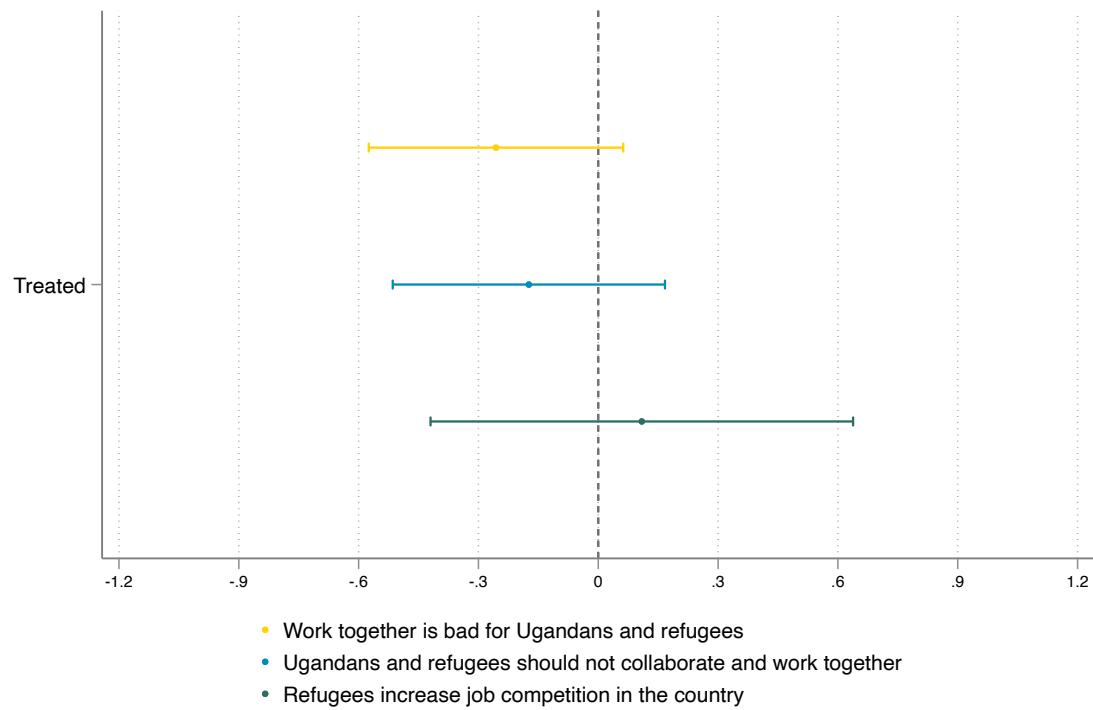
**Table A.1:** Correlations Between IAT, Statements and Demographics: Refugees

| Variable | IAT Combined | Mean | N |
|---|---|---|---|
| Friendly | -0.973 | 4.549 | 377 |
| | (0.433)** | | |
| Unserious | 0.416 | 4.218 | 377 |
| | (0.394) | | |
| Intermarriage is a good thing | -1.042 | 3.653 | 377 |
| | (0.519)** | | |
| Trust refugees - same nationality | 0.729 | 3.899 | 377 |
| | (0.432)* | | |
| Trust refugees - other nationality | 0.657 | 3.714 | 377 |
| | (0.410) | | |
| Trust Ugandans | -0.099 | 3.472 | 377 |
| | (0.400) | | |
| Similar culture | -1.797 | 3.777 | 377 |
| | (0.521)*** | | |
| Altruism | 6,494.922 | 17,074.271 | 377 |
| | (3,046.029)** | | |
| Reciprocity | 2,070.151 | 7,750.663 | 377 |
| | (1,128.958)* | | |
| Refugee partner | -0.047 | 0.939 | 377 |
| | (0.070) | | |
| Ugandan partner | 0.087 | 0.857 | 377 |
| | (0.098) | | |
| Business partners | -0.063 | 0.973 | 377 |
| | (0.037)* | | |
| Age | -3.178 | 33.724 | 377 |
| | (2.635) | | |
| English language index refugee | 0.009 | 0.422 | 377 |
| | (0.073) | | |
| Luganda language index | 0.016 | 0.376 | 377 |
| | (0.077) | | |
| Female | -0.025 | 0.655 | 377 |
| | (0.074) | | |
| Experience in months | -15.272 | 57.462 | 377 |
| | (19.137) | | |
| Years living in Uganda | -0.753 | 6.676 | 377 |
| | (1.036) | | |

