**Maybe in My Backyard: Dynamics of Refugee-Host Cooperation**

by

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# DEDICATION

To my research team and all those in Uganda who shared their knowledge with me.

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# ABSTRACT

Countries like Uganda receive tens of thousands of refugees each year as a result of regional conflicts. In these contexts, host and refugee communities are brought into sustained contact and must collaborate to pursue shared goals, often with the support of programs designed to foster intergroup cooperation. However, when evaluating an NGO-run mixed farmer group program in northern Uganda, I find that even Ugandan nationals who express positive attitudes toward refugees as a group can still hold prejudiced beliefs about how individual refugees will behave as cooperative partners — beliefs that prove difficult to change even under ideal contact conditions. Existing theories fall short of explaining why host populations can express acceptance of the outgroup as a whole while simultaneously acting on prejudiced expectations toward outgroup individuals in cooperative settings. To address this gap, I introduce a distinction between two subtypes of prejudice: *outgroup animus*, generalized hostility toward the outgroup, and *prejudicial heuristics*, situation-specific beliefs about how an outgroup individual is likely to behave. I argue that outgroup animus governs whether people enter intergroup settings, while prejudicial heuristics shape how they cooperate once inside them. When heuristics are anchored in structural conditions — in this case, the humanitarian aid system — interpersonal contact alone cannot dislodge them. Combining qualitative fieldwork, an original survey (n = 1,006) and vignette experiments (n = 816), I show that nationals in mixed farmer groups hold lower outgroup animus than those in homogeneous groups, yet are no more willing — and sometimes less willing — to cooperate with refugees in scenarios that mirror real-world cooperative dilemmas. Through these experiments, I demonstrate how prejudicial heuristics undermine cooperation by leading refugees and Ugandan nationals to adopt divergent cooperative strategies: nationals discount refugees' cooperative signals because they believe aid reduces refugees' incentive to work, while refugees respond to their partners' behavior but receive little reciprocation. This asymmetry produces a downward spiral that traps both groups in a low-cooperation equilibrium the program was designed to prevent. These findings suggest that interventions aimed at fostering intergroup cooperation must look beyond attitude change and address the structural conditions that sustain the prejudicial heuristics governing how people actually behave when they must work together.

# CHAPTER 1

# Introduction

Pamela was 19 years old when an NGO came to her village in Uganda to recruit people to join their program where they create new farmer groups with Ugandans and refugees. She had lived her whole life in the West Nile region of Uganda when as a teenager, she started seeing a United Nations High Commissioner for Refugees (UNHCR) presence and she heard that they were settling South Sudanese refugees who were fleeing the ongoing civil war just across the border. Pamela decided to join a mixed farmers group, one that had both refugees and Ugandan nationals, and found that she got along better with the South Sudanese Kakwa refugees in her group than other nationals because they were younger and they shared a similar language anyway. She was a talkative young woman who found it easier to connect with people who also talked. As she said, "[Refugees] are always talking, they bring stories at any time, you can't interact with people who don't talk." She ended up forming close bonds with refugees and found connections with refugees mutually beneficial. When she got sick, she was referred to a hospital that would charge her more money than she could afford. But when a refugee friend she made who she had helped in the past heard about this, the friend connected Pamela to another refugee in Gulu, where she was treated for free. She had immense gratitude for this, as she recounted the story she said, "That's why I am alive here."

However, when she was asked about working together with refugees in the farmer groups, she was reluctant to say at first, but she did not have positive things to say. She said that refugees were "stubborn and didn't like work", "they don't listen and they are not cooperative" and that they "like acting sharp". This pattern of rhetoric was common in interviews with Ugandans. They often

talked about having good relations with refugees, even calling them "our brothers and sisters". Older Ugandans would even sometimes talk about their experiences as refugees themselves in South Sudan in the past, and their shared experiences with current refugees. However, when they started talking about working with refugees in farmer groups, they rarely had good things to say, often saying that refugees did not like working and that they found themselves doing more work than refugees on their group plots in the end.

## 1.1 The puzzle

As of 2024, more than 122 million people worldwide were forcibly displaced. Pamela lives in Uganda, a country where the consequences of this displacement are felt acutely—Uganda hosts the third-largest refugee population in the world at 1.9 million refugees, the vast majority of them from South Sudan. The West Nile region, where Pamela lives, sits on the South Sudanese border and has a long history as both a sending and receiving area for displaced populations: Ugandans fled to South Sudan during civil conflict and South Sudanese have also fled to safety in Uganda during their own civil war. This shared history of displacement means that many Ugandans in the region feel genuine sympathy for refugees. They are familiar with what it means to be displaced, and they often share ethnic and linguistic ties with the communities now settled among them.

Yet familiarity and goodwill have not translated straightforwardly into productive cooperation. Across interviews, Ugandans described warm personal relationships with refugee neighbors while simultaneously voicing complaints about working alongside them in farmer groups. Pamela's case is not an anomaly but a pattern: nationals who express low hostility toward refugees as a group still hold strong, situation-specific beliefs about how refugees will behave as cooperative partners—beliefs that shape their own willingness to invest effort and share resources. This disconnect between general attitudes and situational behavior lies at the heart of the puzzle this dissertation addresses. For countries like Uganda who host large refugee populations, the stakes are considerable. Governments and international organizations increasingly seek not only to settle refugees but to integrate them into local economies, often through programs that require sustained

cooperation between refugees and host communities. If these programs succeed only at the level of interpersonal warmth but fail to produce durable cooperation, they risk creating the appearance of social cohesion without its substance—and the frustrations that accumulate when cooperation breaks down can ultimately erode the goodwill that existed at the outset.

## 1.2 Intergroup contact and its limits

For decades, scholars have theorized and tested intergroup contact as an effective way to promote cohesion among diverse populations by reducing prejudice (Allport, 1954; Pettigrew & Tropp, 2006). Many NGO and government programs, including the farmer group program I study in this dissertation, draw on intergroup contact theory as a basis for their theory of change. The logic is intuitive: bring refugees and nationals together in structured, goal-oriented settings, and the repeated cooperative interaction will build trust and reduce prejudice. As one program official put it, "Peace... it's not something that comes like the blink of an eye." Once prejudice is reduced, the theory assumes, broader social cohesion and cooperation will follow. However, the scholarly evidence offers a more complicated picture. Even when intergroup contact occurs under optimal conditions (Allport, 1954; Pettigrew & Tropp, 2006), prejudice is not always reduced (Mousa, 2020; Scacco & Warren, 2018). Recent meta-analyses highlight a "generalization problem"—while intergroup contact can reduce prejudice toward outgroup *individuals*, it is less effective at reducing prejudice toward the outgroup *in general* (Lowe, 2025; Paluck, Green, & Green, 2019). Furthermore, non-optimal or negative intergroup contact can worsen outgroup attitudes and behavior, and in some cases, even optimal contact can produce negative outcomes (Ghosh, Kundu, Lowe, & Nellis, 2025; Lowe, 2021). Given these mixed findings on the relationship between contact and prejudice alone, it is far from clear that intergroup interventions can go one step further—fostering not just warmer attitudes but active, sustained cooperation.

A further complication is that most of the intergroup contact literature focuses on psychological responses to the outgroup while paying less attention to the structural and systemic factors that shape intergroup beliefs (Brauer, 2024; Nathan & Sands, 2023). Factors such as elite rhetoric,

economic conditions, and distributive politics operate outside the intergroup interaction itself, and they can sustain prejudice even when interpersonal contact is positive. This is particularly relevant in refugee-hosting contexts, where the humanitarian aid system creates a structural asymmetry between refugees and nationals that neither group controls but both respond to.

## 1.3 The theoretical framework

In this dissertation, I extend the causal chain from intergroup contact to social cohesion—specifically, livelihood cooperation—and theorize how prejudice plays a mediating role. Central to my argument is a distinction between two subtypes of prejudice: *outgroup animus* and *prejudicial heuristics*. Outgroup animus refers to hostile, generalized beliefs about the outgroup as a whole. It is what makes someone reluctant to enter an intergroup setting in the first place—a broad aversion to interaction with the outgroup. Prejudicial heuristics, by contrast, are beliefs not about the outgroup in the abstract but about how any specific outgroup individual is likely to behave in a given situation. They function as cognitive shortcuts, activated during interactions in low-familiarity environments where direct experience with the outgroup is limited. Prejudicial heuristics do not block entry into intergroup settings, but they can derail cooperation from within by shaping how people interpret their partners' behavior and decide whether to reciprocate.

This distinction matters because successful intergroup cooperation requires two sequential steps: people must first *enter* a cooperative setting, and then they must *act* cooperatively within it. I argue that a different subtype of prejudice governs each step—outgroup animus shapes the decision to engage, while prejudicial heuristics shape the quality of cooperation once engagement occurs. A person with low animus may willingly join a mixed group, yet their prejudicial heuristics lead them to act with mistrust and self-protection when cooperation actually begins. If those heuristics prove resistant to updating, the person will continue choosing suboptimal but self-protective strategies even as they accumulate positive experience with their outgroup partners.

This resistance to updating is not arbitrary. I argue that whether prejudicial heuristics update depends on their underlying source. Heuristics rooted in individual factors—personal experiences

with outgroup members, or beliefs about a group's intrinsic character—are more amenable to change through direct contact. But heuristics rooted in systemic factors—beliefs about how external environments and institutions shape behavior—prove far more persistent, because the structural condition that generated the heuristic remains in place regardless of what any individual outgroup member does. In the Ugandan context, the relevant systemic factor is the humanitarian aid system. Nationals hold the heuristic that refugees are unreliable cooperative partners because they can fall back on food aid, making them less willing to invest effort in farming. This belief is anchored in a structural reality—refugees do receive aid—even though the behavioral prediction it generates (that refugees will not work) is not supported by the evidence. Because the aid system persists, no amount of individual cooperative behavior by a refugee can dislodge the heuristic; the national simply reinterprets the refugee's effort as temporary, concluding that she will eventually revert to relying on aid.

The consequences for cooperation are asymmetric. When both groups carry prejudicial heuristics of different strengths, they play fundamentally different strategies in response to the same information. If one group updates its expectations in response to its partner's behavior while the other holds to a fixed prior, the updating group will grow frustrated by the other's persistent mistrust, while the non-updating group will feel confirmed in its low expectations. Both sides may then revert to their baseline positions—trapping both groups in an uncooperative equilibrium that the intergroup setting was designed to prevent, and potentially reinforcing animus toward the outgroup as a whole.

## 1.4 The empirical setting

I examine these dynamics by studying a farmer group program run by the Northern Uganda Resilience Initiative (NURI) in the West Nile region. The program brings Ugandan nationals and South Sudanese refugees together in mixed farmer groups, where they farm communal plots, receive agricultural training, and share harvests. The program's theory of change rests implicitly on intergroup contact theory: sustained, cooperative interaction between refugees and nationals will

build trust, reduce prejudice, and give refugees access to land through relationships with national co-members.

Land is central to the program's design. Refugees in Uganda's settlement system cannot own land, but they can lease it from nationals. Mixed farmer groups are intended to facilitate exactly this—the friendships and working relationships they foster are valued in part because they let refugees access larger plots for income-generating agriculture. As one NURI official explained, "The reason why we make them as mixed groups is, one, we want these refugees also [to] learn peace from the nationals in the country. Two, their coexistence promotes networking so that the friendship they can make a refugee to acquire bigger size of land." Refugee-only groups, by contrast, are limited to "small-scale kitchen gardening" on plots within their compounds, sufficient for household nutrition but not for market production. This means that refugees who want to farm for income have strong incentives to join mixed groups, even if they would prefer not to interact with nationals.

Whether nationals participate in mixed or homogeneous groups is endogenous: those in mixed groups self-selected into them. Nationals typically have more outside options than refugees—access to government-organized and locally formed farmer groups that refugees cannot join—so those who choose mixed groups are likely already open to interacting with refugees. This creates a setting where intergroup contact occurs under unusually favorable conditions. If cooperation fails even here, among self-selected, low-animus participants, then something beyond general attitudes is driving the breakdown.

## 1.5 Summary of findings

Drawing on an original survey of 1,006 respondents, vignette experiments embedded within the survey (n = 816), an iterated cooperation game, qualitative interviews, and administrative attendance data, I find a consistent pattern. Ugandan nationals in mixed farmer groups are more accepting of refugees than nationals in homogeneous groups—they are more willing to have refugees as neighbors, friends, and fellow income-generating partners. This is consistent with intergroup

contact theory's prediction that sustained contact reduces outgroup animus.

Yet when asked to cooperate with a refugee in concrete, situationally specific scenarios—sharing food aid, leasing land, negotiating rent, resolving disputes—nationals in mixed groups are no more willing, and sometimes significantly *less* willing, than nationals in homogeneous groups. The disconnect is driven by prejudicial heuristics, particularly the belief that refugees are unreliable partners because they receive humanitarian aid and therefore lack the incentive to work. This heuristic appears consistently across interviews, vignette debriefs, and the cooperation game, and it proves resistant to updating: nationals discount cooperative signals from refugees, reinterpreting positive behavior through the same story rather than revising their expectations.

Refugees, by contrast, do not hold a comparably strong heuristic about how nationals will behave. Their baseline expectations for nationals and co-refugees are similar, and they are responsive to their partners' behavior—rewarding cooperation and penalizing defection. But they face partners who do not reciprocate, creating an asymmetry that can trap both groups in a low-cooperation equilibrium. Attendance data from planting sessions—the most labor-intensive group activities—further undercuts the factual premise of nationals' heuristic: refugees attend at rates comparable to nationals once small-group composition effects are accounted for. The belief persists not because it is accurate but because it is anchored in a structural condition, the aid system, that no amount of individual-level cooperative behavior can address.

I also test two alternative explanations. First, that nationals hold refugees to a higher work standard than co-nationals, which could explain the outgroup penalty without invoking prejudicial heuristics. A vignette experiment about a group member missing work finds no evidence for this: both nationals and refugees evaluate ingroup and outgroup absentees identically. Second, that relative deprivation—the sense of being worse off than the outgroup—drives the reluctance to cooperate. While refugees do overwhelmingly report feeling worse off than nationals, priming relative deprivation experimentally does not move either group's willingness to share resources.

## 1.6 Contributions

This dissertation makes three contributions to the study of intergroup relations and cooperation. First, while the literature rigorously examines the link between intergroup contact and prejudice, it often stops short of tracing the causal chain beyond that point, implicitly assuming that prejudice reduction leads directly to social cohesion and cooperation. I push past this assumption by examining how individuals actually make cooperative decisions in intergroup settings, with particular attention to the mediating role of different types of prejudice. I show that contact can reduce outgroup animus without improving cooperation, because the prejudicial heuristics that govern situational decision-making operate on a different register than general attitudes—one that contact alone may not reach. Second, I offer an explanation for why intergroup contact interventions produce inconsistent results across different outcome measures. Most interventions are designed in ways that primarily engage prejudicial heuristics—through personalized, small-group interaction—yet they are frequently evaluated against measures of outgroup animus. This mismatch between what interventions target and what they measure can obscure both their genuine effects and their limitations. I also show how the persistence of prejudicial heuristics and their asymmetric effects across groups can trap diverse groups in non-cooperative equilibria, even when members entered the setting with goodwill. The finding that heuristics anchored in systemic factors resist updating through interpersonal contact suggests that program design must address structural conditions, not just facilitate interaction. Third, I explore these dynamics in the setting where most real-world intergroup contact occurs—one where people can self-sort according to their existing attitudes. Outside of controlled or coercive environments like randomized trials, schools, or military conscription, the intergroup contact that happens naturally involves some degree of selection. The people most willing to interact with outgroups are often those who are least prejudiced to begin with. If cooperation does not improve even among these self-selected, low-animus participants, then we are missing a crucial link between contact and cooperation—and it is this link that my dissertation seeks to identify.

## 1.7 Plan of the dissertation

The remainder of this dissertation is organized as follows. Chapter 2 develops the theoretical framework. I distinguish between outgroup animus and prejudicial heuristics, explain how each maps onto a different stage of the cooperative process, and theorize why heuristics anchored in systemic factors—particularly the humanitarian aid distribution system—resist updating even under favorable contact conditions. I also situate this framework within the existing literature on intergroup contact theory.

Chapter 3 introduces the empirical setting. I describe the NURI farmer group program, including how groups are formed, the self-selection process for nationals and refugees, and the land dynamics that structure cooperation within mixed groups. I then present original descriptive evidence on group attendance patterns, drawing on nearly 20,000 individual attendance entries across 62 groups. This chapter establishes the context in which refugees and nationals meet and cooperate, which informs the interpretation of the experimental results in the following chapter.

Chapter 4 presents the main empirical analysis. Using survey data, I first examine whether mixed-group membership is associated with greater land access for refugees and lower outgroup animus among nationals. I then turn to the core question of cooperation, using vignette experiments that present respondents with concrete scenarios they would encounter in farmer groups—sharing aid, leasing land, negotiating rent, and resolving disputes over shared resources. An iterated cooperation game tests whether refugees and nationals update their expectations in response to their partner's behavior, and qualitative interviews trace the reasoning behind respondents' choices. I also test two alternative explanations—differential work standards and relative deprivation—and find no support for either.

Chapter 5 concludes by discussing the implications of these findings for intergroup contact theory and for the design of programs that seek to foster cooperation between refugees and host communities. I consider what it would mean to design interventions that target not just outgroup animus but the systemic conditions that sustain prejudicial heuristics, and I outline directions for

future research.

# CHAPTER 2

# Theory

While behavioral economics literature has illuminated the micro-foundations of cooperation—how people reciprocate, how they respond to inequality, how sanctions shape behavior—much of this work unfolds in controlled lab settings deliberately designed to shut out external influences. However, cooperation does not exist in a vacuum. Especially in intergroup settings, pre-existing prejudice will affect cooperation dynamics and whether one even wants to cooperate in the first place. I follow many others' definition of prejudice as negative attitudes towards members of an outgroup, solely because of their membership in the outgroup (Allport, 1954; Dovidio & Gaertner, 2010).

Intergroup contact theory is foundational to scholarship on cooperation in diverse settings (Allport, 1954). Scholars have long explored whether intergroup contact can reduce outgroup prejudice and also increase willingness to interact and work with the outgroup in the future (Allport, 1954; Ghosh, n.d.; Scacco & Warren, 2018). However, even when intergroup contact occurs under optimal conditions (Allport, 1954; Pettigrew & Tropp, 2006), prejudice is not always reduced (Mousa, 2020; Scacco & Warren, 2018). Recent meta-analyses highlight a "generalization problem"—while intergroup contact can reduce prejudice toward outgroup *individuals*, contact is less effective in reducing prejudice toward the outgroup *in general* (Lowe, 2025; Paluck et al., 2019). Furthermore, research has shown that non-optimal or negative intergroup contact can worsen outgroup attitudes and behavior, and in some cases, even optimal contact can produce negative outcomes (Ghosh et al., 2025; Lowe, 2021).

