

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

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Forced displacement poses a fundamental challenge to social cohesion in host countries: the arrival of large numbers of refugees can disrupt trust and social relations between communities. Understanding how to rebuild cohesion between refugees and host populations is therefore both a policy priority and an open empirical question, particularly in low-income countries that host the majority of the world's refugees. We conduct a randomized control trial with refugee job seekers and native workers in locally owned and managed firms in Uganda. We study whether contact in the workplace, the most important setting for inter-group interaction in adult life, can improve social cohesion between the two groups. We measure social cohesion through a compound measure incorporating attitudes, implicit bias measured through Implicit Association Tests (IATs), explicit biases, and behaviors in real and hypothetical activities. We find two sets of results. 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 suggest that labor market programs can serve as a vehicle for social cohesion, and that implicit and explicit bias can move in opposite directions without translating into discriminatory behavior.

Keywords: social cohesion, contact theory, refugee integration, randomised evaluation, implicit association test

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1 Introduction

Social cohesion is a key factor for growth and development, especially in countries with high levels of diversity ([Easterly et al. 2006](#)). However, forced displacement can threaten this cohesion by disrupting and changing social relations in host countries. According to UNHCR, in 2025 there were around 120 million forcibly displaced people, with 35.6 million being refugees. Governments and international organizations in refugees’ host countries, therefore, need to understand what policies or programs can enhance social cohesion with conflict-affected populations. This question is of particular importance for low- and middle-income countries, which host three-quarters of the world’s refugees.

This paper uses an experiment in Uganda, the largest refugee-hosting country in Africa and the fourth 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 firm. 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 on social cohesion between refugees and local workers, we define a compound measure of social cohesion that comprises several dimensions: implicit bias (collected through implicit association tests (IATs)), explicit stereotypes, attitudes, and behaviors both in hypothetical and real-world scenarios. Together, these design choices also allow us to speak to an open debate in the literature: by collecting both IAT scores and behavioral outcomes for both groups, we can assess whether implicit bias translates into discriminatory behavior.

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, behaviors improve for both groups: treated local workers are more willing to have a refugee business partner in a hypothetical scenario, while more refugees actively sign up for a similar

internship program in the future - especially with Ugandan firms - a real incentivized behavioral measure. This effect is large, an 11 percentage point increase over a control mean of 12%, implying a 90% increase in take-up. 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, which is a common livelihood strategy for refugees.

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 perceived occupational competition: through work contact with a refugee, local workers learn that refugee workers are more skilled than they initially believed. Crucially, an increase in implicit bias does not translate into discriminatory behavior – as the effect on the behavioral outcomes is positive – and may instead reflect a recognition of refugee workers as skilled economic actors in the local labor market. This finding also contributes to an open debate on the validity of the IAT as a measure of actual prejudicial behavior, showing that implicit bias and discrimination do not necessarily go hand in hand.

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 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 collect behavioral measures, which we expect to be less subject to demand effects.

This paper relates to three bodies of work in different fields. First, to the vast literature on the reduction of prejudice using contact theory ([Bursztyn et al. 2024](#); [Corno et al. 2022](#); [Ghosh 2025](#); [Lowe 2021](#); [Mousa 2020](#); [Okunogbe 2024](#); [Rao 2019](#); [Scacco and Warren 2018](#)). A recent meta-analysis of 41 pre-registered contact experiments finds that average effects are modest, roughly one-tenth of a standard deviation, and that generalization is limited: contact is more effective at changing attitudes and behaviors toward people directly met than toward the out-group as a whole ([Lowe, 2025](#)). Our contribution is to study contact in a setting that has received little attention in the literature, yet is

the most important activity in the daily lives of adults: the workplace. [Ghosh \(2025\)](#) has studied work contact directly, doing so in the context of religious divisions in formal manufacturing in India. We complement this evidence by studying forced displacement in a low-income host country, measuring social cohesion outcomes for both refugees and native workers, and combining implicit bias, explicit attitudes, and incentivized behaviors within the same experiment.

Second, to the growing literature on the integration of refugees in low- and middle-income countries ([Bahar et al., 2021](#); [Caria et al., 2024](#); [Rozo and Grossman, 2025](#)). This literature documents the positive effects of labor market access and active employment programs on refugees' economic outcomes, and increasingly recognises that social cohesion between refugees and host communities is a first-order policy challenge ([Rozo and Grossman, 2025](#)). Existing interventions to improve cohesion in refugee-hosting settings rely primarily on information provision, perspective-taking exercises, or structured dialogue, and almost exclusively measure outcomes for host communities alone. Our contribution is to show that a labor market program, placing skilled refugees into locally-owned firms, can improve social cohesion by reducing explicit biases and improving behaviors for both refugee and local workers simultaneously.

Third, to the literature on implicit bias measurement and interpretation ([Cunningham and De Quidt 2024](#)). 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 that 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.