*Notes:* This table reports the coefficients from the following regression using the refugee subsample: $y_i = \beta_0 + \beta_1 IAT_i + \varepsilon_i$, where $y_i$ is each variable underlining the full bias index (reported in each row) and $IAT_i$ is the individual average IAT score between the general stereotypes-IAT and the work-related IAT. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively.

**Table A.2:** Correlations Between IAT, Statements and Demographics: Locals

| Variable | IAT Combined | Mean | N |
|---|---|---|---|
| Friendly | 0.814 | 4.927 | 273 |
| | (0.594) | | |
| Unserious | -1.270 | 2.729 | 273 |
| | (0.599)** | | |
| Intermarriage good thing | -0.139 | 4.901 | 273 |
| | (0.705) | | |
| Trust Ugandans - same ethnic | 0.637 | 4.216 | 273 |
| | (0.669) | | |
| Trust Ugandans - other ethnic | 0.565 | 4.044 | 273 |
| | (0.577) | | |
| Trust refugees | 1.144 | 3.802 | 273 |
| | (0.553)** | | |
| Similar culture | 0.269 | 3.656 | 273 |
| | (0.782) | | |
| Altruism | -15,318.500 | 21,681.318 | 273 |
| | (5,830.996)*** | | |
| Reciprocity | -2,195.148 | 6,846.154 | 273 |
| | (1,716.264) | | |
| Refugee partner | -0.139 | 0.451 | 273 |
| | (0.198) | | |
| Ugandan partner | 0.053 | 0.934 | 273 |
| | (0.096) | | |
| Business partners | 0.055 | 0.938 | 273 |
| | (0.096) | | |
| Age | 4.826 | 24.330 | 273 |
| | (2.311)** | | |
| English language | 0.097 | 0.570 | 273 |
| | (0.094) | | |
| Luganda language | 0.153 | 0.702 | 273 |
| | (0.085)* | | |
| Female | -0.035 | 0.634 | 273 |
| | (0.132) | | |
| Experience in months | 14.057 | 42.505 | 273 |
| | (13.932) | | |

*Notes:* This table reports the coefficients from the following regression using the native workers sub-sample: $y_i = \beta_0 + \beta_1 IAT_i + \varepsilon_i$, where $y_i$ is each variable underlining the full bias index (reported in each row) and $IAT_i$ is the individual average IAT score between the general stereotypes-IAT and the work-related IAT. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively.

**Table A.3:** Outcomes among locals, all treatments separately

|  | Bias | | Business partner | | |
|---|---|---|---|---|---|
|  | (1) | (2) | (3) | (4) | (5) |
|  | Implicit | Explicit | Out-group | Same group | Any partner |
| Video + exposure | 0.076** | -0.284 | 0.118 | 0.053 | 0.054 |
|  | (0.038) | (0.225) | (0.104) | (0.055) | (0.055) |
|  | [0.045] | [0.209] | [0.259] | [0.338] | [0.325] |
| Only exposure | 0.068* | -0.242 | 0.244** | 0.034 | 0.035 |
|  | (0.037) | (0.210) | (0.099) | (0.052) | (0.052) |
|  | [0.069] | [0.249] | [0.014] | [0.517] | [0.507] |
| Only video | 0.067* | -0.305 | 0.109 | 0.004 | 0.037 |
|  | (0.039) | (0.229) | (0.108) | (0.058) | (0.054) |
|  | [0.091] | [0.184] | [0.313] | [0.951] | [0.496] |
| Observations | 271 | 273 | 273 | 273 | 273 |
| Mean DV | 0.470 | -0.000 | 0.405 | 0.919 | 0.919 |
| $H_0$: Video=Exposure=Video+Exposure | 0.930 | 0.933 | 0.152 | 0.518 | 0.849 |