As explained in the introduction, central to my argument is a distinction between two sub-types of prejudice, *outgroup animus* and *prejudicial heuristics*. I define outgroup animus as hostile, generalized beliefs about the outgroup as a whole. While *prejudicial heuristics* are beliefs not about the outgroup in the abstract, but about how any specific outgroup individual is likely to behave in a given situation. These function as cognitive shortcuts activated during interactions with outgroup individuals, particularly in low-familiarity environments where direct experience with the outgroup is limited. Prejudicial heuristics do not block entry into intergroup settings, but they can derail intergroup cooperation and impede contact from producing positive outcomes. I argue that understanding these sub-types is crucial for understanding how intergroup contact affects prejudice and in turn, shapes cooperation.

Scholars familiar with the taste-based vs. statistical discrimination debate in the economics literature will find my definition of outgroup animus and prejudicial heuristics similar to these concepts, respectively. Similar to my concept of *outgroup animus*, taste-based discrimination models conceptualize prejudice as hostility toward the outgroup, which can manifest in a willingness incur a cost to avoid interaction with outgroup members (Becker, 1971; Guryan & Charles, 2013). Meanwhile, statistical discrimination models parallel my definition of *prejudicial heuristics* as they characterize prejudice as attempts to evaluate outgroup individuals based on limited or imperfect information, often leading to stereotypes based on group membership (Arrow, 1972; Guryan & Charles, 2013). However, while economists argue whether discrimination is better explained by a model of taste-based or statistical discrimination, I explain through my clarification of the two sub-types of prejudice that the two kinds of discrimination can exist at the same time. Discrimination based on animus and discrimination due to lack of information are not mutually exclusive. Furthermore, while my work is related to the models of discrimination, it is not an exact replica of them. Under a statistical discrimination model, a lack of information is what leads to discrimination. However, I argue that even with more information, prejudicial heuristics can still be difficult to change.

Under a standard statistical discrimination model, more information should reduce discrimi-

nation as priors are updated. My framework adds a condition: when the prior is anchored in a structural condition that the person can independently observe, it is not merely a lack of information but an inference drawn from knowledge about the outgroup's circumstances. Additional interpersonal information may be insufficiently informative to shift it — not because the person refuses to update, but because the structural basis for the prior remains intact. In a later section, I will lay out the different sources of these heuristics and how new information about the outgroup does and does not target these different sources to change the heuristics.

## 2.1 Intergroup contact and prejudice

Before discussing how external context shapes prejudicial heuristics, I first examine the extensive literature exploring the psychological mechanisms through which intergroup contact is theorized to reduce prejudice. The academic rationale for implementing intergroup contact interventions to reduce prejudice largely stems from the "Decategorized Contact Model" (DCM), proposed by Brewer and Miller (1984). A key mental process that intergroup contact is meant to trigger to reduce outgroup prejudice is *decategorization*, which "refers to a process of reducing the salience of ingroup–outgroup distinctions" so that someone is seen as an individual rather than as part of a larger, undifferentiated group (Levine & Hogg, 2010). This model comes from the finding that putting people into groups is enough to create intergroup bias, even if these groups have no characteristics of value (Tajfel, Billig, Bundy, & Flament, 1971). It proposes that if we can break down these categories in people's minds, we can also reduce intergroup bias. By forming personal relationships through intergroup contact, people will decategorize the outgroup by having "more individuated perceptions of others" (González & Brown, 2006). Therefore, intergroup contact interventions usually prescribe one-on-one or small group contact. However, psychologists have questioned whether positive effects from intergroup interactions can be generalized to beliefs about the whole outgroup (Brown & Turner, 1981). Scholars have found that the process of decategorization is, in fact, the reason for intergroup contact not working to reduce prejudice. When an individual is decategorized from the outgroup, there is no psychological link between the

outgroup individuals that they interacted with in the intergroup setting and the outgroup as a whole (Ensari & Miller, 2002; Rothbart & John, 1985; Vivian, Hewstone, & R. Brown, 1997). Moreover, positive interactions with outgroup individuals can lead people to "fence off" that individual as an exceptional member of the outgroup, while retaining prejudice and stereotypes for the outgroup in general (Allport, 1954; Kunda & Oleson, 1995, 1997; Richards & Hewstone, 2001; Weber & Crocker, 1983; Yzerbyt, Coull, & Rocher, 1999).

This understanding of the psychology behind how prejudice is (or is not) reduced through intergroup contact, can help explain some puzzling results we still see from the intergroup contact literature. Some studies have found that while behavior and attitudes towards outgroup individuals within the intergroup situation change, this change does not spread to the wider outgroup (Lowe, 2025). For example, Mousa (2020) finds that while there is increased social cohesion between Muslim and Christian players within mixed soccer teams, this does not translate into a greater willingness to engage with the outgroup beyond the team setting (e.g., at other social events, restaurants). Chakraborty et al. find that while deep contact improved ties with an outgroup partner and broad contact changed misperceptions of outgroup strangers, "neither type of contact changes behavior towards the wider outgroup" (2024). It is possible that those who participated in the interventions fenced off the outgroup individuals they met from the general outgroup, allowing them to treat the individuals better without changing their general outgroup animosity.

It can also explain another puzzle in the literature: why intergroup contact interventions appear more effective at improving behavior toward the outgroup than at improving negative outgroup attitudes (Mousa, 2020; Paluck et al., 2019; Scacco & Warren, 2018). Intergroup contact interventions target both outgroup animus and prejudicial heuristics. Prejudicial heuristics can come from priors that are based on outgroup animus, but these two sub-types of prejudice are not always affected and activated by outgroup contact in the same way. People can be more prejudiced on one dimension than the other. Since research shows it is difficult for people to generalize experiences with outgroup individuals to abstract beliefs about the broader outgroup with which they have little familiarity, outgroup animus is likely only *weakly* influenced by individual-level interactions (Ensari & Miller,

2002; Rothbart & John, 1985; Vivian et al., 1997). Consequently, the effects of intergroup contact interventions are more likely to be seen in changes in people's prejudicial heuristics that they use to judge individuals, not in their general outgroup animus.

I argue that people engage with outgroup individuals, whether familiar or strangers, through the lens of their prejudicial heuristics. These heuristics are not beliefs about *specific* individuals, but beliefs about how *any* individual with the outgroup identity will behave, which are activated in any interaction with an outgroup individual, even strangers. Thus, intergroup contact can significantly shift behavior towards outgroup strangers without producing parallel changes in general attitudinal measures. Scacco and Warren's study in Nigeria is an example of this: while those assigned to heterogeneous classrooms did exhibit less discriminatory behavior toward the outgroup—including strangers—in dictator and destruction games than those assigned to homogeneous classrooms, both treatment groups had similar levels of prejudiced attitudes (2018. My project diverges from the aforementioned studies in that while they find that intergroup contact can reduce discriminatory behavior toward outgroup *individuals* even when people still hold prejudiced beliefs about the general outgroup, I explore intergroup contact and cooperation in a setting where outgroup animus is low but discriminatory behavior toward outgroup individuals still persists.

## 2.2 Linking prejudice to cooperation

To understand the mixed results of intergroup interventions aimed at fostering cooperation and why people with low outgroup animus might still exhibit discriminatory behavior, we must examine how people decide whether to cooperate in the first place. Successful intergroup cooperation requires two sequential steps: people must first *enter* a cooperative setting, and then they must *act* cooperatively within it. I argue that a different sub-type of prejudice governs each step—*outgroup animus* shapes the decision to engage, while *prejudicial heuristics* shape the quality of cooperation once engagement occurs. In the first step, people either self-select into an intergroup setting or are placed there through some form of external pressure—a school assignment, military conscription, or random experimental assignment. I argue that outgroup animus is what conditions this initial

decision. Those who have high outgroup animus will be unwilling to enter an intergroup setting in the first place, because their negative generalized beliefs influences them to be averse to interaction with the outgroup at all. So, those who self-select into intergroup settings mostly have low outgroup animus. However, in a coerced setting, there will be a mix of people with low and high animus.

Even without such hostility, people may still carry *prejudicial heuristics*—beliefs not about the outgroup in the abstract, but about how any specific outgroup individual is likely to behave in a given situation. These function as cognitive shortcuts, particularly in low-familiarity environments where direct experience with the outgroup is limited. Prejudicial heuristics do not block entry into intergroup settings, but they can derail intergroup cooperation and impede contact from producing positive outcomes.

Once people have entered a cooperative setting, they must decide how to interact with the outgroup. Cooperation is not a single decision but an iterated process: at each stage, people observe what others do and update their expectations accordingly. This updating is where prejudicial heuristics exert their influence. Even when people hold low outgroup animus, they can carry strong priors about how outgroup individuals are likely to behave in specific situations — priors that produce lower baseline expectations and more cautious, self-protective behavior from the outset, before any interaction has occurred. When these priors are strong, the positive signals generated by a cooperative outgroup partner may be insufficient to shift them, and the person continues choosing suboptimal but self-protective moves even as new information accumulates. The outgroup partner, who may not hold a comparably strong prior, might even misinterpret this as baseline selfishness or hostility.

This creates a dynamic in which two mechanisms reinforce each other. First, because the prior is strong — particularly when it is anchored in a structural condition the person can independently observe, such as the availability of humanitarian aid — the positive signals generated by a few cooperative interactions are insufficient to shift it. Each cooperative act by the outgroup is discounted as too small relative to the weight of the prior. Second, the low initial expectations that the strong prior produces set the cooperation itself on a downward trajectory. Even if the outgroup is more

receptive and willing to update their prejudicial heuristics to play optimal cooperative moves, the outgroup will constantly be met by the ingroup with an unwillingness to cooperate optimally. This will likely lead the outgroup to feel frustrated and resentful because no matter what positive signals they send, the ingroup acts in a mistrustful way. Therefore, both groups will revert and stick to their original beliefs, even when they have received more information – trapping both groups in the baseline uncooperative equilibrium that might even reinforce animus towards the whole outgroup.

Prejudicial heuristics can distort expectations in either direction, priming people to anticipate outgroup behavior that is either too positive or too negative. This dynamic is visible in two self-selection settings where individuals with low outgroup animus voluntarily joined diverse groups, yet contact failed to produce positive effects. Ditlmann and Samii (2016) find that Arab youth who chose to participate in an intergroup peace program in Israel—and who held unusually favorable baseline attitudes toward Jewish peers—experienced a backlash effect after contact, likely because the interactions did not meet their elevated expectations. In the Ugandan farmer groups I study, the dynamic runs in the opposite direction: nationals' heuristics predisposed them to distrust improvements in refugees' behavior, preventing reciprocation even when refugees sent consistently cooperative signals. Together, these cases illustrate why reducing outgroup animus alone is insufficient for fostering sustained cooperation. Prejudicial heuristics must also be addressed as they shape the quality of cooperation within the intergroup setting itself.

## 2.3 Typology of people in cooperative settings

As discussed above, the level of outgroup animus and the strength of prejudicial heuristics vary across individuals, producing different cooperative profiles. In this section, I formalize these profiles and lay out four types of people in an intergroup setting. If they have low outgroup animus and self-selection into intergroup settings, I categorize them as the "friendly" type. If they have high outgroup animus and are unwilling to enter an intergroup setting unless coerced, they are a "hostile" type. If they have weak prejudicial heuristics, I call them "cooperators", if they have strong prejudicial heuristics, they are "non-cooperators". **Hostile non-cooperators** have both

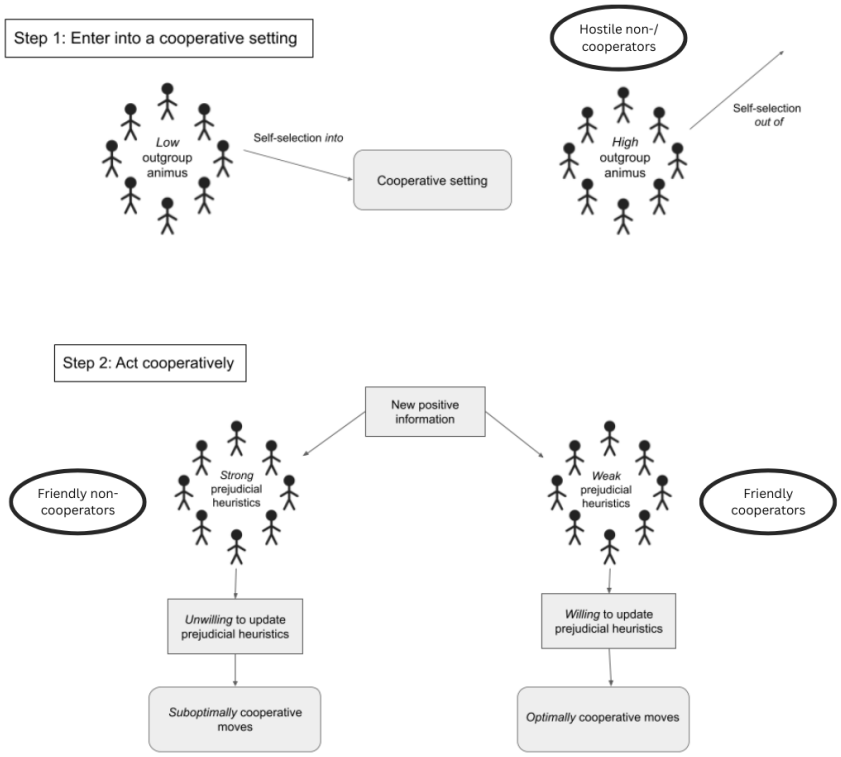



Figure 2.1: People with low outgroup animus are willing to self-select into intergroup cooperation settings, while those with high outgroup animus are not. Once in an intergroup setting, those with strong prejudicial heuristics will be less likely to update prejudicial heuristics and continue to play suboptimally cooperative moves, while with weak heuristics are willing to update to play optimally cooperative moves.

high animus **and** strong prejudicial heuristics. These individuals hold negative biases against the outgroup that prevent them from wanting to interact in the first place, and even when coerced into an intergroup situation, they do not update their beliefs in response to new information due to strong, structurally informed priors. **Hostile cooperators**, by contrast, may not choose to interact with the outgroup on their own, but once placed in an intergroup situation, because they have weak priors about outgroup behavior, they update when they receive positive information about outgroup members. We can observe this type in field experiments where participants are randomly assigned to intergroup or homogeneous settings to test whether contact improves attitudes and behavior. In some experiments, people behave in more cooperative and generous ways despite showing no

improvement in outgroup attitudes (Mousa, 2020; Paluck et al., 2019; Scacco & Warren, 2018). These are hostile cooperators: individuals who retain a general bias against the outgroup but are willing to update their behavioral expectations after direct interaction. Because farmer groups are not randomly assigned but allow self-selection, this type is unlikely to be common in that setting. **Friendly cooperators** do not hold strong general biases against the outgroup that would prevent interaction and have weak prejudicial heuristics. In a self-selection setting, this type is willing to join a mixed group and might have outgroup prejudice at the beginning but are willing to update quickly when receiving new and positive signals from the outgroup.

**Friendly non-cooperators** do not hold strong general biases against the outgroup that would prevent interaction, but they do hold strong prejudicial heuristics, which can be rooted in both individual and systemic factors, which I will explain later. In a self-selection setting, this type is willing to join a mixed group, but their heuristics can lead them to act less cooperatively and potentially disrupt group cohesion. But they are willing to join a mixed cooperative setting despite holding some doubts about whether the outgroup will cooperate. These types likely still need some incentive to enter intergroup settings or they might only enter when they have few alternative options. In the refugee resettlement setting, NGOs recognize that, all else equal, Ugandan nationals are unlikely to form groups with refugees spontaneously. Cooperation—even among homogeneous groups—requires effort to overcome barriers like communication and trust, and people naturally gravitate toward those who are easiest to work with (cite). NGO-supported farmer groups therefore provide material incentives, such as training, farming inputs, and market access, to encourage Ugandans and refugees to join mixed groups. As I explain later, it is not impossible for people with strong prejudicial heuristics to update positively. However, cooperation needs to take place in an appropriate setting to foster their willingness to update.

## 2.4 Persistence of prejudicial heuristics

The typology above identifies what people bring into an intergroup setting. But once inside the setting, can prejudicial heuristics be shifted by new information? The answer depends on the source

of the heuristic. Scholars theorize that one way intergroup contact changes attitudes and behavior is by learning about the outgroup, and many have examined how repeated interactions between individuals of different identity groups provide people with the opportunity to become familiar with the outgroup and replace prejudiced views (McLaren, 2003; Pettigrew, 1998, 2008; Pettigrew, Tropp, Wagner, & Christ, 2011). However, this process hinges on the assumption that people update their prejudiced beliefs after intergroup contact and that their interactions are positive enough to decrease prejudice.

Research in social psychology complicates this picture by exploring different effects of positive and negative intergroup contact on prejudice (Schäfer et al., 2021). Barlow et al. (2012) finds that negative contact could potentially have a stronger effect on prejudice than positive contact, and Paolini et al. (2010) finds that negative contact increases salience of identity categories more than positive contact. Research on intergroup reciprocity usually focuses on negative reciprocity and has found strong evidence for it in diverse settings. People are more willing to punish outgroup members for bad behavior, going so far as to perpetrate "vicarious retribution", where outgroup members are punished for the negative behavior of an unrelated member of the outgroup (Lickel, Miller, Stenstrom, Denson, & Schmader, 2006; Nawata & Yamaguchi, 2013; Stenstrom, Lickel, Denson, & Miller, 2008). I argue that even when intergroup contact is positive, prejudicial heuristics informed by persistent structural conditions will not update easily, because the new information from contact is too weak relative to the prior that the structural condition supports. When heuristics are rooted in systemic factors, positive contact alone cannot dislodge them; the structural conditions that generated the heuristic must also change for updating to occur.

I argue that whether prejudicial heuristics update depends on their underlying source. Prejudicial heuristics can be formed by outgroup beliefs rooted in either *individual* or *systemic* factors. Beliefs rooted in individual factors can come from beliefs about a group's intrinsic character, which outgroup animus is also based on, or previous interactions with individuals from that outgroup. Heuristics rooted in systemic factors are beliefs about how our external environments have and will shape our character and behavior. A simple example of this is the prejudiced belief that people who

grow up in an area with bad public schools will not be able to do well in prestigious universities because they have not been adequately prepared for the rigor. If this belief forms the basis of a privileged student's prejudicial heuristic, they might be hesitant to share resources during group work with those who do not come from elite high schools, because they do not think the less privileged student would have the ability to reciprocate.