2 Context

Uganda is the largest refugee-hosting country in Africa, currently hosting around 1.9 million refugees. The country has a progressive refugee policy: refugees have freedom

of movement and the right to live and work outside settlements. Conditional on living in a settlement, refugees receive a plot of land and humanitarian aid. However, significant frictions to labor market integration remain. Obtaining work permits is difficult in practice; many employers are uncertain about the laws governing refugee employment; and refugees are significantly less likely to be employed than Ugandan nationals, often accepting jobs below their skill level (Loiacono and Silva-Vargas 2019; Loiacono and Silva-Vargas 2024).

To design our intervention, we collected pilot data between 2019 and 2020 with 421 urban refugees and 401 local firm owners in Kampala and Mbarara. The data reveal that meaningful work contact between refugees and local workers is rare: only 7% of firms had ever hired a refugee, and 59% of firm owners were unaware that refugees have the legal right to work anywhere in Uganda. Trust levels were low on both sides, and only 16% of refugees reported weekly economic interactions with locals. Consistent with the contact hypothesis, refugees and firm owners who had more frequent economic interactions with the out-group reported higher trust and more positive attitudes toward them (Appendix Figure A1). Qualitative discussions with both groups confirmed that working together was identified by Ugandans and refugees alike as the main activity to promote social cohesion in urban areas, motivating our choice of the workplace as the contact setting.

3 Research Design

3.1 Conceptual framework and hypotheses

The contact hypothesis, developed by Allport in 1954, states that contact between different groups may reduce prejudice if four conditions are met: equal status between groups, institutional support, a common goal, and intergroup cooperation (Allport 1954). Yet direct contact can also backfire: producing anxiety or reinforcing stereotypes, particularly when individuals have no prior template for positive cross-group interaction (Paluck et al. 2019).

Exposure to role models offers a complementary pathway, as it can be a powerful method to induce attitude and behavioural change (Bernard et al. 2015; DellaVigna and La Ferrara 2015; Riley 2022). Observing in-group members interact positively with the out-group constitutes an indirect or vicarious contact experience, shown to reduce

prejudice through empathy (Murrar and Brauer 2018; Siddique et al. 2026).

Our direct contact treatment places skilled refugees into Ugandan firms for a one-week subsidized internship, satisfying all four of Allport’s conditions: workers share equal status within the firm, the firm endorses the contact, and both groups cooperate toward common production goals. Our indirect contact treatment shows participants a four-minute documentary, shot in Kampala, featuring Elvis, a Ugandan worker, and Paul, a refugee, collaborating on a permaculture project (a sustainable agriculture system using local resources). The film is in English with subtitles in the six languages spoken by our respondents; the refugee character’s nationality is left unspecified, so that any refugee can identify with him. We hypothesize that both forms of work contact improve social cohesion between refugee and local workers. ¹

3.2 Experimental design and randomization

Our main treatment is work contact, which includes both direct and indirect contact at the workplace. There were 3 randomization stages. In the first, refugee-firm pairs are randomized into direct contact or control, stratified by vocational sector. To ensure equal status between workers, refugees were pre-selected through a skills certification exam administered by Uganda’s Directorate of Industrial Training, and matched to firms operating in their same vocational sector. In the second stage, we independently cross-randomize both refugees and local workers into indirect contact or control. The cross-randomization yields four cells: direct only, indirect only, both, and pure control. Due to the cross-randomization, some respondents received both treatments. For the main analysis we pool all treated cells into a single treatment indicator that we refer to as “Work Contact” (Appendix Figure A2 shows the experimental design).

Participants not assigned to the video treatment watch a placebo video of East African wildlife, neutralizing any effect of the mere act of being shown a screen. To minimize demand effects, we match enumerators to respondents by nationality: piloting confirmed that participants are more willing to admit biases when interviewed by someone from their own group. The social cohesion purpose of the study is concealed from participants, who are told they are part of a job-assistance program; we verify this by eliciting beliefs about the study’s purpose at endline.

¹The full video can be seen [here](#).

3.3 Sampling

Refugees. With the collaboration of refugee leaders and refugee-led organizations, we composed a database of 1,088 skilled refugees who were job seekers, were potentially interested in applying to a job, or were not in permanent employment. The listing was conducted between February and April 2021. The first part of the program consisted of testing refugees on their skills, and 537 refugee workers successfully passed the skills certification test. After excluding unmatched refugees and some attrition, the final refugee sample is 377.

Local workers. In June 2021 and in September-October 2021, we conducted a listing survey with firms in Kampala, active in sectors that match the occupations of refugee workers. A total of 1,196 firms were recruited but only 536 were willing to hire a refugee. To select local workers, we surveyed the worker most likely to interact closely with a new employee in each firm, according to the manager. Since not all the firms in the sample had at least one worker, our final sample of local workers is 273. These are the local 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 therefore representative of the worker role in the firm rather than of any specific individual.