*Notes:* Explicit bias index is contructed using the GLS Anderson weighting procedure combining negative attitudes and explicit negative stereotypes related to general attitudes. Implicit bias is an average of Work IAT score and General IAT score. Partners are dummies indicating if respondents want a partner or not. For local workers, we had an extra treatment: only video, due to a mistake in coding on the survey on the tablet. Control for refugees strata. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively. Robust SE. p-values in square brackets.

**Table A.4:** Outcomes among refugees, all treatments separately

| | Bias | | Business partner | | |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| | Implicit | Explicit | Out-group | Same group | Any partner |
| Video + exposure | 0.033 | -0.381*** | -0.087 | -0.092* | -0.090** |
| | (0.030) | (0.147) | (0.059) | (0.050) | (0.040) |
| | [0.268] | [0.010] | [0.140] | [0.065] | [0.026] |
| Only exposure | 0.011 | -0.173 | -0.070 | -0.005 | -0.042 |
| | (0.024) | (0.124) | (0.047) | (0.035) | (0.027) |
| | [0.634] | [0.164] | [0.136] | [0.882] | [0.123] |
| Observations | 333 | 377 | 377 | 377 | 377 |
| Mean DV | 0.409 | -0.000 | 0.854 | 0.921 | 0.966 |
| $H_0$: Exposure=Video+Exposure | 0.396 | 0.093 | 0.756 | 0.056 | 0.225 |

*Notes:* Explicit bias index is contructed using the GLS Anderson weighting procedure combining negative attitudes and explicit negative stereotypes related to general attitudes. Implicit bias is an average of Work IAT score and General IAT score. Partners are dummies indicating if respondents want a partner or not. For local workers, we had an extra treatment: only video, due to a mistake in coding on the survey on the tablet. Control for refugees strata. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively. Robust SE. p-values in brackets.

**Table A.5:** SMS sent by refugee workers, all treatments separately

|  | Sent SMS | SMS for Ugandan firm | SMS for refugee firm |
|---|---|---|---|
|  | (1) | (2) | (3) |
| Video + exposure | 0.072 | 0.036 | 0.036 |
|  | (0.056) | (0.034) | (0.047) |
|  | [0.193] | [0.287] | [0.444] |
| Only exposure | 0.120*** | 0.060** | 0.059 |
|  | (0.046) | (0.028) | (0.040) |
|  | [0.010] | [0.033] | [0.135] |
| Observations | 377 | 377 | 377 |
| Mean DV | 0.124 | 0.034 | 0.090 |
| $H_0$: Exposure=Video+Exposure | 0.371 | 0.484 | 0.600 |

*Notes:* Sent SMS outcome is a dummy indicating if refugee workers sent a SMS to participate in similar future interventions. SMS for Ugandan and for refugee firm indicate what type of firm the worker would like to work in future interventions. Control for refugees strata. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively. Robust SE. p-values in brackets.