As discussed above, much of the literature on prejudice focuses on individual factors of prejudice and changing one's internal mental processes regarding these factors, like with the Decategorization Contact Model. However, the persistence of prejudice can also be explained by one's external environment. Scholars have pointed out that much of the intergroup contact literature has been focused on psychological responses to the outgroup, and less emphasis has been put on the systemic factors that influence outgroup beliefs (Brauer, 2024; Nathan & Sands, 2023). Factors such as the intensity of intergroup violence could harden ethnic boundaries and increase the salience of ethnic stereotypes (De Waal, 2005; Fearon & Laitin, 2000). Sometimes, one group could have more persistent prejudiced beliefs because identity cleavages are more salient for them due to historical or other reasons. When this is the case, the same intergroup contact intervention might have different effects for different identity groups (Ditlmann & Samii, 2016; Ghosh et al., 2025; Scacco & Warren, 2018). These interventions were carried out in contexts where intergroup relations were already tense due to long historical conflicts. It is complicated why one group's prejudice might be more persistent than the other, but a common explanation for this is that it depends on whether a group is the majority or minority in their context. However, studies do not find a consistent pattern from this explanation. In Ditlmann and Samii's study, intergroup contact had a backlash effect for Arab-Palestinians youths, who are the minority in Israel, where their study took place. While Ghosh and Nellis' study in India found that Hindus, the majority group, were the ones to react negatively to intergroup contact not Muslims, the minority group.

In peacetime settings, other systemic factors such as elite mobilization and economic conditions can also influence how strong and persistence prejudice is (Nathan & Sands, 2023). For example, when forming opinions, people give more weight to experts and authority figures (Cialdini, 2001;

Paluck & Shepherd, 2012). And indeed, scholars have found that elite rhetoric can either increase or decrease conflictual attitudes towards the outgroup (Hopkins, 2010; Paluck, Shepherd, & Aronow, 2016). Therefore, if prevailing elite rhetoric is antagonistic toward the outgroup, it can raise the baseline level of prejudicial heuristics in a society and actively work against individual-level interventions aimed at improving intergroup relations. Economic conditions constitute another systemic factor: relative deprivation theory holds that environments of scarcity intensify feelings of intergroup competition, hardening prejudice along group lines (Pettigrew et al., 2008). Both forces operate outside the intergroup interaction itself, which is why individual-level contact interventions alone can often be insufficient to change prejudicial heuristics.

A particularly relevant systemic factor to context of refugee settlements is distributive politics—the study of who receives what resources and why—one well-established in political science yet underexplored in intergroup contact research. A robust literature examines how distributive dynamics shape the relationship between politicians and communities, as well as how individual voters respond to and engage with political actors (Golden & Min, 2013; Kramon & Posner, 2013). Scholars have explored the intersection of intergroup relations and distributive politics by examining how community diversity and segregation shape political decision-making in the allocation of public goods and services (Alesina, Baqir, & Easterly, 1999; Ejdemyr, Kramon, & Robinson, 2018). Much of this work in political science has focused on the politician-voter relationship, leaving the downstream consequences of distributive politics for how ordinary citizens interact and cooperate with one another across group lines comparatively understudied. In the next chapter, I explain how aid distribution in refugee settlements influence the cooperation dynamics within mixed farmer groups by creating prejudicial heuristics about refugees' incentives to cooperate.

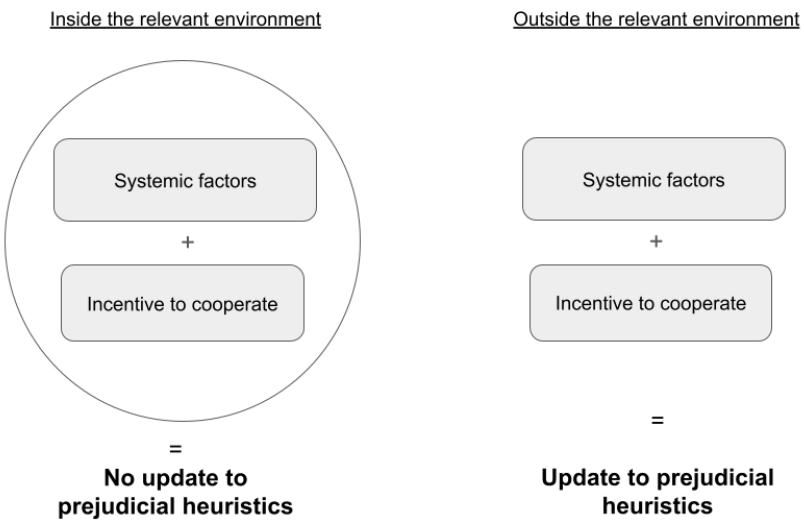



Figure 2.2: If prejudicial heuristics are based on systemic factors, positive updating of these heuristics will be dependent on whether or not the intergroup interaction takes place within an environment relevant to the systemic factors. If it is outside the relevant environment, there is a better chance of it to be updated.

## 2.5 External environments and systemic factors of prejudicial heuristics

In the previous section, I discuss how prejudicial heuristics can be anchored in systemic conditions—elite rhetoric, economic deprivation, distributive politics—that operate outside the intergroup interaction itself. But this raises a further question: if systemic factors make heuristics resistant to individual-level signals, are there any conditions under which they can be updated? I argue that when prejudicial heuristics are rooted in systemic factors, whether they update depends not only on the quality of the intergroup interaction itself, but on whether that interaction takes place in an environment where the underlying systemic factors have changed. A new setting creates the conditions for updating because it decouples the outgroup individual from the structural context that generated the heuristic in the first place.

When a person evaluates whether or not to trust the outgroup to cooperate, they evaluate two factors: 1) the outgroup individual's ability to cooperate; 2) their incentives to cooperate. I

define "ability" as the skills, knowledge and disposition a person has that are relevant for the task at hand—qualities that are not fixed but can be developed and are often shaped by systemic conditions. A heuristic that the outgroup lacks the ability to cooperate may stem not from beliefs about intrinsic character, but from beliefs about the structural disadvantages the outgroup faces—limited access to education, training, or resources. An intergroup intervention may directly address the ability dimension by providing training, resources, or opportunities for the outgroup to demonstrate competence in observable ways.

The incentive dimension, however, operates differently. If the prior that the outgroup lacks sufficient incentive to cooperate is anchored in a structural condition that persists independently of the intergroup interaction — an external support system, an alternative source of income, a competing institutional affiliation — then cooperative behavior within the interaction is discounted against knowledge about the outgroup's outside options. An outgroup member who cooperates today provides a positive signal, but that signal competes against a prior informed by external context. The prior is therefore strong, and cooperative behavior can be rationalized as temporary or strategic rather than as evidence of genuine commitment. Therefore, whether updating occurs depends on the setting. When an outgroup individual cooperates within a new institutional environment where the structural condition is absent, the setting itself contradicts the premise of the heuristic, and updating becomes possible. But when the same individual cooperates within the very environment that generated the heuristic, the structural basis for discounting remains intact, and individual-level signals alone are insufficient to overwhelm the prior.

For example, let us say Person A graduated from the University of Michigan and therefore, has developed a prejudicial heuristic that everyone from the Ohio State University (OSU) takes people's ideas without credit. This heuristic is systemic in origin: it is rooted in the belief that OSU is a high-pressure, competitive school that socializes students to use unscrupulous ways to get ahead. So, when Person A encounters Person B, who graduated from OSU in the workplace, Person A will apply that heuristic to Person B and be unwilling to share ideas with them.

However, let's say Person A and B meet at a company that emphasizes a collaborative work

environment and creates strong incentives for co-workers to collaborate. While there is always a benefit to defecting, institutions can also increase the cost to defecting like using sanctioning and emphasizing reciprocal social norms. Since the systemic incentive structure underlying the heuristic about OSU students has changed, Person B's cooperative behavior is more legible to Person A as genuinely cooperative signal—rather than as behavior explained away by the same competitive pressures that generated the heuristic in the first place. However, had Person A encountered Person B within a company that has the same competitive environment, the same cooperative behavior would carry less evidential weight: the competitive environment that generated the heuristic is still present, leaving open the possibility that cooperation is strategic rather than genuine.

This framework informs the Ugandan context examined in the next chapter. Farmer group programs have increased refugees' observable farming skills, giving nationals the opportunity to update their heuristics about refugees' ability to cooperate. However, because aid programs remain prevalent, nationals perceive refugees' incentives to cooperate as structurally low—refugees can always depend on external support rather than on the farmer group. The institutional environment addresses one dimension of the cooperation heuristic while leaving the other intact, which helps explain why intergroup cooperation in these settings remains partial even when contact is sustained and positive.

# CHAPTER 3

# Farmer Groups in Uganda: Ideal for Intergroup Cooperation?

## 3.1 Research Setting

Uganda is an apt case for examining questions about how cooperation develops among diverse populations because they host one of the highest refugee populations in the world (1.9 million), while also intentionally encouraging economic development among refugees rather than just providing humanitarian aid as a stopgap measure. As mentioned in the introduction, farmer groups help those who live in rural Uganda access economic opportunities. Therefore, cooperation and trust within these groups is vital for individual and collective economic growth as they are the main source of savings and asset development for much of the rural population. Furthermore, farmer groups are an ideal site to examine questions about cooperation in diverse populations because they consist of both mixed farmer groups, with both refugee and Ugandan national members, and homogeneous groups, with only refugee or national members in a group. It is a particularly apt institution for questions about intergroup contact in refugee hosting countries because an overwhelming proportion of the world's refugees are settled in rural areas and cooperation most commonly emerges through agricultural livelihoods.

Farmer groups are also ideal for testing contact theory because they meet Allport's four conditions for successful prejudice reduction: equal status within situation, common goals, intergroup cooperation and support of authorities. While there is normally a power difference between refugees and Ugandan nationals, as refugees live on land belonging to Ugandans (whether government, in-

dividual or communal land), farmer groups are designed to create in-group equal status between refugees and nationals. NGOs provide everyone in farmer groups the same training and resources and ensure that leadership positions are held equally by refugees and nationals. Furthermore, NGOs give authority support by guiding groups in making and enforcing group rules. Groups are also given a piece of communal farmland as part of their training, and have the opportunity to decide what they want to grow on it. The yield from this farmland is shared among members, giving them a common goal and encouraging intergroup cooperation, instead of competition.

Farmer groups are an important avenue for the development of livelihoods as they provide access to market and credit for business growth, and opportunities for collaboration with others (Baldassarri, 2015). Furthermore, 80% of Uganda's population relies on agriculture for their livelihood, and the distribution of agricultural land is a key part of refugee settlement policy to encourage self-reliance among refugees (UBOS, 2016). Therefore, both Ugandan nationals and refugees have incentives to participate and cooperate within these groups as they are the main source of savings and asset development for much of the rural population. The farmer groups I work with are in the West Nile region of Uganda, which hosts a large number of refugees, mostly from South Sudan and Democratic Republic of Congo (DRC).

**Refugee settlement policies**

I focus on Uganda's refugee settlement policy as it has been lauded as one of the most progressive in the world, and one that most treats refugees as a permanent, instead of temporary population (Tukundane & Kasujja, 2021). In 1999, the United Nations High Commissioner for Refugees (UNHCR) and the government of Uganda implemented the Self-Reliance Strategy (SRS) for refugees, under which refugees in settlements were given small plots of land to farm in order to promote self-reliance. The SRS sought to "integrate services provided to refugees into existing public service structures and make refugee settlements self-reliant by allocating land to refugees and allowing them free access to government health and education services" (Hovil, 2007). Due to this strategy, much of the aid for refugees in Uganda has been directed at agricultural development

programs to assist them in establishing self-reliant livelihoods. For this reason and the fact that refugees have freedom of movement and work, Uganda's refugee policies have been lauded as one of the most progressive in the world (Tukundane & Kasujja, 2021). This provides more opportunity for economic interaction between refugees and Ugandan nationals in refugee-hosting communities and they interact much more in Uganda than in other countries. In line with the contact theory hypothesis, Ugandans are also much more accepting of refugees compared to nationals of other refugee-hosting countries (Tu, 2024).

However, the roll out of the land distribution policy has been imperfect and refugees have either been given smaller parcels or less fertile land as Uganda ran into problems procuring land for the refugees. Refugees used to be allocated two separate plots of land for residence and agricultural use. However, the refugee population increased drastically in 2016 and 2017 and subsequently, refugees were only allocated plots for residential needs (*Understanding Land Dynamics and Livelihood in Refugee Hosting Districts of Northern Uganda*, 2018). Furthermore, sometimes the land is given to refugees with the approval and collaboration of the host community, and sometimes host communities are not consulted at all. This has created hostility among the host communities towards refugees as resources like firewood, land and water have become more scarce with the influx of refugees. As I will elaborate on later, one issue that was repeatedly brought up in interviews is "land snatching", which refers to Ugandans renting land to refugees but quickly taking the land back once refugees have done the work to clear it and make it suitable for farming.

### West Nile region

The farmer groups I study are located in the West Nile region of Uganda, which has not only gone through violent civil conflicts itself, but sits in the middle of countries that have had their own violent histories. The West Nile region is especially familiar with conflict and refugees. It borders South Sudan and civil wars in both countries mean that the West Nile region has seen both inflows and outflows of refugees throughout the last few decades. The West Nile region was the site of conflict between the government of Uganda and the Lord's Resistance Army, which forced many

Ugandans to flee to South Sudan for refuge. South Sudan has also experienced civil conflict, which forced its people to flee across the border to Uganda. The most recent event was in 2013, when a political dispute within the national government sparked widespread political violence across South Sudan (Van Laer, 2019). Uganda's, especially West Nile's, long history of refugee sending and receiving has made Ugandans fairly used to the idea of refugees in their community. While incidents of violence between nationals and refugees are rare, they do occasionally occur. The most recent example was in 2020, where clashes between host and refugees in the West Nile region resulted in South Sudanese refugees' homes being destroyed, many injuries and the deaths of ten refugees (Okiror, 2020).

**Land tenure systems**

Land tenure systems are central to the politics of rural sub-Saharan Africa, especially in Uganda as almost 80% of the population relies on agricultural for their livelihood and it contributed one-third to the country's GDP. There are four main categories of land in Uganda: customary, freehold, leasehold and mailo. Customary tenure is the most common form of tenure, with an estimated 84 percent of land in Uganda being held under customary tenure (Ali & Duponchel, 2018). Land under customary tenure is held in common by the community and governed by and for the community. Traditionally, customary land is managed by a village chief who decides how to distribute land and adjudicates when land disputes happen (Ocana, 2017). Under freehold tenure, landowners have a formal title to their land allowing them to hold it indefinitely and have total rights to sell or lease out the land as they wish. Under leasehold tenure, tenants are granted exclusive use of land by its owners for a period of time in return for a fee or service (Kyomugisha, 2008). Mailo tenure is similar to freehold tenure in that the landowner has formal rights over the land indefinitely. However, it is rooted in colonial law as it was granted by the British to their allies in the Buganda kingdom, where it is still the predominant form of tenure. It is estimated that about 10 percent of Uganda's land is held under Mailo tenure and it is still governed under Bugandan law and customs (Ali & Duponchel, 2018). Most of the land in the West Nile region is held under customary tenure

and often do not have formal titles dictating who has rights over the land. Therefore, the issue of land appropriation for refugee settlements can be complicated and tense as community members fight over who has the right to lease or sell the land for refugee settlements.

**Land acquisition process for refugee settlements**

The Office of the Prime Minister (OPM) in Uganda is responsible for acquiring land to settle refugees and there is variation in who the OPM goes to in order to negotiate land deals. The customary land-tenure system common in the West Nile region can make these negotiations confusing and difficult because it is often unclear who exactly is in charge of the land and has the right to lease it for building refugee settlements. According to reports by NGOs, sometimes the OPM excludes customary structures and leaders and goes directly to individual households to negotiate land deals (Van Laer, 2019). Landowners with big pieces of land are approached by the OPM or local leaders to offer part of their land to settle refugees, and sometimes landowners would be the first to approach the government (*Understanding Land Dynamics and Livelihood in Refugee Hosting Districts of Northern Uganda*, 2018).

Other times, the OPM goes to district leaders, which has caused problems as district leaders do not always include local leaders in the negotiations (Van Laer, 2019). Furthermore, when district leaders are involved in the negotiations, they receive and are in charge of distributing the portion of development funds that are allocated to the host community. Community members report being pressured by district leaders into giving up their land without monetary compensation in exchange for development of public services in their community (Zakaryan, 2018). Refugee settlement projects follow a 70/30 rule, where 70% of funds allocated for refugee settlement goes to the refugees and 30% goes to the host communities. These expected benefits range from access to public services - like health facilities, schools and roads - that are provided for refugees and employment or educational opportunities (*Understanding Land Dynamics and Livelihood in Refugee Hosting Districts of Northern Uganda*, 2018). However, local leaders and community

members have accused district leaders of not delivering these promised services and benefits to them (Van Laer, 2019).

The most common strategy is to work through local leaders and community structures to gain consent from the community to build refugee settlements. However, oftentimes community members have complained local leaders did not consult them sufficiently before leasing the land to the OPM for refugee settlements. In the Adjumani District of the West Nile region, relations between elders who were involved in the land acquisition process and the community members have soured to the point where the elders were not welcomed in communities near the settlements (Van Laer, 2019). There have also been reports that those representing the community the in land negotiations sometimes did not give up their own land but offered land from community members who were not present at the negotiations and did not consent to the leasing of their land (Zakaryan, 2018).

The land acquisition process is formalized and concluded by the signing of a memorandum of understanding (MoU) between the community and the OPM. However, community members have reported that there is not enough clarity and information about the "duration, the boundaries of land handed over and the future of the land after the end of the agreement or when refugees return" (Van Laer, 2019). Furthermore, they are concerned that the government might "use the land for other purposes or redistribute it to politically connected individuals, as has happened before in relation to refugee and IDP sites" (Van Laer, 2019).

The communities' mistrust of the government must be understood in the context of the post-conflict environment of the West Nile region, which has experienced long periods of violent conflict and forced displacement. It has caused many disputes over land rights and boundaries that persist until today. Many community members speak of a "deep-rooted fear about land grabbing schemes by the central government and more powerful individuals within their own community for

the purpose of "development" and "investment" projects" (Zakaryan, 2018). Furthermore, there have been reports that the choice of where refugee settlements go are politically motivated. In Lamwo District in northern Uganda, community members reported that there were "discussions between community leaders, who have political ties to the central government, and district and local government officials to mobilise for a refugee settlement in Lamwo District" (Zakaryan, 2018).