Intervention 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. Due to logistical constraints during the COVID-19 pandemic, the endline of refugees was conducted between July and August 2022 - approximately six months after the internship. This longer follow-up period has the additional advantage of ensuring that any short-term priming effects of the intervention had dissipated by the time of data collection.

4 Data

4.1 Outcome variables

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). A more recent meta-analysis of 41 pre-registered contact experiments confirms that average effects are modest and that few studies capture both attitudinal and behavioral change simultaneously (Lowe 2025). For this reason, we collect all four dimensions for both groups, at baseline and endline, with the exception of real incentivized behavior which is collected only at endline. We specify each component below.

4.1.1 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. 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 (the full list of stimuli and a screenshot of the IAT screen in Appendix Figure A3).

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 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 with Ugandan 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). We coded the two IATs on SurveyCTO in order to be able to run the IATs on tablets. (The words we use are specified in Appendix Figure A3).

For the main analysis, we construct an index averaging the two IATs’ scores. We refer to this index as “Implicit Bias”. The IATs are coded so that higher values denote more implicit bias. At baseline, 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 the Work IAT, the mean for locals is double. K-Smirnov tests show that the distributions differ significantly from each other (Appendix Figures A4a and A4b).

4.1.2 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 related to the out-group using a 7-points Likert-scale. For attitudes, we ask respondents 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 signaled integration of refugees in the country. (Appendix A2 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). We refer to this index as “Explicit Bias”.

4.1.3 Behaviors

For this dimension, we collect evidence of two types of behaviors: real and hypothetical. For real and incentivized 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. This outcome was only asked to the refugee sample because they could indeed benefit from a similar internship program in the future.

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 A2).

4.1.4 Correlations and IAT interpretation at baseline

To assess what the IAT is capturing in our context, we examine first its baseline correlations with explicit bias and behavioral outcomes for each group separately in Figure 1. We find two opposite patterns. For locals, the combined IAT is not significantly correlated with explicit bias: the point estimate is negative but not significantly different from zero.² For refugees, the opposite holds: the IAT is positive and significantly correlated with explicit bias, both for the combined index and for the Work and General IATs separately.

²We 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.

This divergence suggests that the IAT may be capturing different underlying constructs for majority and minority groups. One possibility is that refugees feel more comfortable explicitly expressing bias, particularly when interviewed by an enumerator of their own nationality, so that their IAT and explicit measures track the same underlying attitude.

Behavioral correlations reinforce this asymmetry. For refugees, the IAT correlates negatively with wanting any business partner, consistent with the IAT tracking a coherent attitude toward the out-group; among the underlying attitudes, the IAT is most strongly associated with believing Ugandans are unfriendly and that intermarriage is undesirable. For locals, the IAT correlates negatively with altruism but correlates positively with trusting refugees and viewing them as serious and diligent: the opposite of what a measure of hostility would predict, and further suggestive evidence that, for this group, the IAT may be picking up something other than general prejudice (correlations in Appendix Tables [A1](#) and [A2](#)).

4.2 Descriptive statistics

In this study, our total sample comprises 650 workers 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.

Baseline characteristics are balanced across treatment and control groups for both samples. Two variables are marginally imbalanced for local workers: willingness to have a same-group or any business partner. Including their baseline values as controls in the main specifications does not affect results. On average, refugee workers are older than local workers (34 vs. 24 years), have more sector experience (57.5 vs. 42.5 months), and are more educated, but score lower on self-reported English and Luganda. Females are the majority in both samples. While 45% of local workers wanted an out-group business partner at baseline, 85% of refugees did. Appendix Tables [A3](#) and [A4](#) report full balance checks.

5 Analysis

5.1 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 β_1 , β_2 , β_3 , and β_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:

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

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 β_1 and β_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 β_1 and β_3 and run the test $\beta_1 + \beta_3 = 0$.

The third specification is as follows:

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

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 β_1 which shows whether the treatment had a significant effect for the workers.

5.2 The Impact of Contact on Implicit and Explicit Bias

Table 1 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 A5 and A6 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 index points, approximately 10% of the control mean, while implicit bias significantly increases by 0.084 index points, approximately 18% of the control mean. For refugee workers, we see

a similar trend: explicit bias significantly decreases by 0.039 index points approximately 7% of the control mean, while implicit bias also increases, but it is not significant.

In the second half of Table 1 we conduct a Wald test of equality of coefficients. The Wald test fails to reject equality of treatment effects across groups for both bias measures.

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 5.4 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.

A closer parallel is [Ghosh \(2025\)](#), who finds that workplace mixing improves out-group attitudes of Hindu majority workers, but only in production tasks requiring continuous coordination, the same setting where workers are forced to learn about each other's abilities. Our finding that implicit bias increases specifically on the *work* IAT (and not the general IAT) is consistent with a mechanism in which local workers update their beliefs about refugee workers' skills and perceive increased occupational competition, rather than a generalized deterioration of intergroup relations.