**Table A.6:** The Effect of Contact on Implicit and Explicit Bias, Kling and Liebman Bounds

| | Bias Index | | Work bias | | General bias | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | Lower 0.25SD | Upper 0.25SD | Lower 0.25SD | Upper 0.25SD | Lower 0.25SD | Upper 0.25SD |
| T × Local × Implicit | 0.070** | 0.070** | 0.073** | 0.073** | 0.031 | 0.032 |
| | (0.035) | (0.035) | (0.036) | (0.036) | (0.029) | (0.029) |
| | [0.044] | [0.043] | [0.045] | [0.044] | [0.280] | [0.274] |
| T × Local × Explicit | -0.052* | -0.052 | -0.043 | -0.042 | -0.026 | -0.025 |
| | (0.032) | (0.032) | (0.034) | (0.034) | (0.025) | (0.025) |
| | [0.100] | [0.102] | [0.203] | [0.207] | [0.297] | [0.303] |
| T × Refugee × Implicit | 0.015 | 0.015 | 0.004 | 0.004 | 0.017 | 0.017 |
| | (0.023) | (0.023) | (0.023) | (0.023) | (0.028) | (0.028) |
| | [0.515] | [0.507] | [0.870] | [0.859] | [0.542] | [0.535] |
| T × Refugee × Explicit | -0.037* | -0.036* | -0.038* | -0.038* | -0.032* | -0.032* |
| | (0.019) | (0.019) | (0.022) | (0.022) | (0.019) | (0.019) |
| | [0.053] | [0.054] | [0.083] | [0.085] | [0.096] | [0.098] |
| Observations | 1254 | 1254 | 1248 | 1248 | 1243 | 1243 |
| Mean DV | 0.481 | 0.481 | 0.443 | 0.443 | 0.466 | 0.466 |
| Mean DV Local Implicit Bias | 0.470 | 0.470 | 0.432 | 0.432 | 0.541 | 0.541 |
| Mean DV Refugee Implicit Bias | 0.409 | 0.409 | 0.465 | 0.465 | 0.470 | 0.470 |
| Mean DV Local Explicit Bias | 0.529 | 0.529 | 0.435 | 0.435 | 0.448 | 0.448 |
| Mean DV Refugee Explicit Bias | 0.528 | 0.528 | 0.433 | 0.433 | 0.439 | 0.439 |
| $H_0$ : T × Local × Implicit=Refugee | 0.186 | 0.185 | 0.110 | 0.110 | 0.716 | 0.715 |
| $H_0$ : T × Local × Explicit=Refugee | 0.674 | 0.676 | 0.900 | 0.902 | 0.837 | 0.835 |

*Notes:* This table reports results from specification 1, constructing bounds following Kling and Liebman (2004). Explicit bias index is constructed using the GLS Anderson weighting procedure combining negative attitudes and explicit negative stereotypes related to work. Implicit bias is the Work IAT. Both indices are normalized 0 to 1 for comparison. An increase means more prejudice. Control for refugees strata (refugees' occupations). Robust standard errors in parenthesis and p-values in brackets. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively.

**Table A.7:** The Effect of Contact on Implicit and Explicit Bias, Principal Component

|  | (1) |
|---|---|
|  | Bias Index |
| T × Local × Explicit | -0.023 |
|  | (0.035) |
|  | [0.516] |
| T × Local × Implicit | 0.089** |
|  | (0.035) |
|  | [0.011] |
| T × Refugee × Explicit | -0.047** |
|  | (0.024) |
|  | [0.045] |
| T × Refugee × Implicit | 0.021 |
|  | (0.024) |
|  | [0.375] |
| Observations | 1200 |
| Mean DV | 0.426 |
| Mean DV Local Implicit Bias | 0.460 |
| Mean DV Refugee Implicit Bias | 0.405 |
| Mean DV Local Explicit Bias | 0.407 |
| Mean DV Refugee Explicit Bias | 0.439 |
| $H_0$ : T × Local × Implicit=Refugee | 0.107 |
| $H_0$ : T × Local × Explicit=Refugee | 0.561 |

*Notes:* This table reports results from specification 1. Explicit bias index is constructed using Principal Component Analysis (PCA) combining negative attitudes and explicit negative stereotypes. Implicit bias is an average of Work IAT score and General IAT score. Both indices are normalized 0 to 1 for comparison. An increase means more prejudice. Control for refugees strata (refugees' occupations). Robust standard errors in parenthesis and p-values in brackets. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively.