It is apparent through NGO reports of the land acquisition process for refugee settlements that it is a significant source of tension and conflict between refugees and host communities. Many host community members are actually happy to welcome refugees into their community. They express kinship and support due to shared experiences of violent conflict and ethnic and marriage ties (Zakaryan, 2018).

Host communities have also expressed appreciation for the public services the refugee presence has brought to communities and talked about how it provides a space for intergroup interaction. One Ugandan spoke specifically about schools:

> "Those are the host communities which are not hosting refugees, they have now started allowing the refugees to use their lands because there are very many things which are taking place from the camp. Especially we have the secondary school here in the camp, which is free. Whereby the schools on the other side, you have to pay money for your child to study. Now their children from the other side are coming to access the secondary school... they also had friendships with refugee children. Then later on [non-hosting communities] learned that when we come together with these refugees, there are more things which are going to happen in the future. That's when they come in to raise their lands to other people." (Interview 220503 1049)

However, the way that the OPM acquires land for refugee settlements has created a lot tension between different levels of leadership and community members. Those with political power have the most say in land acquisition decisions, so they are able to avoid being negatively impacted by the settlements while enjoying the development benefits of hosting refugees. Conversely, those who do not hold political power are often ignored and the most affected by the refugee settlements.

This often creates tensions between affected community members and settled refugees, through no fault of either parties but because of how the land deals were negotiated without their involvement.

## Land and mixed farmer groups

The farmer-group program implicitly rests on intergroup contact theory as its theory of change. In interviews, officials described a clear logic: bringing refugees and nationals together in the same farmer groups creates repeated, cooperative contact that builds bonds and trust across the two communities. As one NURI official said, "Peace... it's not something that comes like the blink of an eye." This, in turn, reduces prejudice and tension while giving refugees a route into the resources in host communities. NURI officials frame mixed groups as a vehicle for the kind of sustained, goal-oriented contact that is supposed to build trust across the national-refugee divide, and they speak about coexistence and networking for land as explicit aims:

> "The reason why we make them as mixed groups is, one, we want these refugees also [to] learn peace from the nationals in the country. Two, their coexistence promotes networking so that the friendship they can make a refugee . . . to acquire bigger size of land for planting cassava, for planting maize on some scale." (Interview 230321 0830)

Even the social rationale ultimately routes back through land—the friendships mixed groups are meant to cultivate are valued in part because they let refugees acquire larger plots. Land access and social integration are not separate goals but two sides of the same coin. Refugees also find joining NGO farmer group programs more attractive when they are assigned a mixed group because national co-members can provide access to land that would otherwise be out of reach. As one NURI official put it: "You'd find the biggest concern of a refugee is accessing land... they would tell us the problem now. 'You train us with all these climate smart agriculture. The only way I can practice it is on land. "

To structure this contact, NURI sets a target composition of 70 percent refugees to 30 percent nationals, mirroring the 70/30 split that governs the distribution of settlement aid more broadly. In

practice, having a minority of nationals in a group means that often there is not enough land to go around. As one official described it:

> "The refugees are supposed to be 70% in the group and nationals is 30. But practically, you realize it doesn't work well. Because these 70% of the refugees, you realize, they will need land. And the land they will need is from the 30% of nationals. Who might have land or who might not have land. Or if they have land, the land is even not enough for themselves, for themselves as the nationals. So it is now a dynamic; as an AO, it now lies in my hands, to either make the ratios 70 to 30 or 50 to 50, so that they can equally benefit from each other." (Interview 230321 1542)

However, recruiting nationals is its own challenge that needs to be overcome. Since nationals typically have more outside options—government and locally organized groups that refugees cannot access—they have weaker incentives to join, and extension officers often fall short of their target national numbers: "We are supposed to be less than 20, the refugees. But now [the nationals] are not responding... They have many groups; this is what they said." But when the refugee-to-host ratio runs too high, it becomes a source of conflict as nationals do not like the imbalance and they want to add more nationals and remove refugees.

> "Then also conflict[s] is rising because of [the] high number of refugees in the group compared to host members; you find that once the chairperson is a host, he would want to bring more host members while removing the refugee members from the group, so it leads to tensions, even fighting amongst the group members." (NURI FO1)

The farmer group program is not only meant to create more bonds between refugees and Ugandans to increase access to land for refugees, but also protect refugees from "land snatching". A refugee village leader agreed that mixed groups were good for refugees in this way:

> "Yes, there is a reason for choosing this mixed group with the host community. The reason is, when you just form your groups as refugees without [the] host community,

> some will come and claim that this land belongs to my grandfather. So we don't want you people to cultivate here. . . . You cultivate for one season. The next season, they will come and grab the land and [chase] you away."

However, refugee farmer group members' own accounts suggest the protection is incomplete. Land that is offered is frequently reclaimed, and the rental terms shift from season to season. As one refugee member of a mixed farmer group said:

> "Most of the conflicts are caused by the host community because of the land/garden agreements. Sometimes they give you land and a few weeks later they want it back. I think sometimes they just need money."

Another refugee participant of a mixed farmer group explicitly stated that people in her group experienced the land they rented being snatched back:

> "The garden that we usually rent—there are gardens we rent for the group and others that we rent for individual purpose. When we cultivate in the gardens, you find the hosts later come and take back their land or sell [it] to other people, which brings [misunderstandings]."

Refugees report nationals using aid as an excuse for what they view as exploitation. One refugee said that because a national thought that refugees got more aid support than Ugandans, they deserve to have their prices raised:

> "When you plant this year, next year they take the land from the refugees; at times they increase the prices for the land. They did so because they said we have more support compared to them."

One refugee also explained that they felt nationals unfairly taking advantage of refugees because they feel like they have a right to because refugees are the ones renting the nationals land:

> "What I see from the hosts is that they rent out their places because they know they are the owners, so that they benefit from us; even when you plant your crops, they start harvesting before you even touch them, because you are renting their land."

## How farmer groups are formed

Agricultural and livelihood support in refugee-hosting areas is usually distributed through farmer groups supported by government and NGO programs. Farmer groups are given both resources, such as seeds and equipment, and agricultural training. NURI also provides refugees in farmer groups with psycho-social support because they are sensitive to the trauma that refugees have went through. As one NURI official explained, psycho-social support is important to ensure refugees continue with the agricultural training: "[They are] thinking about what is left in South Sudan. Somebody has lost probably everybody in the family and could be alone, only two of them. So, you share the [agricultural] trainings, they don't come. So, before you start your training, you start with the psychosocial... to settle them." (Interview 220502 1550) As the NGO extension officers who carry out the training with farmer groups have a heavier load due to the additional psycho-social training, those who were with refugee and mixed groups usually only are responsible for 12 groups, while those who work with national-only farmer groups work with 15 groups.

In refugee-hosting areas, existing groups are likely created by NGOs who form farmer groups based on the requirements of their program. Oftentimes, NGOs pick up where another NGO program left off because farmer groups, especially those with refugees, need more material assistance than the one to three years that NGO programs provide. If NGOs do not find enough existing groups that fit their program, they will form new groups. Most NGOs try to form mixed groups—with both refugee and Ugandan national members—because it allows refugees to lease land from nationals more easily. However, because groups meet once or twice a week to farm together on the same piece of land, sometimes refugees and host communities live too far for this to be feasible. In this case, NGOs will create national-only or refugee-only groups. Furthermore, there is a rule that 30 percent of aid that goes to refugee settlements must be spent on supporting the host communities, which increases the creation of national-only groups.

In order to form new groups, NGOs work with LC1s and RWC1s (Local Council 1 and Refugee Welfare Council 1), the equivalent of a village head in the rural Ugandan context and their refugee

settlement counterparts, to spread information about their new program and solicit interest. NGOs usually allow people to choose the people they want to form groups with, as long as it meets their program requirements (e.g. balance of refugees/Ugandan nationals and gender). They allow for self-selection in order to avoid conflict between the members and encourage successful cooperation, because they found that forcing people into groups did not work for cohesion (Interview 220502 1550). While group participants can select into individual groups, they cannot select into group types (mixed vs. homogeneous) as the NGO determines that independently, based on the distance the groups are from refugee settlements/Ugandan villages. Groups that are formed near to refugee settlements/Ugandan villages are mixed and those that are formed far away are homogeneous. This is due to the logistics of group meetings being more difficult the further away the group members live from each other. It was observed by multiple NURI officials that those who live far from their farmer groups tend to leave or get kicked out of the group because of the lack of attendance creating tension. A NURI official notes the difficulty for someone who lives far away from where their farmer group meets: "It will be draining you in terms of the movements, then your efficiency in production will drop... At the end of it all, your relevance becomes very low." (Interview 230321 0830).

Ugandan nationals often have more outside options than refugees regarding farmer groups they can. They likely have access to farmer groups created either by the Ugandan government or locally set up. Therefore, if Ugandan nationals do not want to interact with refugees, they have the ability to select out of mixed groups. However, the choices for refugees are much more limited as they do not have access to locally created groups like Ugandans, and NGOs often try to deconflict their program areas so that an area is not saturated with NGO presence while another area is neglected. Female refugees have a choice of whether to join a mixed or homogeneous group but it comes at a cost. Mixed farmer groups receive more material benefits and training than refugee-only groups as mixed groups are provided with a plot of land big enough to plant enough to sell at the market, while refugee-only groups just practice "kitchen gardening". Refugee-only groups consist only of women and were create mostly to supplement the food aid of refugee women and their children and

ensure they get sufficient nutrition. They are not trained to farm for income, but for sustenance. So, they are only given enough vegetable and fruit seedlings to plant within their compound.

According to a NURI official, part of the reason why some refugee women self-select in refugee-only groups is because they do not have the energy to do field farming and do not need to share their gardening outputs: "Mostly the women who are weak who will go for the pure refugee women groups because vegetables require a small piece of land and they take a short time of maturity. Less labor, you know? Then you own it individually.. At the end of the day, when you get it, it is all yours. You're not going to give that to any other person. No one will bother you, 'Let's go for group work.' That's where they go for pure [refugee groups]." (Interview 230321 1542) It is possible that refugee women who have self-selected out of mixed groups and into homogeneous groups are less accepting of nationals or less willing to cooperate and share in general. While refugee women who are in mixed groups might not only be more accepting of Ugandans, but also more hardworking, cooperative and willing to share with the nationals. However, refugee women (and men) who want access to land for income-generating farming have no choice but to join mixed farmer groups even if they do not want to interact with Ugandans.

Most NGO programs also require that participants are part of no other farmer group and only one person per household is part of their program. In reality, participants are usually part of multiple farmer groups and their family members are part of other farmer groups too. In interviews, NGO officials repeatedly told me that even though NGOs make it clear that people are not allowed to be in multiple groups, both refugees and Ugandans will not reveal if they are a part of another farmer group program. A NURI official said, "There are times they hide such information, thinking that when they tell you, at the end of the day, you may think they have benefited from some other program, then they may not receive another support." (Interview 230321 1542) NURI reports that they take pains to ensure that refugees and nationals are not in any other groups. Refugees are issued identification cards when they arrive, so NGOs can cross-check the information of their refugee beneficiaries with the OPM to ensure that they are not in multiple programs at once Interview 230321 0830). For nationals, there is not such a robust identification system but a NURI

official reported that "tracking them is easy... so for the nationals, we can manage them at our level." However, despite these efforts, when the survey team went into the field to verify the roster of farmer group members they gave us for survey sampling, the enumerators found many inconsistencies. Enumerators went to the farmer group leaders to verify each member of the group was still alive and living in the area. At the start of our internal verification process, farmer group leaders said that everyone in the group was present. But when we started spot checks by trying to make contact with individual members, we found that some had moved away or did not know they were registered as part of a group. So, we started telling farmer group leaders we interviewed for verification that we were immediately contacting those who they said were present right after the interview and that resulted in leaders verifying 80% of names, instead of all, which was previously happening. When I cross checked the farmer group rosters later on, I found that some names appeared in multiple groups. These groups were close to each other in proximity, so it is a possibility that the extension officer in charge of that area had entered the same person in multiple groups to fulfill requirements.

The reliance on NGO support for farmer groups is an unavoidable shortcoming of this farmer group program design. One refugee farmer group participant spoke to this reliance: "At first in the beginning it was like very organized, but after the funding being on shortage, there was now some tendencies of corruption." (Interview 230322 1234). Since each NGO program has their own mandate and often groups are formed and supported for the interests of the NGOs, farmer groups have an issue with longevity as participants have an incentive to leave the group for another NGO group. For example, if people hear that there is an NGO who is focused on women's empowerment and are forming female-only farmer groups, women in coed farmer groups would leave them to join the NGO supported female-only groups in the hopes that they will gain material benefits. This poses a problem for how NGOs, the OPM and UNHCR track refugees to ensure that they are not in multiple programs. A NURI official acknowledged this problem: "When NURI will go, some of these groups will disintegrate... another NGO will come and they will also want to suit the interests of that NGO.... So, it makes it hard for OPM and UNHCR to track the existence of these groups." (Interview 230321 1542).

NGOs usually support farmer groups for one to three years. After these programs end, NGO-supported farmer groups often try to find another NGO program to be part of. However, without NGO support and incentives, farmer groups become less active or they only focus on the savings and loans aspect. NGOs realize that when farmer groups are paired with village savings and loan association (VSLA) activity, it gives members more reason to stay committed to the groups. When the farmer groups are also a VSLA, members have a financial stake and a reason to meet every week, which increases the cohesion and longevity of the group through farming seasons. NURI officials credit with holding groups together that would otherwise fracture:

> "VSLAs performed a very big miracle for us. When you have a group together, they will break up. But a group with the VSLAs [is] very cohesive, because they meet on a weekly basis . . . So in that same meeting, they know what is happening with their group. They have very good records. And it is an entry point for any other thing to be done as far as production is concerned." (Interview 220502 1550)

## 3.2 Attendance of farmer groups over time

The theory of change of mixed farmer groups rests on the assumption that farmer groups actually function as a site for sustained, repeated contact. Intergroup contact can only build trust and reduce prejudice if refugees and nationals show up to meet in the first place. If intergroup contact is the treatment, then attendance is its take-up rate—so a natural first question is how reliably members actually take it up. I therefore turn to attendance records, comparing mixed groups against homogeneous ones to assess whether the intergroup composition of mixed groups makes them less cohesive. Lower attendance in mixed groups would signal that their intergroup nature undermines the efficacy of the farmer-group model itself: if members do not turn up, there is not only no intergroup contact to speak of, but also no exposure to the training and input distribution the groups are built to deliver. Attendance is thus a condition for every other outcome the program hopes to produce.

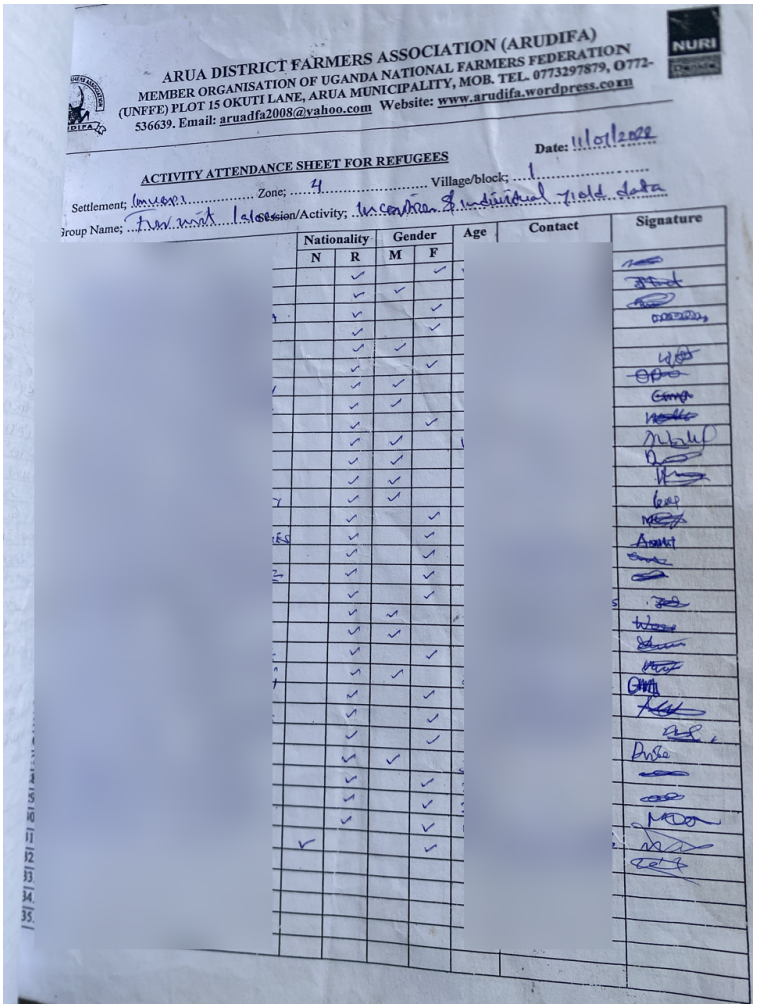



Figure 3.1: An example of an attendance sheet from a farming group session used by the NGO. Personal details such as names, ages, and phone numbers have been redacted for privacy. The sheet captures each participant's nationality, gender, and signature to verify their attendance at the activity.

I collected the attendance sheets from the main office of the Northern Uganda Resilience Initiative (NURI) in the West Nile region. The records were incomplete and unorganized, and required several rounds of verification before analysis. Issues ranged from misspellings and data entry errors to potentially made-up entries. National-only groups were especially sparsely documented, so I excluded them from my analysis of attendance patterns. Attendance sheets are a routine part of NURI's field operations. As an extension officer explained in an interview, field staff are required to record attendance at every training and activity they conduct, noting the number of farmers who

attend and participate, as well as each attendee's gender and, sometimes, age. After a meeting, the sheets are filed with the group's records and used by the extension officer to compile the monthly reports submitted to a supervisor by the 20th of each month. The office I visited is supposed to be the only place these records are stored.

The extension officer explained that there are a few reasons why the attendance sheet might not capture attendance accurately. Sometimes extension officers arrive late to find that farmers have already left to do other tasks such as going to the market. Some especially impatient members might arrive late after attendance is taken, and leave immediately after the meeting without signing the sheet. NURI staff do not attend the groups' meetings for VSLA (savings) activities, and those attendance sheets are kept by the group secretaries. The activities that the attendance sheets record are therefore only those directly related to farming activities.