5.2.1 The Impact of Contact on Hypothetical and Real Behaviors

Table 2 contains our second set of results. The dependent variable is partners in a hypothetical business scenario, using specification 2. In the Appendix, Tables A5 and A6 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 16.8 percentage points, a 42% increase over the control mean. For refugee workers, their willingness to work with any partner significantly decreases by 5 percentage points. This is consistent with refugees learning, through direct contact with an established firm, that salaried employment is a viable alternative to self-employment – the predominant livelihood strategy among urban refugees in Kampala. We can reject that the effect is the same between groups in these two variables.

Table 3 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. This is an incentivised real behavior. Treated refugees are 11 percentage points more likely to send an SMS expressing interest in a future program compared to the control group, an increase of 90% over a control mean of 12%, suggesting that take-up of work contact programs is low in the absence of active placement support, but highly responsive to treatment. Moreover, the effect is driven entirely by interest in Ugandan firms: the coefficient for willingness to work with a Ugandan firm is significant and positive (6.2 percentage points, significant at the 5% level), while the effect for refugee firms is similar in magnitude but not significant. Again, this asymmetry is consistent with refugees learning, through direct contact with an established Ugandan firm, that salaried employment is a viable alternative to self-employment. In the Appendix, Table A7 reports also the results with the treatments separately.

5.3 Robustness checks

Results are robust to attrition bounds following Kling and Liebman (2004), to constructing the explicit bias index using PCA, and to an expanded explicit index for locals that includes views on job competition and refugee employment law. Full results are reported

in Appendix Tables [A8](#), [A9](#), [A10](#) .

5.4 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 skills in the sectors to which they are matched. This is not what the local workers initially expected. As shown by Figure 2, 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. This unexpected skill gap appears to have shifted locals’ willingness to collaborate.

The same skill discovery, however, also helps interpret the increase in implicit bias among local workers. We argue that it reflects a fear of job competition rather than a deterioration of intergroup relations, and we offer two pieces of evidence. First, the increase is driven entirely by the Work IAT – which captures associations between the out-group and work-related characteristics – and not by the General IAT. If the increase reflected generalized hostility, we would expect both measures to move together. Instead, the pattern suggests that local workers updated their beliefs specifically about refugees’ occupational abilities after working alongside them. This is consistent with Ghosh (2025), who finds that workplace contact improves out-group attitudes only in high-dependency tasks: where workers are forced to learn about each other’s abilities, and identifies corrected beliefs about out-group productivity as a key mechanism. Our setting shares this feature: locals and refugees work together in the same vocational tasks, creating precisely the kind of forced skill exposure that drives belief updating. Second, our baseline correlations reinforce this interpretation: for local workers, the IAT is not correlated with explicit bias or hostile attitudes, but rather with trusting refugees and viewing them as serious and diligent, suggesting that even before the intervention, the IAT in this group was capturing beliefs about out-group competence rather than prejudice, and that treatment intensified these beliefs through direct skill exposure. Crucially, this increase in

implicit bias does not translate into discriminatory behavior: treated locals become more willing to partner with refugees 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.

6 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 other business ventures, likely due to their exposure to the higher skills of the refugees compared to their own. Rather than a sign of deteriorating relations, this increase in implicit bias reflects a recognition of refugee workers as skilled and productive economic actors – a form of competitive respect that coexists with, and indeed accompanies, improved behavioral outcomes. For refugee workers, explicit biases decrease significantly, 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.

More broadly from a policy perspective, our findings suggest that labor market programs that place refugees in locally-owned firms generate social cohesion as a positive externality, at low additional cost. This is consistent with [Lowe \(2025\)](#), who argues that contact interventions should be part of policy makers’ prejudice-reduction toolkit when they can be incorporated at low cost. Open labor policies for refugees that facilitate their placement in local firms may therefore not only improve refugees’ economic outcomes, but also create the conditions for future economic collaboration between groups – as suggested by locals’ increased willingness to partner with refugees in business.

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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Table 1: The Effect of Contact on Implicit and Explicit Bias

	(1) Bias Index	(2) Work bias	(3) General bias
T × Local × Implicit	0.084** (0.035) [0.017]	0.083** (0.037) [0.026]	0.040 (0.029) [0.162]
T × Local × Explicit	-0.056* (0.033) [0.093]	-0.053 (0.035) [0.122]	-0.025 (0.026) [0.322]
T × Refugee × Implicit	0.021 (0.024) [0.377]	0.011 (0.024) [0.650]	0.016 (0.029) [0.594]
T × Refugee × Explicit	-0.039** (0.019) [0.043]	-0.046** (0.023) [0.049]	-0.041** (0.020) [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
$H_0 : T \times \text{Local} \times \text{Implicit} = \text{Refugee}$	0.134	0.105	0.547
$H_0 : T \times \text{Local} \times \text{Explicit} = \text{Refugee}$	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 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. The sample is not 1300 because we have 56 missing IATs at baseline and 44 missing IATs at endline.