**Table A.8:** Explicit bias among locals

| Variable | Treated | Mean | N |
|---|---|---|---|
| Bias Index (norm. 0-1) | -0.056 | 0.511 | 273 |
| | (0.034) | | |
| Refugees are hospitable | -0.041 | 5.161 | 273 |
| | (0.228) | | |
| Refugees are friendly | 0.345 | 5.282 | 273 |
| | (0.237) | | |
| Refugees are peaceful | -0.065 | 5.275 | 273 |
| | (0.243) | | |
| Refugees are kind | 0.236 | 5.168 | 273 |
| | (0.250) | | |
| Refugees are trustwhorty | 0.202 | 4.835 | 273 |
| | (0.286) | | |
| Refugees are honest in business | 0.226 | 5.029 | 273 |
| | (0.270) | | |
| Refugees are professional | -0.307 | 4.967 | 273 |
| | (0.227) | | |
| Refugees are hardworking | -0.139 | 5.326 | 273 |
| | (0.211) | | |
| Refugees are trouble makers | 0.144 | 2.597 | 273 |
| | (0.231) | | |
| Refugees are dangerous | -0.151 | 2.531 | 273 |
| | (0.209) | | |
| Refugees are jealous | 0.300 | 2.740 | 273 |
| | (0.280) | | |
| Refugees are dirty | -0.055 | 2.648 | 273 |
| | (0.274) | | |
| Refugees are thieves | -0.264 | 2.454 | 273 |
| | (0.266) | | |
| Refugees are lazy | -0.034 | 2.755 | 273 |
| | (0.280) | | |
| Refugees are corrupt | -0.047 | 2.505 | 273 |
| | (0.239) | | |
| Refugees are unserious | 0.222 | 2.670 | 273 |
| | (0.212) | | |
| Intermarriage is a good thing | -0.076 | 5.183 | 273 |
| | (0.240) | | |
| I trust refugees | -0.005 | 3.908 | 273 |
| | (0.271) | | |
| Working together helps both groups | 0.237 | 5.711 | 273 |
| | (0.203) | | |
| Refugees and locals should work more together | 0.127 | 5.780 | 273 |
| | (0.210) | | |
| I would feel safe with refugees as neighbors | 0.262 | 4.916 | 273 |
| | (0.263) | | |
| I see myself similar to a refugee | 0.192 | 4.103 | 273 |
| | (0.345) | | |
| Refugees' culture is different from mine | -0.246 | 5.139 | 273 |
| | (0.218) | | |
| Refugees discriminate towards Ugandans | -0.511 | 3.689 | 273 |
| | (0.255)** | | |
| I often feel anxious around refugees | -0.177 | 3.158 | 273 |
| | (0.285) | | |
| People should marry from same nationality | 0.375 | 3.656 | 273 |
| | (0.303) | | |
| Refugees increase job competition in the country | 0.145 | 4.667 | 273 |
| | (0.324) | | |
| Law should allow refugees to work | 0.013 | 0.912 | 273 |
| | (0.051) | | |
| Working with a refugee will reduce my productivity | 0.210 | 2.593 | 273 |
| | (0.258) | | |

*Notes:* In this table, we replicate specification 3 changing the way we construct the bias index and adding separately each variable used to construct the index. Explicit bias index is contructed using the GLS Anderson weighting procedure combining negative attitudes and explicit negative stereotypes related to general attitudes. For robustness check, we include to the index variables that were collected only for local workers because of the content of the question (i.e. were not appropriate for refugee workers). The variables are: "Working with a refugee will reduce my productivity", "Refugees increase job competition in the country" and "Think about the current law on refugees in Uganda. Do you think that the law should allow all refugees to work anywhere in Uganda?". Control for refugees strata. Robust standard errors in parenthesis and p-values in brackets. ***, **, *, indicate significance at the 1%, 5%, and 10% levels respectively.