In total, I collected the attendance sheets for 99 groups with almost 20,000 individual entries. However, 37 groups were flagged and excluded from all analyses. My research assistant and I noticed that certain names kept appearing across different groups. These were often common first names paired with a day of the week as a surname, such as "Mary Sunday." While it is normal to name a child after the day they were born, and certain English names are commonly adopted, these names recurred suspiciously often—enough that we suspected they were placeholders entered to meet a group's membership requirement. Looking more closely, we found that some groups had these common names appear three times within a single meeting, and I excluded groups with such duplicates. In other cases, groups containing these common names showed very little member overlap between meetings. One group, for instance, had zero member overlap across four meetings, with 86 unique refugees recorded. This pattern most likely reflects difficulty forming and maintaining a stable group, with the extension officer signing up different people in the area almost every meeting. Because there was no continuity of membership, it would not make sense to include such groups in an analysis of attendance patterns. I also reclassified twelve groups that were labelled as mixed as refugee-only groups, because no national members were recorded across any meeting; this reflects the difficulty that mixed groups face in recruiting national members.

After these exclusions, I was left with 62 groups. For analyses, I restricted the sample to groups with at least three meetings, which left 46 farmer groups: 17 refugee-only groups, 27 mixed groups, and 2 national-only groups. Since there were only 2 national-only groups, I focus the analysis on refugee-only and mixed groups. The 17 refugee-only groups include 10 groups originally labelled as mixed in the raw data.

## Variable Construction

### Group Size

Group size is defined as the number of members who attended the group's first recorded meeting. This captures the size of the group at formation rather than its maximum or average attendance, providing a stable baseline measure that is not affected by subsequent attrition or churn. It is used as a control variable in all binscatter specifications to account for the possibility that larger groups may have systematically different attendance patterns.

### Member Churn

In interviews, farmer group members talk about how people leaving and joining the group affects how committed they feel to it. I therefore create a measure of member churn to see whether change in membership affects how consistent attendance is. Churn measures the rate at which new members appear at each meeting who have not been seen at any prior meeting. Starting from the second meeting, the proportion of attendees who are new—defined as not having attended any earlier meeting of that group—is calculated. The cumulative set of previously seen members is updated after each meeting, so a member is only counted as "new" on the first occasion they appear. Group-level churn is then the average of these proportions across all meetings from the second onwards. A higher churn value indicates that a larger share of attendees at each meeting had not been seen before, reflecting greater turnover in group composition over time.

**Ethnic Diversity (HHI Tercile)**

Ethnic diversity is measured using the Herfindahl–Hirschman Index (HHI), a common measure of diversity of all kinds (market competition, biodiversity, etc.). The HHI is calculated as the sum of squared shares of each ethnic group among a group's members. A value of one indicates that all members belong to the same ethnicity, while lower values indicate a more even distribution across ethnic groups (greater diversity). Groups are then ranked by their HHI value and divided into terciles. The lower third contains the most ethnically diverse groups, the upper third the least diverse.

## Activity Classification

| Activity | Mean attendance (% of peak) |
|---|---|
| Input Distribution | 99 |
| Planning | 91 |
| Session 4: Crop Enterprises | 87 |
| Session 9: Business Skills | 87 |
| Session 5: Planting & Field Work | 79 |
| Session 10: Marketing | 78 |
| Session 3: CSA Technologies | 76 |
| Session 1: FID | 75 |
| Review | 75 |
| Session 2: Climate Change | 73 |
| Needs Assessment | 72 |
| Session 8: PHH & Value Addition | 65 |
| Session 6: Pests & Diseases | 57 |
| Session 7: Soil & Water | 55 |

Table 3.1: Average attendance by meeting activity

When taking attendance, extension officers also recorded the activity each meeting was devoted to. Looking at these records, I found that attendance varied substantially by activity type (Table 3.1). Meetings recorded as input distribution were the best attended, drawing on average 99% of a group's peak membership, whereas the more technical training sessions—soil and water management (55%) and pests and diseases (57%)—were the least attended. This pattern maps onto what interviewees described: members turned out most reliably when tangible materials were being distributed. Field work such as planting and harvesting was also well attended, which was contrary to what

interviewees said—they often accused the outgroup of not attending when there was planting to be done.

To control for this, I constructed a categorical variable for the activity of each meeting. I used the extension officers' program manual, which lays out ten sessions that every farmer group is meant to progress through, as a foundation for classification. I added a "Session 0: Committee Formation" category for the group-formation and leader-selection meetings that precede the manual sequence, and separate categories for common meeting types that fall outside the manual entirely—input distribution, planning, quarterly review, needs assessment, and harvesting.

## Descriptive statistics

### Group Size and Membership

Group size at the first meeting ranged from 9 to 38 members, with a mean of 25.2 and a median of 28. This is broadly consistent with the program's intended group size of approximately 30 members. Across group types, initial sizes were similar: refugee-only groups averaged 25 members at formation and mixed groups 26.

The total number of unique members ever recorded in a group substantially exceeds first-meeting attendance in many cases, with a mean of 39.9. This signals that some groups experienced substantial member turnover, which is captured by the member-churn variable defined above. The gap is most pronounced among refugee-only groups, where unique membership averaged 45.7 against a first-meeting size of 24.8, compared to 37.7 against 25.9 for mixed groups.

### Number of Meetings

The number of recorded meetings per group ranged from 2 to 27, with a mean of 7.5 and a median of 7. Refugee-only groups averaged 9.4 meetings (9.4), while mixed groups averaged 6.8 meetings. A minimum meeting threshold of three was applied for the attendance trajectory analysis. After applying the three-meeting minimum and all exclusions, the final analysis sample comprises 44

groups: 17 refugee-only and 27 mixed.

### Churn

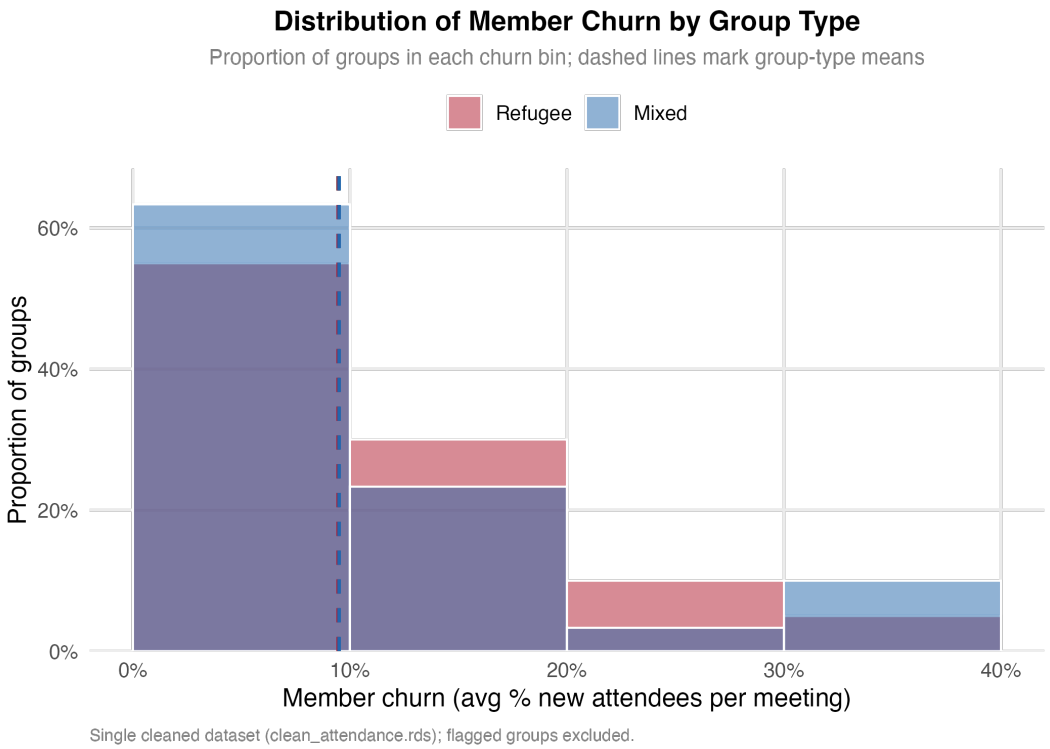



Figure 3.2: Distribution of average member churn across groups, by group type. Each group contributes one observation (its mean share of new attendees per meeting); bars show the proportion of groups of each type in 10-percentage-point churn bins, with dashed lines at the group-type means.

Across both group types, the mean of member churn is 0.10, indicating that roughly 10% of attendees at any given meeting had not been seen at any prior meeting of that group. The distribution is right-skewed, with values ranging from 0 to 0.40, suggesting most groups maintained a stable core membership while a small number experienced substantially higher turnover (Figure 3.2).

## Refugee-only versus Mixed Groups

| Statistic | Refugee-only ($n$ = 17) | Mixed ($n$ = 27) |
|---|---|---|
| Group size at first meeting (mean) | 24.8 | 25.9 |
| Peak meeting attendance (mean) | 30.2 | 30.7 |
| Unique members ever recorded (mean) | 45.7 | 37.7 |
| Number of meetings (mean) | 9.4 | 6.8 |
| Attendance rate, % of peak (mean) | 71 | 77 |
| Planting-session attendance rate, % (mean) | 74 | 75 |
| Member churn (mean) | 0.10 | 0.10 |
| Mean member age (years) | 32 | 33 |
| Ethnic diversity, HHI (mean) | 0.65 | 0.45 |
| Ethnic diversity, HHI (median) | 0.68 | 0.43 |
| Ethnic diversity, HHI (range) | 0.38–0.93 | 0.18–0.78 |
| Distinct ethnicities per group (mean) | 4.5 | 4.7 |
| Refugee share of members (%) | 100 | 80 |

Table 3.2: Refugee-only versus mixed groups: detailed comparison.

Notes: Means unless otherwise indicated, computed over the final sample of refugee-only ($n$ = 17) and mixed ($n$ = 27) groups with at least three recorded meetings. Attendance rate is the mean across a group's meetings of attendees divided by the group's peak meeting attendance. Planting-session attendance rate is the same measure restricted to planting sessions. HHI is the Herfindahl–Hirschman Index of ethnic concentration (higher = less diverse). Refugee share is the mean proportion of members recorded as refugees.

Because the analysis focuses on refugee-only and mixed groups, Table 3.2 compares the two directly. The two types are similar on the structural margins that matter most for the attendance analysis: groups form at comparable sizes (24.8 versus 25.9 members at the first meeting), reach almost identical peak attendance (about 30 members), and exhibit the same low churn (0.10). Refugee-only groups meet more often on average (9.4 versus 6.8 meetings) and accumulate more unique

members over time (45.7 versus 37.7), consistent with longer recording histories and somewhat greater turnover. Average attendance, expressed as a share of each group's peak meeting, is slightly higher in mixed groups (77% versus 71%), and planting-session attendance is essentially the same across the two (75% versus 74%).

Mixed groups are predominantly female, with women making 61% of the attendance. Since more members of mixed groups are refugees, this reflects the demographic of refugees in Uganda who are mostly women and children. The membership is working-age, with a mean member age of roughly 33 years and little variation across group types (refugee-only 32, mixed 33). Ethnic composition varies systematically with group type. Members span more than a dozen ethnicities and the typical group contains between four and five distinct ethnicities. Four ethnicities dominate—Kakwa and Kuku who are mostly South Sudanese refugees, Alur who are mostly Congolese refugees and Lugbara who are mostly Ugandan nationals. Mixed groups are, as expected, the most ethnically diverse: their mean HHI of 0.45 is markedly lower (more diverse) than that of refugee-only groups (0.65), which tend to be dominated by a single refugee ethnicity such as Kakwa or Alur. Within mixed groups, refugees account for the large majority of members (about 80% on average), which mirrors what people often said in interviews—that it is often difficult to recruit nationals into mixed groups. In 24 of the 27 mixed groups, refugees make up at least 70% of the group's membership. Only one group had a majority national membership.

## Attendance Over Time and Its Correlates

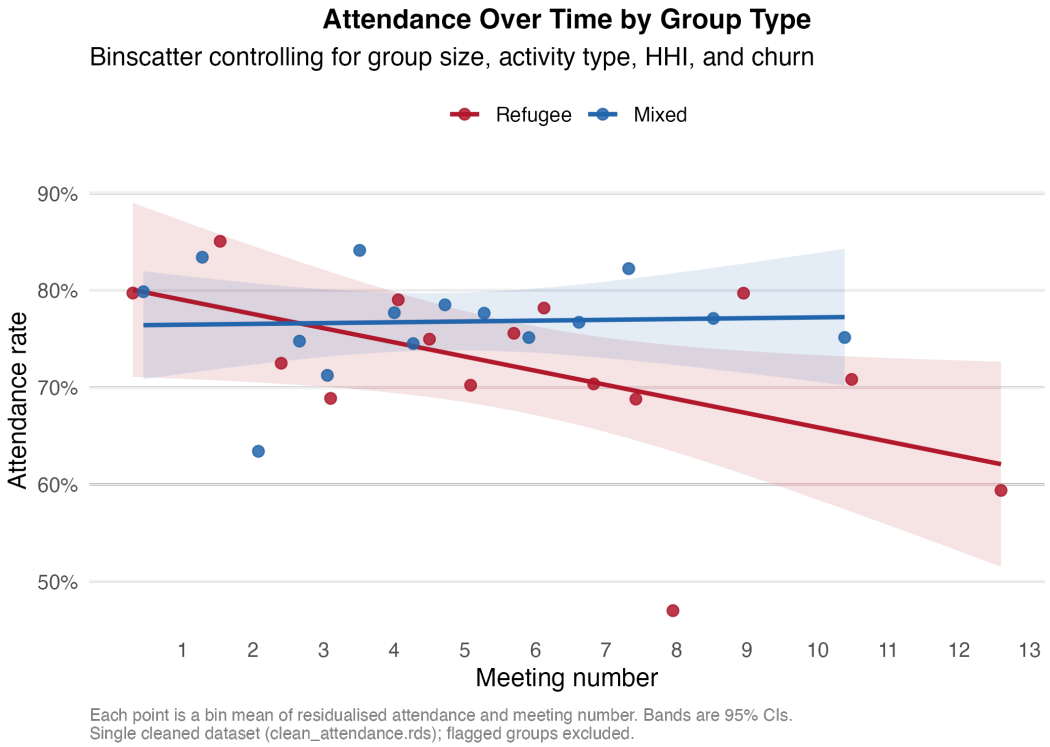



Figure 3.3: Attendance over time by group type. Binscatter of attendance against meeting number for refugee-only and mixed groups, residualised on group size, activity type, ethnic diversity (HHI), and churn. Points are bin means; shaded bands are 95% confidence intervals.

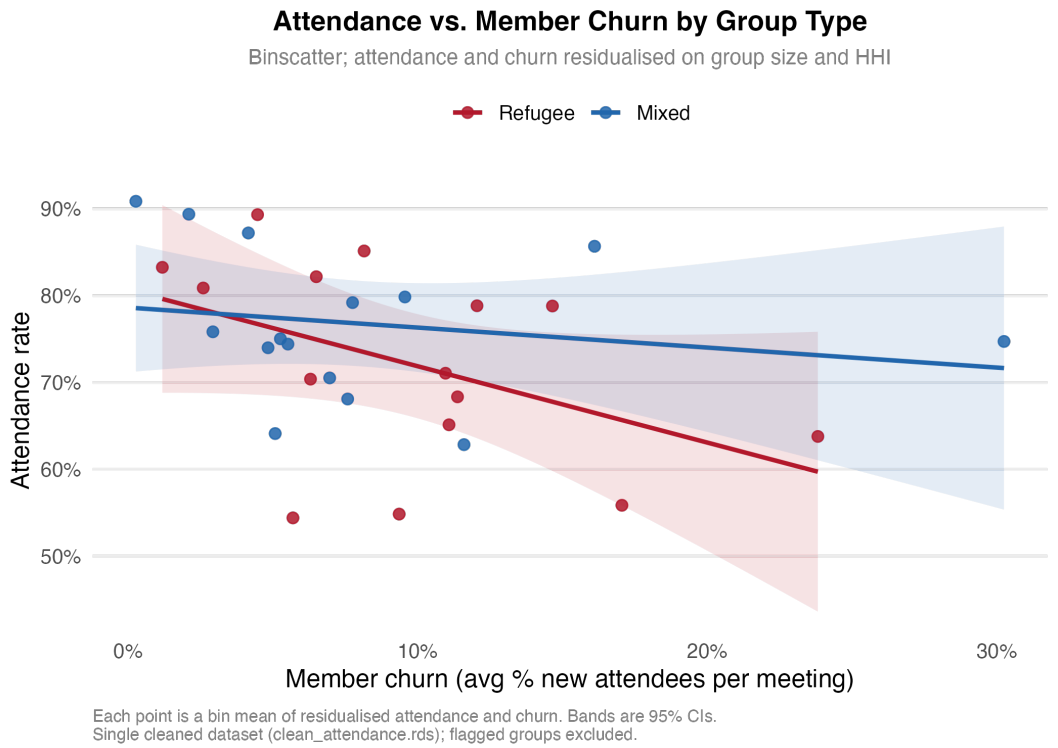



Figure 3.4: Attendance versus member churn by group type. Binscatter with both attendance and churn residualised on group size and HHI. Points are bin means; shaded bands are 95% confidence intervals.

Figure 3.3 plots residualized attendance against meeting number for refugee-only and mixed groups, controlling for group size, activity type, ethnic diversity, and churn. Mixed-group attendance is essentially flat across meetings, whereas refugee-only attendance declines over time. Mixed groups perform comparably well on attendance, in some cases even outstripping refugee-only groups. There are two possible explanations. First, mixed groups receive more extensive farming support than refugee-only groups who only do small scale gardening. As a NURI official noted, this may draw more hardworking and ambitious refugees to self-select into them. Second, mixed groups may sustain somewhat more stable membership over time. Figure 3.4 relates attendance to churn directly: higher turnover is associated with lower attendance among refugee-only groups, while the relationship for mixed groups is comparatively flat.