Table 2: The Effect of Contact on Desired Hypothetical Business Partners

	(1)	(2)	(3)
	Out-group	Same group	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 $\times$ 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 $\times$ Treated	0.168	0.032	0.043
H_0 : Treated + Treated $\times$ Local=0	0.055	0.501	0.362

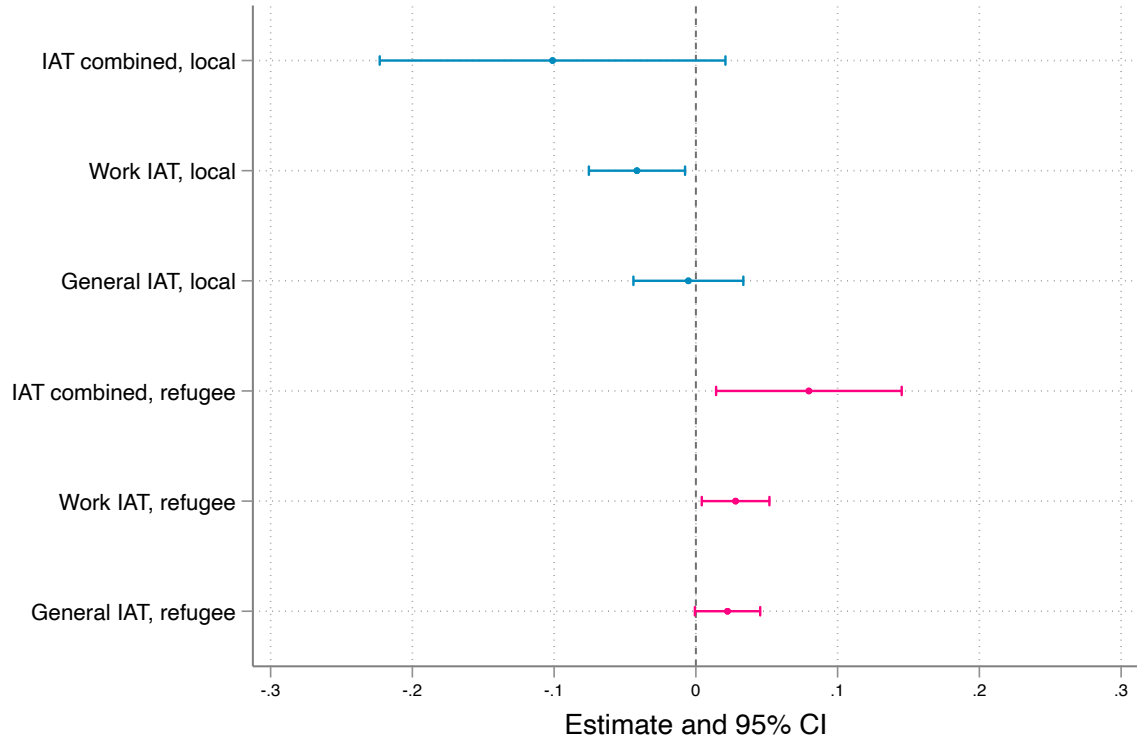
Notes: This table reports results from specification 2. The outcome variables are dummies indicating if respondents want a business partner or not. Control for refugees strata (refugees' occupations). Robust standard errors in parenthesis and p-values in brackets. ***, **, *, indicate significance at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

Table 3: SMS sent by refugee workers

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

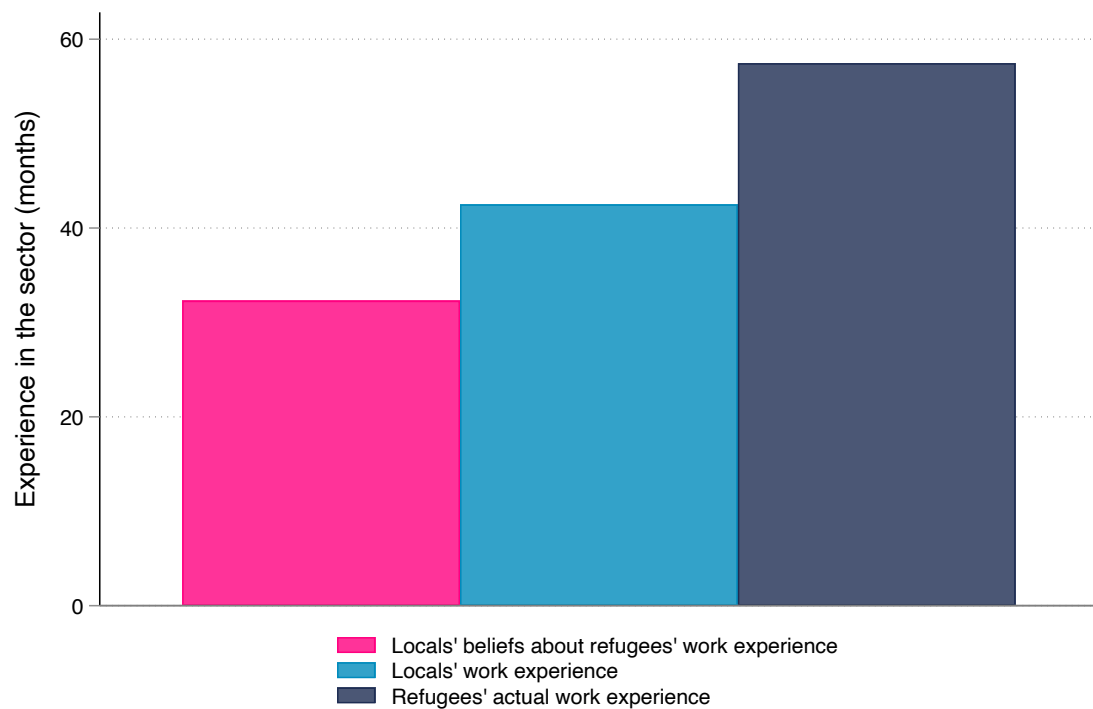
Notes: This table reports results from specification 3. Sent SMS outcome is a dummy indicating if refugee workers sent a SMS to participate in similar future internship programs. SMS for Ugandan and for refugee firm indicate what type of firm the worker would like to work in future interventions. Control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