# B   Appendix B: Outcomes survey questions and IAT

1. **IAT and explicit stereotypes** I am going to ask you how well each of the following words describes most Ugandans/refugees living in Kampala. Please answer using a scale between 1-7 where 1 means "It does not describe them at all" and 7 means "It describes them extremely well"

**Figure A.9:** IAT screen and stimuli list



*IAT Screen*
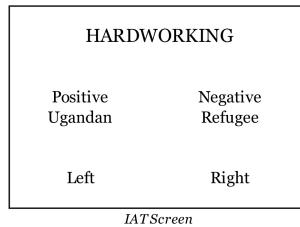
|  | General IAT | Work IAT |  | General IAT | Work IAT |
|---|---|---|---|---|---|
| **Positive words** | Hospitality<br>Kindness<br>Friendship<br>Peaceful | Trust<br>Hardworking<br>Honest in business<br>Professional | **National concepts** | Entebbe<br>Jinja<br>Domestic<br>Ugandan | National<br>Rolex Chapati<br>Luganda<br>Ugandan Cranes |
| **Negative Words** | Danger<br>Jealous<br>Trouble maker<br>Dirty | Laziness<br>Corruption<br>Thief<br>Unserious | **Refugee concepts** | Resettlement<br>Non-native<br>UNHCR<br>Refugee Camp | Displaced person<br>Foreign<br>Migrant<br>Urban refugee |

2. **Attitudes** Now I will read series of statements about Ugandans and refugees in Kampala. Please indicate how much you agree with the statement. You can choose any number from 1 that means "I do NOT agree at all," and a 7 means "Agree totally".

   - I believe intermarriage between refugees and Ugandans is a good thing
   - I would advise my family and my refugee/Ugandan friends that they should only marry people from the same nationality
   - Ugandans/refugees' culture is different from my own culture
   - I see myself similar to a Ugandan/refugee
   - Ugandans/refugees discriminate towards refugees/Ugandans
   - I would feel safe having Ugandans/refugees as neighbours in the same compound
   - I assume that in general, Ugandans/refugees have only the best intentions
   - Work between Ugandans and refugees is good for both groups
   - I often feel anxious around Ugandans/refugees
   - Ugandans and refugees should collaborate and work more together

3. **Hypothetical behaviors**

   - Imagine you start a new business, and you can choose between different business partners that have a lot of experience in the sector. How many partners between 0 and 6 would you choose?

50

- Of these, how many would be refugees?

- Of these, how many would be Ugandans?

- Real behavior

  – We would like to know your interest in future projects that might give you the possibility to be matched with Ugandan or refugee firms in Kampala. If you are interested, you can register by sending an SMS to the phone number we will give you. In the message, you need to include (1) your full name, (2) the ID number we will give you and (3) your preference between being matched to a Ugandan firm with Ugandan employees or a refugee firm with refugee employees (include only one preference). Please only register yourself, not other people! All firms are the same in terms of wages and hours worked.

# C Appendix C: Covid Prevention Plan

**Covid-19 prevention plan.** Due to the COVID-19 pandemic during the period of our study, we followed several guidelines. These guidelines were based on recommendations from the World Health Organization, the Ugandan National Council for Science and Technology, Innovations for Poverty Action and IDinsight. We proceeded with writing a COVID-19 Risk Management Plan, and a COVID-19 guideline for training and data collection. In summary, we provided field officers hand sanitizers, face masks and instructed them to maintain a 1.5m of distance from the respondents. Moreover, each morning the team leader measured the temperature of field officers using an infrared thermometer and checked their health status. If a field officer had a fever of 37.5 or more, or showed signs of illness such as runny nose, cough or sneezes, he or she was sent home. Additionally, they had the right to interrupt the interview if the respondent refused to observe the SOPs. Since our study implied that people meet other people in person, we also followed guidelines to ensure that participants were safe. During the day we matched firms and workers, we instructed enumerators to measure participants' temperatures, to check their health status, and to check that they were following all the SOPs properly (using masks and sanitizers). If a respondent had a fever of 37.5 or more, or showed signs of illness such as runny nose, cough or sneezes, he or she was asked to go home.