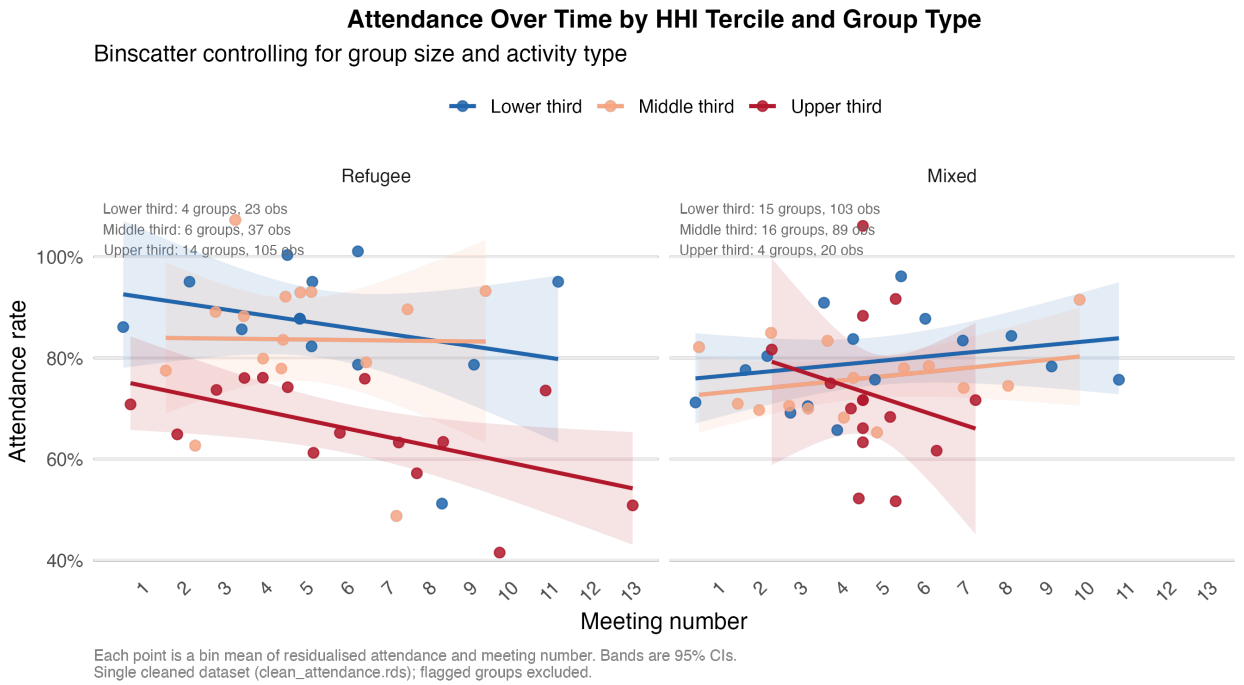



Figure 3.5: Attendance over time by ethnic-diversity (HHI) tercile, faceted by group type. Binscatter controlling for group size and activity type. Points are bin means; shaded bands are 95% confidence intervals.

Ethnic diversity shows no clear relationship with attendance—if anything, the least diverse refugee-only groups appear to struggle the most. Figure 3.5 disaggregates the attendance trajectory by ethnic-diversity tercile by group type. This pattern goes against conventional wisdom and a substantial literature linking ethnic diversity to weaker cooperation, and it warrants further investigation. However, my sample size is very small and the resulting confidence bands are wide for all the above analyses, so these patterns should be read as suggestive.

## Conclusion

This chapter has laid out why farmer groups in Uganda's West Nile region is an unusually good setting for studying intergroup cooperation. Uganda's self-reliance model makes land the linchpin of refugee settlement policy, and mixed farmer groups are a deliberate instrument for turning proximity of refugees and Ugandans into social cohesion and agricultural cooperation that takes the form of leasing land to make unused land more productive. Officials frame farmer group programs

in the language of contact theory, but, as the interviews make clear, even reduction of prejudice is in service of economic aims— friendships are valued partly because they let refugees acquire larger plots.

Against that backdrop, the attendance data offer a first, behavioral test of whether the contact the program assumes actually takes place. Two patterns stand out. First, mixed groups attend at least as reliably as refugee-only groups, and sometimes more so. Second, member churn, not group composition, is the factor most associated with declining attendance; and ethnic diversity shows no clear negative relationship with attendance. In fact, the least diverse refugee-only groups struggle most, cutting against a large literature linking diversity to weaker cooperation. These patterns are suggestive rather than conclusive — the sample size is very small and self-selection into mixed groups cannot be ruled out.

Showing up, however, is not the same as trusting or cooperating. The next chapter turns from whether refugees and nationals are willing to show up to be in the same space together to what happens between them once they are: how prejudicial heuristics shapes their willingness to cooperate, and whether contact and prejudice reduction actually leads to cooperation.

# CHAPTER 4

# The Dynamics of Intergroup Cooperation Within Farmer Groups

As the previous chapter illustrated, increasing agricultural cooperation between refugees and nationals is one of the main intentions, if not *the* main intention of mixed farmer groups. Attendance of mixed farmer groups is comparably good to homogeneous farmer groups and those in mixed farmer groups are the types that self-select into farmer groups to be ideal refugees and nationals to have successful cooperation. Refugees who self-select into mixed groups are more ambitious and hardworking, and nationals who self-select into mixed groups are more willing to mix with refugees. Given these supposedly ideal circumstances, I wanted investigate whether these circumstances were indeed ideal and whether that led to the intended outcomes of the program.

## Sample

I fielded my survey in Madi-Okollo District and Terego District, which hosts the Rhino Refugee Settlement and Imvepi Refugee Settlement respectively. The districts have a relatively large refugee to Ugandan national ratio – 32% of the districts' population are refugees, mostly from South Sudan – so there are more opportunities for mixing between refugees and nationals (UNHCR, n.d.). As an overwhelming number of farmer groups in refugee settlements and host communities are supported by an NGO, I am working with the Northern Ugandan Resilience Initiative (NURI), to survey their farmer groups in order to control for variation in NGO support farmer groups receive. I chose to work with NURI after carrying out an in-field evaluation of programs and data quality of NGOs that work with mixed farmer groups in the West Nile. NURI has operations in all six refugee-hosting

West Nile districts and has one of the most rigorous and comprehensive data collection systems among NGOs.

Rhino is larger than Imvepi by both physical and population size. Rhino also hosts a significantly larger number of Dinka and Nuer refugees from South Sudan. In both settlements, nationalities are settled into different zones. From interviews with UNHCR officials, this is because Congolese and South Sudanese refugees arrived at different times. In Rhino, Dinkas and Nuers are settled in different zones from each other and other South Sudanese tribes in order to prevent conflict between the tribes. The conflict in South Sudan that forced refugees to flee is connected to tribal tensions and these cleavages are often carried over to refugee settlements when South Sudanese refugees flee. NURI's refugee-only groups consist solely of women due to a directive from NURI's donor. It also makes logistical sense because most refugees are women and children, and male refugees often travel back and forth between South Sudan and Uganda. Therefore, I will only be surveying women.

| | Refugee | National | TOTAL |
|---|---|---|---|
| Mixed Group | 223 | 132 | 355 |
| Refugee-only Group | 309 | - | 309 |
| National-only Group | - | 342 | 342 |
| TOTAL | 532 | 474 | 1006 |

Table 4.1: Number of Refugees and Nationals in Each Type of Group

| | **Ugandan** | **South Sudanese** | **Congolese** | **Sudanese** | **TOTAL** |
|---|---|---|---|---|---|
| Lugbara | 465 | 1 | 1 | 0 | 467 |
| Aringa | 4 | 0 | 0 | 0 | 3 |
| Kakwa | 1 | 208 | 2 | 0 | 211 |
| Alur | 7 | 0 | 42 | 0 | 49 |
| Lendu | 1 | 0 | 12 | 0 | 13 |
| Kebu | 0 | 0 | 4 | 0 | 4 |
| Dinka | 0 | 88 | 0 | 0 | 88 |
| Nuer | 0 | 59 | 0 | 1 | 60 |
| Kuku | 0 | 17 | 0 | 0 | 17 |
| Pojulu | 0 | 48 | 0 | 0 | 48 |
| Pari | 0 | 4 | 0 | 0 | 4 |
| Kaliko | 0 | 9 | 0 | 0 | 9 |
| Nuba | 0 | 3 | 0 | 2 | 5 |
| Murule | 0 | 5 | 0 | 0 | 5 |
| Others | 3 | 10 | 0 | 19 | 32 |
| **TOTAL** | 481 | 452 | 80 | 3 | 1006 |

Table 4.2: Distribution Final Sample by Tribe and Nationality

To create my survey sample, I started with mobilizing members in farmer groups. Survey enumerators spent two weeks talking to LC1s (village heads), chairpersons of groups and members holding other key positions to verify that members listed on group rosters that NURI provided were still in the group. This was necessary as when enumerators tested the survey tool in the field, they found that a significant number of names on the list belonged to children who were not eligible to be part of the group, or they could not find anyone with the listed name in the village. In total, we verified 7148 names during the mobilization, 4488 of which were women. 456 of the women were in national-only groups, 1719 were in refugee-only groups and 2153 were in mixed groups. Below is a breakdown of the verified female members by tribe.

For my first survey in June 2023, I created a random sample of 1299 of the verified female members by stratifying my sample across the three types of farmer groups and received 1006 responses. Almost all respondents that enumerators reached agreed to take part in the survey. The non-responses are due to time constraints and difficulty finding the respondent, as we were surveying rural areas where respondents can live in hard-to-reach areas. For my follow-up survey in August 2024, I randomly selected 800 from my survey sample, stratified by refugee/national status, and oversampled minority tribes among refugees.

## Land leasing between refugees and Ugandans

A central aim of mixed farmer groups is to expand refugees' access to land by pairing them with national members who can lease or share their plots. I test whether this aim is fulfilled by comparing the landholdings of refugees in mixed groups with those of refugees in refugee-only groups.

**Measuring landholdings:** The data come from a follow-up survey of refugee respondents, each of whom reported how much land she had access to for farming. In the first survey, we asked refugee respondents directly how much land they had access to and found that they consistently reported having no land at all. When we raised this with NURI officials and refugee leaders, they explained that refugees likely underreported their landholdings strategically, hoping that NGOs

would allocate them additional land if they appeared to have none. To address this demand bias, the second survey instead asked respondents to estimate the amount of land the average refugee in their group has access to.

Respondents gave their holdings in a range of units, so I converted all responses to a common scale of square meters to make them comparable. A small number of reported areas were far too large to represent a single household's parcel and almost certainly reflect a respondent reporting her group's total communal acreage rather than her own share. Responses roughly fell into two distinct clusters: four acres or below, and eight acres or above. Since a common individual plot size is roughly a quarter of an acre, and 30 members each accessing a quarter acre would total approximately 7.5 acres, I interpreted the upper cluster as respondents reporting their group's total communal acreage rather than an individual share. I therefore divided these values by 30 — the standard group size — to obtain individual-level estimates.

| **Land Holdings** | **Homogeneous** | **Mixed** |
|---|---|---|
| < 0.125 acres | 15.3% | 13.8% |
| 0.125 to < 1 acre | 55.9% | 43.1% |
| 1 to < 2 acres | 17.8% | 28.7% |
| 2 acres and above | 11.0% | 14.4% |

Table 4.3: Distribution of Land Holdings by Group Type

**Mixed-group membership and land access:** Since the intention of increasing land access is targeted at refugees, I only analyze refugee respondents' landholdings and compare between only mixed and refugee-only groups, excluding national-only groups. To test whether mixed-group membership predicts greater land access, I run an OLS regression for refugee landholdings (in square meters) on an indicator for being in a mixed vs. a refugee-only group, controlling for self-reported wellbeing relative to one's ingroup and for respondent age. I include the ingroup wellbeing comparison as a proxy for the wealth needed to rent land, since better-off refugees can

Table 4.4: OLS Regression: Land Holdings

| | (1) |
|---|---|
| Group type (Mixed) | 640.035* |
| | (305.401) |
| Ingroup comparison | −104.162 |
| | (169.681) |
| Age | −3.663 |
| | (13.232) |
| Num.Obs. | 403 |
| R2 | 0.012 |
| R2 Adj. | 0.005 |

* p <0.05, ** p <0.01, *** p <0.001

afford larger plots, and age because older respondents may be less able to farm large areas. As Table 4.4 shows, refugees in mixed groups have access to significantly more land than otherwise similar refugees in refugee-only groups—approximately 640 square meters, or 0.15 acres, more ($p < 0.05$). The raw distribution of holdings shows the same pattern (Table 4.3): refugees in mixed groups are more likely to have access to one to two acres (28.7% versus 17.8%) and less likely to fall in the smaller one-eight to one acre range than refugees in refugee-only groups.

On the surface, it does seem that mixed farmer groups have met their intention of increasing land access for refugees. However, as discussed earlier, NURI officials explained that refugees who self-select into mixed groups are likely to be more ambitious with their farming intentions, so the higher land access of refugees in mixed groups could be partly explained by self-motivation. That said, even accounting for self-selection, the mixed group structure does appear to provide more motivated refugees with a viable avenue to access additional land.

But does this increased land access also reflect stronger intergroup cohesion and cooperation, as the theory of change predicted? This is an important question, particularly given the prevalence of land disputes and land snatching. Even if motivated refugees can secure greater access to land, sustainable trust and cooperation between refugees and Ugandans is necessary to prevent land

leasing agreements from breaking down. To assess whether mixed groups are fostering this kind of durable cooperation, I examine whether refugee and national members of mixed groups actually hold more positive attitudes toward each other and are more open to working together.

## 4.1 Measuring prejudice and cooperation

### Prejudice

| |
|---|
| I would accept a refugee/Ugandan national as a neighbor. |
| I would accept a refugee/Ugandan national as a friend. |
| I would work together with a refugee/Ugandan national on income-generating activities. |
| I would allow my daughter to marry a refugee/Ugandan national. |

Table 4.5: Measure of acceptance of individual refugees/Ugandan nationals

The expectation from the literature would be that increased interaction with the outgroup through mixed farmer groups would be associated with more accepting attitudes toward the outgroup. This follows from existing research on intergroup contact theory which finds that an increase in meaningful contact between the two groups improves attitudes toward each other (Ghosn, Braithwaite, & Chu, 2019; McLaren, 2003; Savelkoul, Scheepers, Tolsma, & Hagendoorn, 2011). With more opportunities for interaction, refugees and Ugandan nationals in mixed groups might become more accepting toward the outgroup, as opposed to those who are part of homogeneous

groups. However, in this context, refugees and nationals are also able to self-select out of mixed groups if they have high outgroup animus.

As explained in my theory chapter, outgroup animus is hostile general beliefs about the whole outgroup that makes people avoid interactions with them in the first place. Therefore, if one had high outgroup animus, they would not select into a mixed farmer group where they have to interact with the outgroup. Therefore, I anticipate that those in mixed groups will have lower outgroup animus than those in homogeneous group. I measure outgroup animus through a common battery of questions about how willing they are to accept the outgroup in different roles, like as a neighbor or friend (Table 4.5). The answer to each question is coded as an ordinal variable, ranging from 1 as "Strongly Disagree" to 5 as "Strongly Agree".

## Results

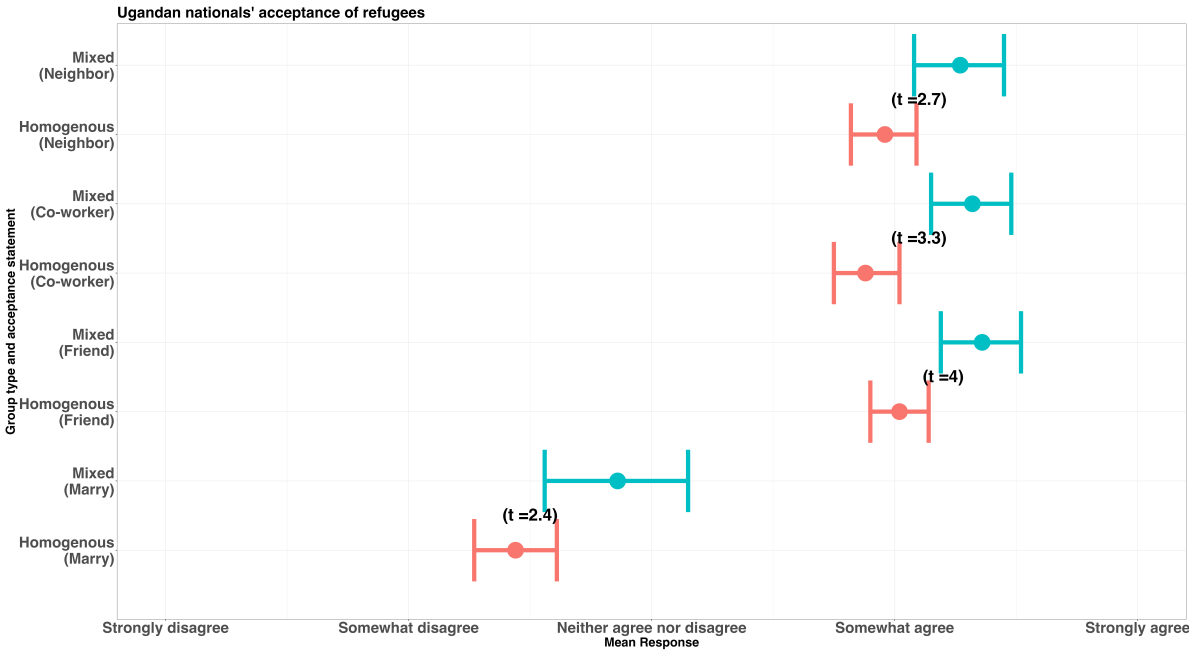



Figure 4.1: On all measures, Ugandan nationals in mixed groups were more accepting of refugees than nationals in homogeneous groups. The points show mean responses to each of the four statements, with 95% confidence intervals indicated by the bars.

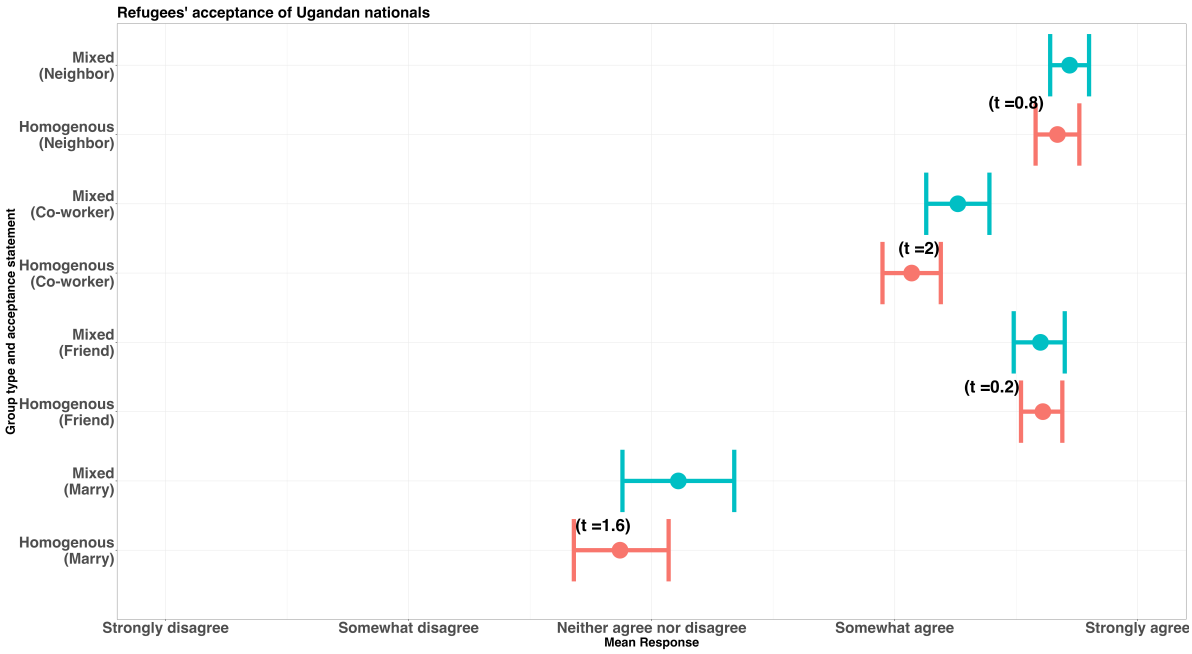



Figure 4.2: On all measures, refugees in mixed groups were as accepting of Ugandan nationals as refugees in homogeneous groups. The points show mean responses to each of the four statements, with 95% confidence intervals indicated by the bars.