Figure 1: Baseline 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 4.1.4 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.

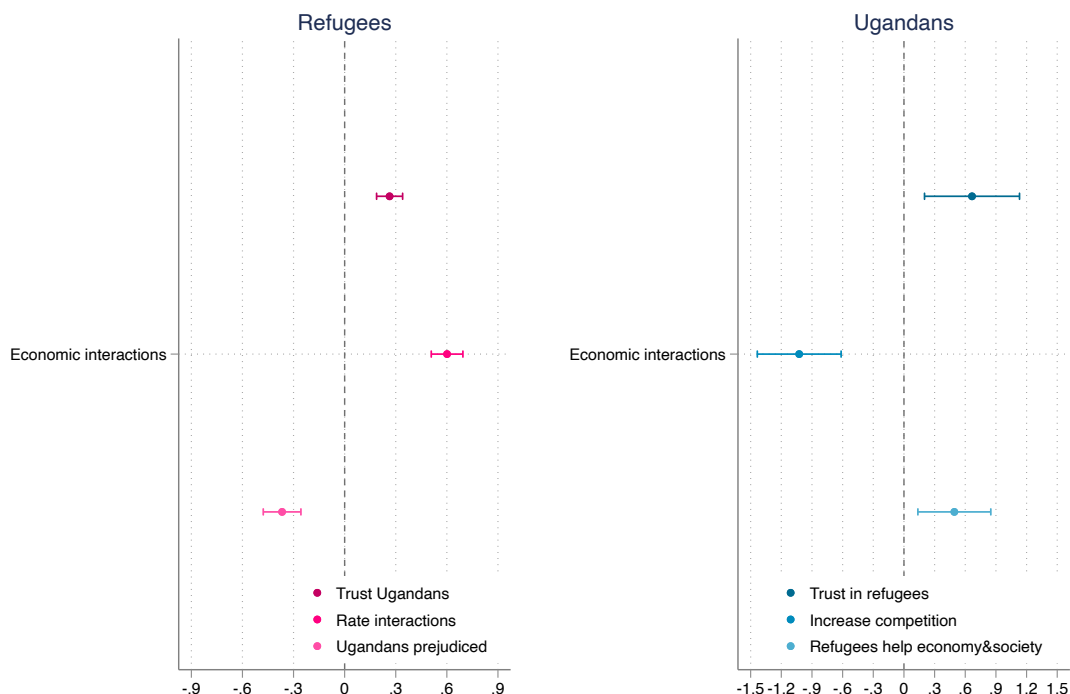
Figure 2: Work-relate experience in the sector in months



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.

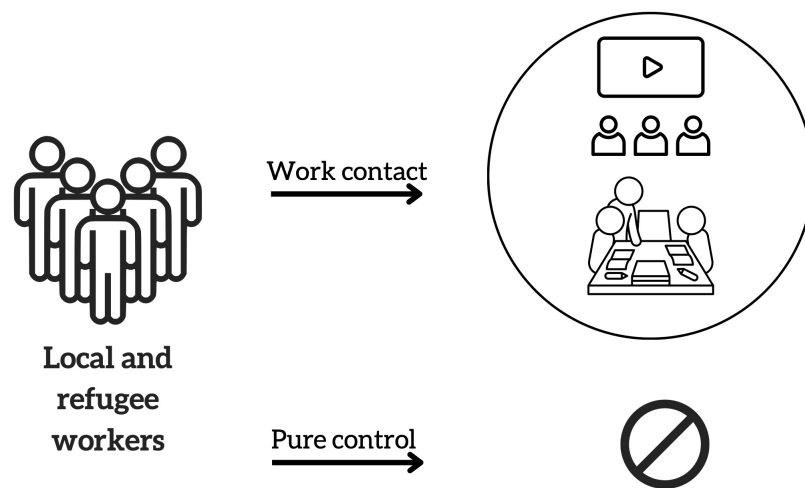
A Appendix A: Figures and extra analyses

Figure A1: 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 A2: 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 A3: IAT screen and stimuli list

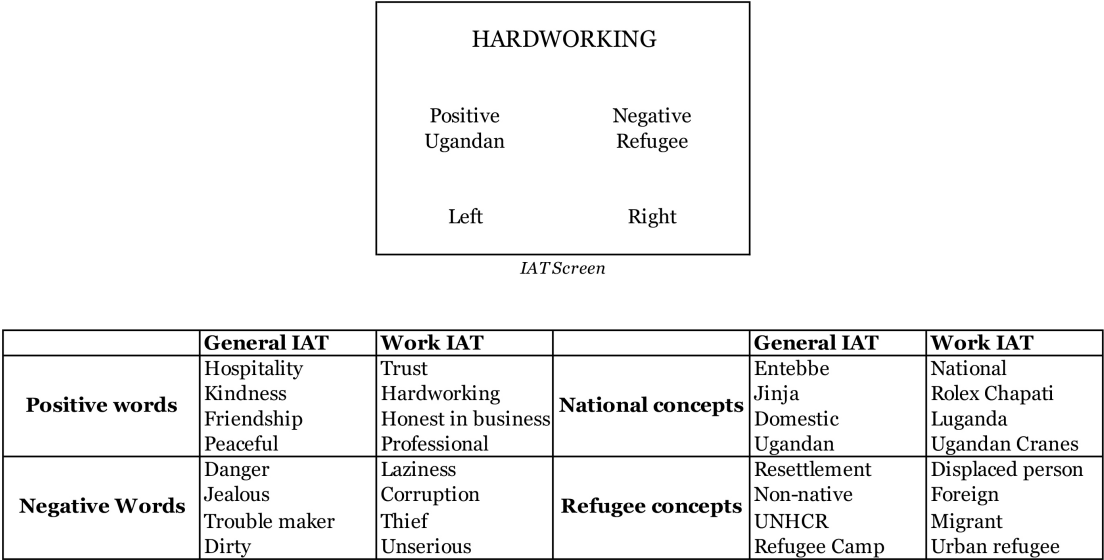
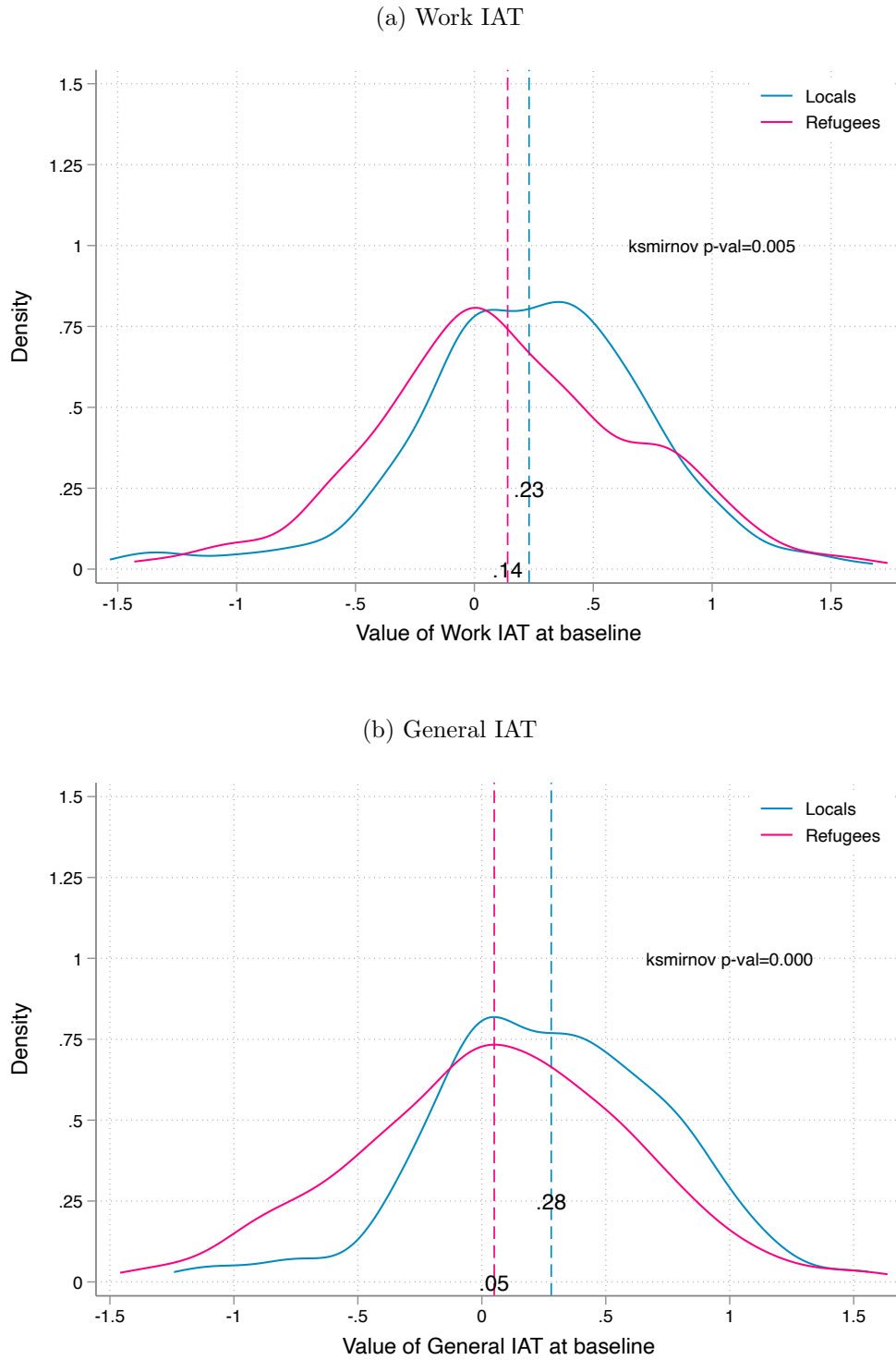