While Ugandan nationals in mixed groups were more accepting of refugees than nationals in homogeneous groups, refugees in mixed and homogeneous groups were equally accepting of nationals. As mentioned, those in mixed farmer groups could have self-selected into mixed farmer groups because of their lower propensity for outgroup prejudice. These results could be evidence of this self-sorting. While refugees, especially ambitious ones, depend on NGOs to facilitate farmer group creation and provide resources, Ugandan nationals have more choice in what kind of farmer group they can join because their own communities and villages already have existing farmer groups that were created without external NGO or government help. Therefore, it is likely that nationals with high outgroup animus could choose not to join mixed groups, but refugees with high outgroup animus could not self-select out of them. This scenario would produce a result like what we see above—where we find no significant differences in outgroup acceptance between refugees in mixed and homogeneous groups, but we find Ugandan nationals in mixed groups to be significantly more accepting than those in homogeneous groups.

## Cooperation

Conventional wisdom and much of the intergroup contact literature would predict that if nationals in mixed groups are more accepting of refugees, they should also be more willing to trust and cooperate with them. To test this, I use a vignette experiment that presents respondents with scenarios they would plausibly encounter in real life — sharing food aid, leasing land, negotiating rent, and resolving disputes over shared resources.

**Vignette:**

*"Grace is 37-years-old and [one of five identities]. She has three children aged, 2, 4 and 7. Her husband goes in between Uganda and South Sudan often to find work and she often doesn't hear from him for weeks."*

*Question 1: "One day she comes to you and tells you that she is very worried about the health of her children as they have lost a lot of weight recently because she cannot afford to buy food for them. How willing are you to share your food aid with her to feed her children?"*

*Question 2: "A week later, you see her at a borehole gathering water and she asks you whether she can lease some land from you. How willing are you to lease land to her?"*

*Question 3: "Let's say you come to an agreement with Grace about leasing land. After a few months of leasing land and you want to raise her rent but she says the increase is too high. How difficult do you think it will be to reach a compromise with Grace on this issue?"*

*Question 4: "One day, you are walking around land that your family owns and you find Grace cutting down trees that you need for firewood, so you want her to stop. How difficult do you think it will be to reach a compromise with Grace on this issue?"*

Respondents were read a vignette about a female character whose nationality and tribe were randomly varied. She was identified as either a South Sudanese Dinka refugee, a South Sudanese

Kuku refugee, a Congolese refugee, a Ugandan national, or given no identity as a control. I include two South Sudanese identities with different tribal affiliations because tribal identity introduces an additional layer of social distance beyond nationality alone. During fieldwork interviews, I learned that South Sudanese from the Dinka and Nuer tribes are often perceived as unfriendly and uncooperative. I therefore include Dinka as one identity and use the Kuku tribe — widely seen as neutral — as a comparison. After the vignette was read aloud, respondents answered four questions measuring their willingness to cooperate with the character and to reach a compromise with her in situations of conflict.

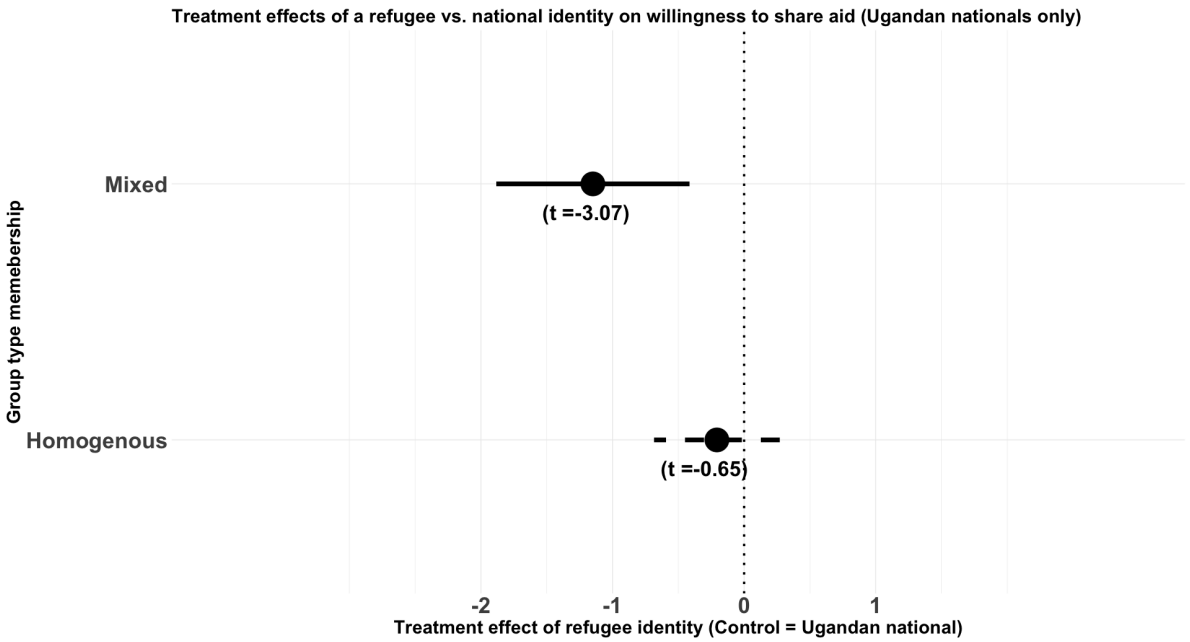



Figure 4.3: When asked about willingness to share aid, Ugandan nationals in mixed groups were significantly less willing to share with a refugee than with a co-national. In homogeneous groups, no significant difference was observed. The points represent the difference in responses to vignettes featuring a refugee (South Sudanese Dinka, South Sudanese Kuku, and Congolese combined) versus a Ugandan national. The "control" treatment is the Ugandan national identity. The dotted line at 0 indicates no difference in treatment effect, and the bars show 95% confidence intervals.

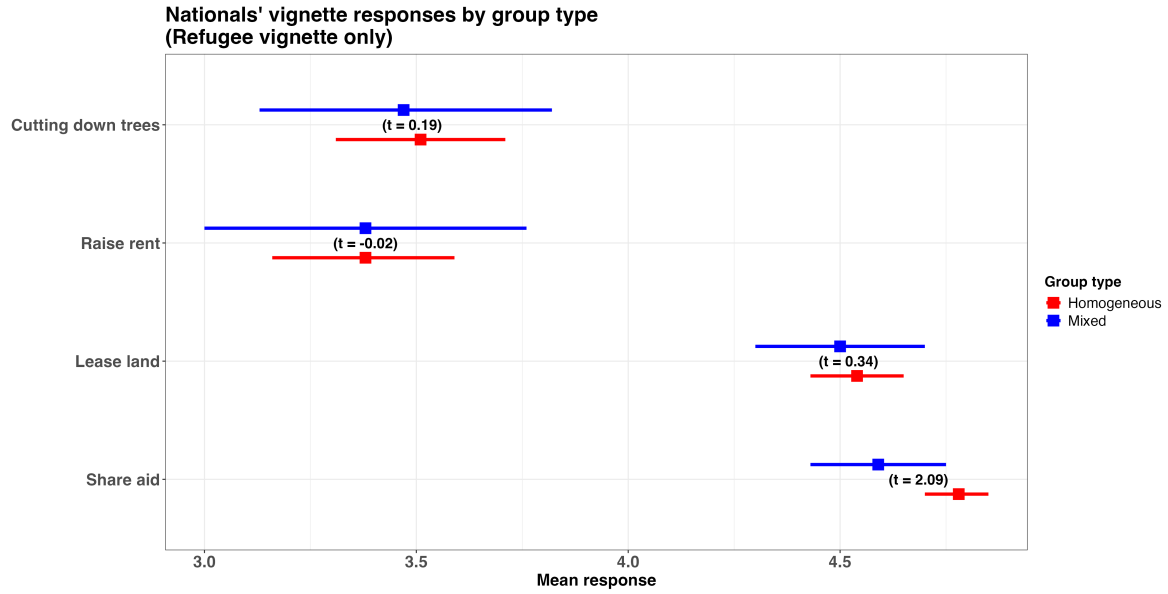



Figure 4.4: Comparison of mean vignette responses between nationals in mixed and homogeneous groups, restricted to respondents who received a refugee identity in the vignette. Higher values indicate greater willingness to cooperate (share aid, lease land) or greater ease of reaching a compromise (raise rent, cutting down trees). Nationals in mixed groups were significantly less willing to share aid with a refugee character than nationals in homogeneous groups (t = 2.09). No significant differences were found for the other three measures. The bars represent 95% confidence intervals.

When presented with a refugee character and asked about their willingness to share aid, nationals in homogeneous groups were equally willing to share with refugees as with co-nationals. On the other hand, nationals in mixed groups, were significantly *less* willing to share aid with a refugee than with a co-national. When comparing how willing nationals in mixed vs. homogeneous groups were to cooperate with refugees in other ways, nationals in mixed groups were not any more willing to share or cooperate with the outgroup than nationals in homogeneous groups. This goes against NGOs' theory of change and intergroup contact theory, which predict that those who are less prejudiced towards the outgroup would also be more willing to work with them.

This shows that even when people hold low outgroup animus, they can still harbor strong prejudicial heuristics — prejudiced beliefs about how an outgroup member might behave in specific situations — that shape their willingness to cooperate. These heuristics act as a filter through which people judge outgroup behavior and decide how to respond, independent of their general attitudes.

As a result, nationals in mixed groups can express warm feelings toward refugees in the abstract while remaining just as reluctant to cooperate with them in concrete situations as nationals who hold high outgroup animus. It is also possible that the day-to-day interaction required within mixed groups generates its own friction, creating experiences of conflict and resentment that reinforce these situation-specific heuristics even as broader attitudes improve.

To understand why people do not update their prejudicial heuristics despite their low outgroup animus, I trained a team of enumerators to carry out structured follow-up interviews with both refugees and nationals in homogeneous and mixed farmer groups. I worked with the same enumerators who carried out the survey, so they already had an understanding of the field context and was able to help me refine the interview tool. Interviewees were selected to ensure variation across both subtypes of prejudice, with some exhibiting low levels of both outgroup animus and prejudicial heuristics, others high levels of both, and others diverging across the two dimensions.

In follow-up interviews, I found that even among nationals who self-selected into mixed groups, some initially held negative attitudes toward refugees but reported changing their views after sustained interaction within the group:

> " It's true... when the refuges first came here, I got upset. But after working with them, now I see them as good people."

> "I used to take them as harsh people but I realized they are also understanding."

Many Ugandan nationals showed warm feelings towards them. The refugee whose story I featured in the introduction said that she got along better with refugees than co-nationals, especially because when she got sick, it was a refugee who went out of their way to help her. Antioner national said that she felt more comfortable being with refugees because she found her co-nationals to be more arrogant.

However, while participating in mixed farmer groups helped respondents rethink their negative stereotypes about the outgroup, it also confirmed their suspicion that the outgroup is hard to work with. One of the aforementioned Ugandan national also said during an interview that "it was the

refugees who were stubborn and did not like work". Both refugees and nationals described negative interactions regarding farm work. Ugandan nationals accused refugees of laziness and missing work days. Meanwhile, refugees accused nationals of having unrealistically high work expectations. Both sides accused each other of reneging on work and harvest distribution agreements. Another Ugandan national who was part of a mixed group also talked about how refugees were lazy: "Mostly it's the refugees who bring this issue, they don't like digging, the [nationals] are always active in digging and dig faster." Due to these initial bad experiences, respondents were less willing to contribute time and labor to group farming efforts.

While previous studies have found that intergroup contact often moves behavior toward individuals (primed by prejudicial heuristics) without affecting general attitudes (outgroup animus), these interviews provide anecdotal evidence that intergroup contact can move outgroup animus and prejudicial heuristics in the opposite direction. For some people, contact might decrease outgroup animus while prejudicial heuristics remain resistant to change. Since people use the latter to predict an outgroup individual's work effort, these heuristics affect how willing they are to cooperate with the outgroup. In the following section, I show through vignette experiments how prejudicial heuristics also lead refugees and nationals to play different, conflicting strategies from each other when trying to cooperate.

## 4.2 How prejudicial heuristics influence intergroup interaction

In the previous section, I showed that while those in mixed farmer groups have low outgroup animus, they still hold prejudicial heuristics that reduce their willingness to cooperate with the outgroup. In these situations, prejudicial heuristics might take the form of beliefs that the outgroup is less trustworthy and more likely to renege on agreements. So, even when people are willing into intergroup settings, they might not cooperate fully with the outgroup. Research has found that cooperation is harder to achieve among diverse populations due to the lack of social capital and the reciprocity norms and trust that come with it (Alesina et al., 1999; Fehr & Schurtenberger, 2018; Habyarimana, Humphreys, Posner, & Weinstein, 2007; Miguel & Gugerty, 2005; Ostrom, 2000).

Therefore, when paired with an outgroup partner (instead of an ingroup partner) in a cooperative situation, people are less likely to invest in cooperation because they have less trust that the outgroup will reciprocate. Furthermore, if they already hold the heuristic that the outgroup is untrustworthy, any negative signal from the outgroup partner will reinforce this belief through confirmation bias.

## Mixed signals vignette

To test whether refugees and Ugandans update their prejudicial heuristics in response to new information, I run a cooperation game that includes both a one-shot vignette and a multi-round sequential exchange. I pool respondents from mixed and homogeneous groups due to statistical power constraints. This pooling is consistent with my theoretical framework: members of mixed groups have had more direct experience with the outgroup, but my argument is that prejudicial heuristics persist not only because of insufficient information but because the institutional environment is not conducive to updating. If heuristics are sufficiently entrenched, additional exposure or information — whether gained through group membership or through successive rounds of the game — should not lead to meaningful revision. The quantity of intergroup experience matters less than the interpretive frame through which that experience is processed.

Since these farmers groups' main activities are income generation, their interactions mostly concern work activities requiring active cooperation over a substantial period of time where they will have the opportunity to observe others' behavior and update their beliefs. Before I measure how prejudicial heuristics condition people to update over multiple rounds, I first measure how these heuristics influence their initial interaction with the outgroup. I expect that because of general outgroup bias, even when the outgroup is always cooperative, they will still be less willing to cooperate with them than an always cooperative ingroup partner. Due to confirmation bias reinforcing prejudicial heuristics, I expect people to respond to imperfect behavior during initial cooperation (mixed signals) more negatively when their partner is from an outgroup, compared to if they had an ingroup partner.

**Hypothesis 1**: Both nationals and refugees will be less willing to cooperate with the outgroup even if they are always cooperative.

**Hypothesis 2**: Mixed signals will have a bigger penalty if they are sent by the outgroup compared to if it is sent by the ingroup.

| | **Group A** | **Group B** | **Group C** | **Group D** |
|---|---|---|---|---|
| **Identity Group** | In-group | | Out-group | |
| **Cooperativeness** | Always cooperative | Mixed signals | Always cooperative | Mixed signals |

Table 4.6: Vignette experiment treatment groups

I ran a vignette experiment that mimics a one-shot trust game, using a scenario that reflects real-world situations where they have to work with a partner on agricultural land. The vignette measures the expectations that refugees and nationals have of their fellow farmer group members who send mixed signals versus those that are always cooperative. I originally planned to run standard trust games that are commonly used in behavioral economics and social psychology. However, when I pre-tested them in the field, I found that respondents had trouble understanding not only the game, but also had difficulty conceptualizing their hypothetical game partner. Therefore, after discussion with my survey enumerators and my partner NGO's field staff, I decided on this set-up for my vignette experiment.

In the vignette experiment, respondents were told that as part of an NGO program, they would be given land to farm, but because it was so big, they would be paired with someone else to work the land. The identity of the partner was randomized between ingroup and outgroup. The partner's behavior will either be that they always show up to work, or they send mixed signals – some days they show up to work, some days they do not (see Table 4.6). They will then be asked how many

days they think their partner will show up to work during an important week for farming, and a week where it rains every day, so it is difficult to travel to the fields. They will also be asked how many days they will show up to work, given that only when two people show up, will the work be completed on the field (see Appendix A.2 for script).

To note for the following analyses of vignettes regarding work effort, while I ask respondents both how many days they would be willing to work and how many they expect their partner to work, I only find variation in responses about their expectations of their partners. Therefore, the following analyses are only on their expectations of partners. From qualitative interviews, I found that respondents tend to portray themselves as willing to work even when they are grouped with uncooperative farmer group members. Respondents often say that it is because they are in great need, and will work harder to complete the farming even if it is in unfair circumstances, because they need food. In addition to this, I think there might be an incentive to portray themselves as hardworking in hopes that this will convince my partner NGO to include them in future farmer group programs. While expectations are not a perfect reflection of reciprocity, because of this demand bias issue, I expect that their answers about expectations are a better reflection of how much respondents would actually cooperate or contribute in work days, than their answers to the actual question.