Figure A4: Distribution of Implicit Association Test scores



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 A1: Correlations Between IAT, Statements and Demographics: Refugees

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

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 A2: Correlations Between IAT, Statements and Demographics: Locals

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

Notes: This table reports the coefficients from the following regression using the native workers 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 A3: Descriptive and balance checks: local workers

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

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 constructed 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 A4: Descriptive and balance checks: refugee workers

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

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 constructed 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 A5: 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** (0.038) [0.045]	-0.284 (0.225) [0.209]	0.118 (0.104) [0.259]	0.053 (0.055) [0.338]	0.054 (0.055) [0.325]
Only exposure	0.068* (0.037) [0.069]	-0.242 (0.210) [0.249]	0.244** (0.099) [0.014]	0.034 (0.052) [0.517]	0.035 (0.052) [0.507]
Only video	0.067* (0.039) [0.091]	-0.305 (0.229) [0.184]	0.109 (0.108) [0.313]	0.004 (0.058) [0.951]	0.037 (0.054) [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 constructed 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 A6: 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 (0.030) [0.268]	-0.381*** (0.147) [0.010]	-0.087 (0.059) [0.140]	-0.092* (0.050) [0.065]	-0.090** (0.040) [0.026]
Only exposure	0.011 (0.024) [0.634]	-0.173 (0.124) [0.164]	-0.070 (0.047) [0.136]	-0.005 (0.035) [0.882]	-0.042 (0.027) [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 constructed 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 A7: 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 (0.056) [0.193]	0.036 (0.034) [0.287]	0.036 (0.047) [0.444]
Only exposure	0.120*** (0.046) [0.010]	0.060** (0.028) [0.033]	0.059 (0.040) [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 A8: 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** (0.035) [0.044]	0.070** (0.035) [0.043]	0.073** (0.036) [0.045]	0.073** (0.036) [0.044]	0.031 (0.029) [0.280]	0.032 (0.029) [0.274]
T × Local × Explicit	-0.052* (0.032) [0.100]	-0.052 (0.032) [0.102]	-0.043 (0.034) [0.203]	-0.042 (0.034) [0.207]	-0.026 (0.025) [0.297]	-0.025 (0.025) [0.303]
T × Refugee × Implicit	0.015 (0.023) [0.515]	0.015 (0.023) [0.507]	0.004 (0.023) [0.870]	0.004 (0.023) [0.859]	0.017 (0.028) [0.542]	0.017 (0.028) [0.535]
T × Refugee × Explicit	-0.037* (0.019) [0.053]	-0.036* (0.019) [0.054]	-0.038* (0.022) [0.083]	-0.038* (0.022) [0.085]	-0.032* (0.019) [0.096]	-0.032* (0.019) [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 A9: 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
$H_0 : T \times \text{Local} \times \text{Implicit} = \text{Refugee}$	0.107
$H_0 : T \times \text{Local} \times \text{Explicit} = \text{Refugee}$	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 A10: Explicit bias among locals

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

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 constructed 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

Table A10 – continued

Variable	Treated	Mean	N
Working with a refugee will reduce my productivity	0.210 (0.258)	2.593	273

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 constructed 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.

A2 Appendix: Outcomes survey questions and IAT

1. **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" (words are the same stimuli as the IAT, listed in Appendix Figure A3).
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?
 - Of these, how many would be refugees?
 - Of these, how many would be Ugandans?
4. 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.