# Results

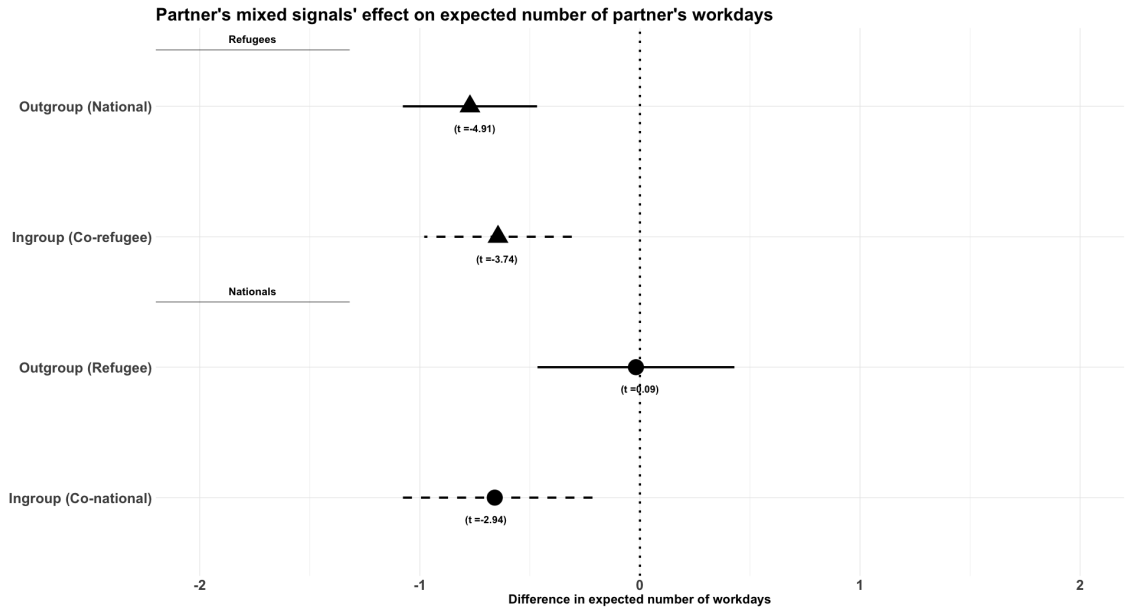



Figure 4.5: Refugees expect significantly less workdays from both co-refugee and national partners who send mixed signals. However, nationals only expect significantly less workdays from co-national partners. There is no significant difference in their expectation of refugee partners who send mixed signals vs. refugees that are always cooperative. The point estimates represent the mean number of days the respondent expected their partner to work, based on whether their partner had an ingroup or outgroup identity. The bars represent 95% confidence intervals.

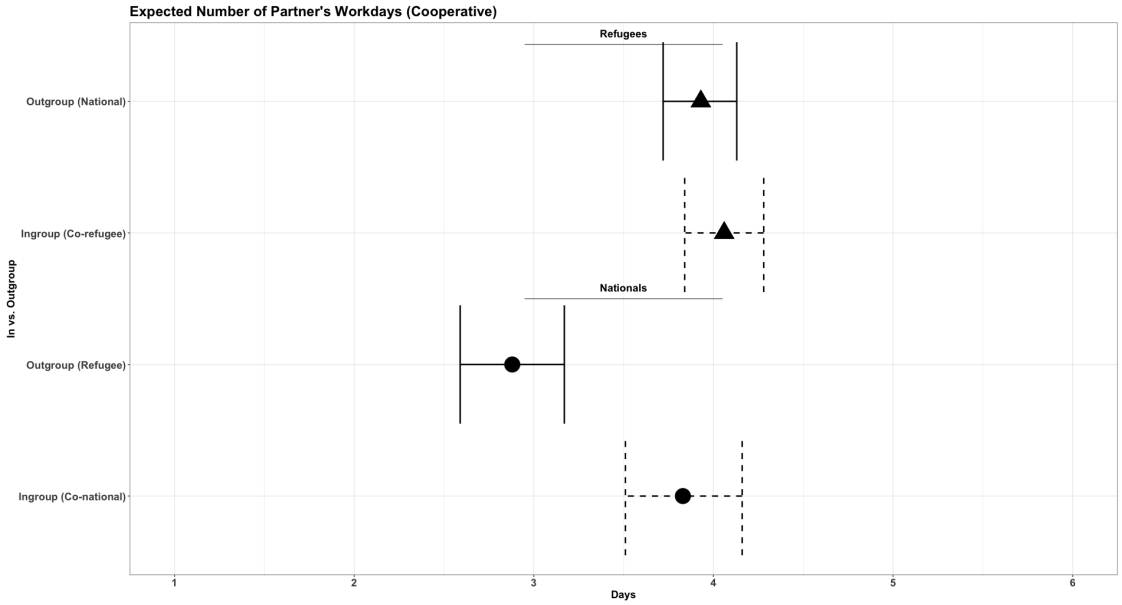



Figure 4.6: Refugees expected the same number of workdays from co-refugee and national partners who are always cooperative. However, national respondents expected a refugee partner who was cooperative to work significantly less number of days, compared to a co-national partner who was cooperative. The point estimates represent the mean number of days the respondent expected their **always cooperative** partner to work, based on whether their partner was an ingroup or outgroup person. The bars represent 95% confidence intervals.

As I stated above, I expected to find that respondents have lower expectations of outgroup partners and more negative reactions to when they send mixed signals, as opposed to ingroup partners. However, I found that refugees have similar expectations and responses to both ingroup and outgroup partners, while Ugandan nationals only responded negatively to ingroup partners (co-nationals). The responses of Ugandan nationals are puzzling given that, by conventional wisdom, we would expect there to be an outgroup penalty, not an ingroup penalty. Upon further investigation, I find that this can be explained by nationals' lower overall expectation of refugees (the outgroup). Even when refugees exhibit cooperative behavior, nationals have a significantly lower expectation of them.

Since nationals already have a low expectation of *cooperative* refugees, when refugees send mixed signals to nationals, nationals' expectations of refugees do not change significantly. Conversely, nationals have high expectations for a cooperative co-national (ingroup) partner. So, when their co-national partners send mixed signals, there is more room for disappointment and their ex-

pectations to fall. While nationals might feel let down by their co-nationals, they are not surprised by a refugee's uncooperative behavior and might even feel "proven right". Interestingly, when nationals lower their expectations of co-national partners after observing mixed signals, they drop their expectations to match their expectations of refugees who send mixed signals (see Figure A.4 in Appendix A.7).

Here, we see that nationals have more persistent prejudicial heuristics about refugees that prevent them from trusting refugees to be cooperative, even when refugees have already exhibited a propensity to cooperate. Whether refugees send perfect or imperfect signals about their willingness to cooperate in the future, nationals expect them to be uncooperative. However, refugees do not hold the same prejudicial heuristics. They are willing to update their expectations for nationals based on the signals nationals send. Therefore, because nationals and refugees hold different prejudicial heuristics and these heuristics are more persistent for nationals, both groups end up playing different strategies with the outgroup.

## 4.3 Examining the dynamics of cooperation with a simultaneous, repeated trust game

| | **Group A** | **Group B** | **Group C** | **Group D** |
|---|---|---|---|---|
| **Identity** | In-group | | Out-group | |
| **First Week** | Cooperative | Uncooperative | Cooperative | Uncooperative |
| **Second Week** | Uncooperative | Cooperative | Uncooperative | Cooperative |
| **Third Week** | Uncooperative | Cooperative | Uncooperative | Cooperative |
| **Fourth Week** | Uncooperative | Cooperative | Uncooperative | Cooperative |

Table 4.7: Treatments in simultaneous repeated trust game

So, how do prejudicial heuristics and the resulting mismatched strategies affect the cooperation dynamic between refugees and nationals? Since I find that nationals have more persistent prejudicial heuristics than refugees and are less willing to update positively, this likely frustrates refugees who are just as willing to update positively for nationals as for their co-refugees. To examine how prejudicial heuristics influence how and whether people update their beliefs over multiple rounds of cooperation, respondents were presented with another vignette similar to the previous one, but this time it simulates a simultaneous, multi-round trust game. There are two treatments: 1) identity of opposing player and, 2) initial cooperativeness of opposing player. They will be told to imagine that one season, pests made their land unproductive and an NGO sees this and offers land to them for farming, from which they keep all of the harvest. However, because the land is very big, the NGO wants them to farm it with someone else. The respondent will be told that they have been paired with either an identity ingroup or outgroup partner. Whatever they harvest, has to be split equally between them and their partner, no matter if someone worked more than the other. In the scenario, the piece of land is so big that both have to work together almost every day, so the agreement is that both of them must each work 6 days a week. In the game, their partner will either start out cooperative or uncooperative, and then switch strategies in the following round and play the same strategy in the subsequent rounds (see Table 4.7).

Respondents will be asked how many hours they think their partner will work in a week and how many hours they would work themselves in a week for five rounds (five weeks). At the beginning of each round (other than the first), it will be revealed how many days their partner worked the previous round (week). E.g. At the beginning of the second round, they will be told their partner worked X number of days in the first week. For each week, they will be told that their partner either works 2 or 6 days a week, the former signals their partner is uncooperative and the latter signals cooperativeness. At the beginning of the third round, they will be told that their partner had a change of heart in the second week and will be told that they worked the opposite number of days (e.g. if they are told that the their partner worked 6 days in the first week, they will be told that their partner worked 2 days in the second week). The amount the partner works stays the same as the

second week in the third and fourth week (Please refer to Appendix A.4 for the script for clarity). After they are told how many days their partner worked the previous week, they will be asked how many days they expect their partner to work the upcoming week.

These treatments measure how the identity of opposing players affects: (1) initial willingness to cooperate, (2) desire to punish uncooperative moves or reward cooperative moves, and (3) willingness to forgive uncooperative actions. These treatments test whether the initial interactions of outgroup pairs are less cooperative than ingroup pairs, and whether it is more difficult for the former to break out of a non-cooperative equilibrium than the latter.

Originally, I pre-registered hypotheses for a follow-up vignette experiment that were similar to Hypotheses 1 and 2, where I expected both refugees and nationals to inflict an outgroup penalty (see Appendix A.3). However, after analyzing the results for the one-shot vignette experiment, I expect that the behavior I saw from the one-shot vignette experiment – where refugees and nationals were playing different strategies – will also replicate over a scenario where there are multiple rounds of interaction. I expect nationals to have lower baseline expectations for refugees, compared to for co-nationals, and to react less positively to a positive change in cooperative behavior when it comes from a refugee partner.

**Hypothesis 3a**: Nationals will have a lower baseline expectation for refugees as compared to co-nationals.

However, I also expect nationals to react less negatively to a refugee partner's negative change in behavior, compared to if a co-national became less cooperative. This means that cumulatively (total number of expected work days from their partner over all rounds) if their partner switches from *cooperative to **un**cooperative*, nationals will actually expect partners with a refugee identity to work the same amount of days as partners who are co-nationals – like I observed in the one-shot vignette experiment. As explained above, this is likely due to confirmation bias as nationals already have low expectations of refugees. So, if refugees negatively change their behavior, it just

confirms nationals' low expectations of them. However, nationals do have high expectations of co-nationals and when co-nationals become uncooperative, nationals will lower their expectations of uncooperative co-nationals.

**Hypothesis 3b**: When partners change from *cooperative to **un**cooperative*, nationals will have the same cumulative expectation for both refugee and co-national partners.

However, this also means that nationals will not "reward" refugee partners for a positive change in behavior when they switch from ***un**cooperative to cooperative*, as their prejudicial heuristics of refugees' behavior are difficult to change. On the other hand, it is likely that nationals will continue to have high expectations for cooperative co-nationals. So, in this case, nationals' cumulative expectation of refugee partners will be lower than for co-national partners.

**Hypothesis 3c**: When partners change from ***un**cooperative to cooperative*, nationals will have a lower cumulative expectation of refugees than co-nationals.

However, because refugees treat both nationals and co-refugees the same, there will be no difference in their cumulative expectation of both co-refugee and national partners, no matter how cooperative their partners are. Therefore, I expect refugees to have the same baseline expectations for both co-refugees and nationals and react to both groups' (cooperative or uncooperative) behavior the same.

**Hypothesis 4a**: Refugees will have the same baseline expectations for co-refugees and nationals.

**Hypothesis 4b**: Regardless of their partners' cooperativeness, refugees will have the same cumulative expectations of co-refugees and nationals.

## 4.4 Iterated cooperation

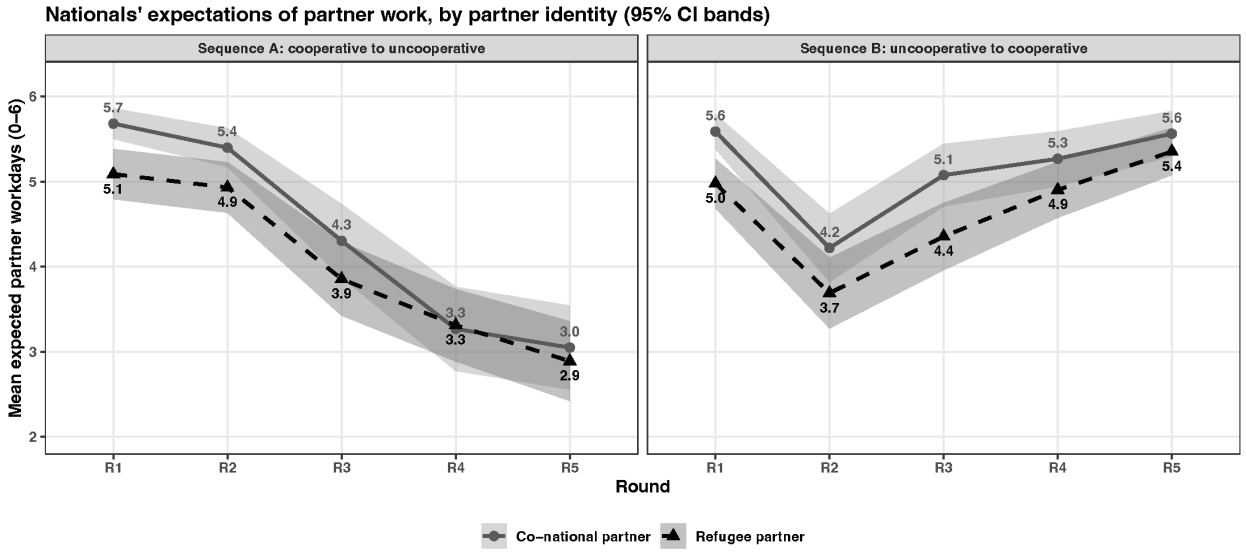



Figure 4.7: Nationals' mean expected partner workdays by round, for a co-national (ingroup) versus a refugee (outgroup) partner, with 95% confidence-interval bands. Round 1 is a pre-information baseline; the partner's behavior is observed from Round 2 onward. The refugee line sits below the co-national line at nearly every round, and the gap is widest at baseline.

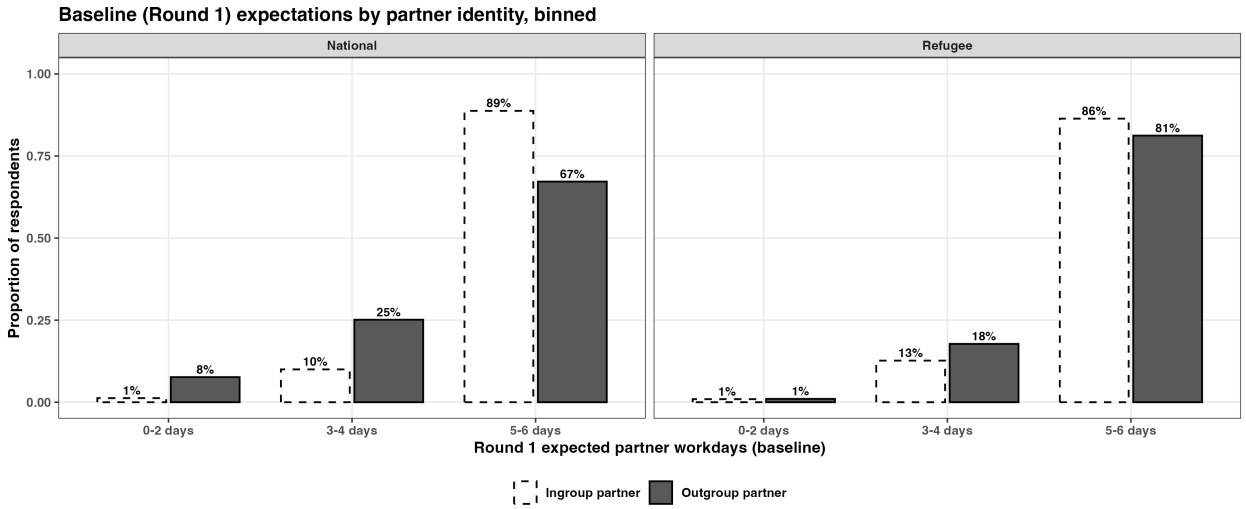



Figure 4.8: Distribution of baseline (Round 1) expectations of partner workdays by partner identity. Nationals show a pronounced gap: 89% expect a co-national partner to work 5–6 days, compared to only 67% for a refugee partner, with the remaining nationals shifting their expectations downward to 3–4 days (25%) or 0–2 days (8%). Refugees, by contrast, show nearly identical expectations regardless of partner identity, with 86% expecting a co-refugee and 81% expecting a national partner to work 5–6 days. This asymmetry in baseline expectations is consistent with nationals holding a stronger prejudicial heuristic about outgroup work effort than refugees do.

The first round alone, before any partner behavior is observed, reveals a sharp asymmetry. Only 11% of nationals paired with a co-national expect their partner to work four or fewer of the six agreed days, compared to 33% of those paired with a refugee (Figure 4.8). Nationals are nearly three times as likely to expect a refugee to shirk at least a third of the agreed workload before knowing anything about their partner ($p < 0.001$). Refugees show no comparable gap: 14% expect a co-refugee to work four days or fewer, against 19% for a national partner — a five-point difference that is not statistically significant ($p = 0.17$).

This baseline penalty is also visible in the mean expectations. Figure 4.7 plots nationals' mean expected partner workdays across the five rounds for co-national and refugee partners separately. At Round 1, before any behavior has been exhibited, nationals already expect a refugee to work roughly half a day less than an otherwise identical co-national — a gap of approximately 0.6 days that appears in both treatment sequences. Only nationals apply a baseline discount to the outgroup; refugees enter the game treating ingroup and outgroup partners as essentially interchangeable.

Furthermore, this baseline penalty does not wash out once nationals begin to observe behavior; it persists most when matched with partners who improve. When a partner switches from uncooperative to cooperative (Sequence B), nationals raise their expectations of a refugee but keep them below their expectations of a co-national at every round, converging only at Round 5. Summed over Rounds 2–5, they expect a cooperating refugee to contribute almost 2 workdays less over four rounds than a cooperating co-national doing exactly the same thing ($t = 2.52$). In contrast, when their partners turn uncooperative, nationals revise downward quickly—by Round 3 their expectations of a co-national have fallen to meet their already-low expectations of a refugee—and they are no harsher on a defecting refugee than on a defecting co-national.

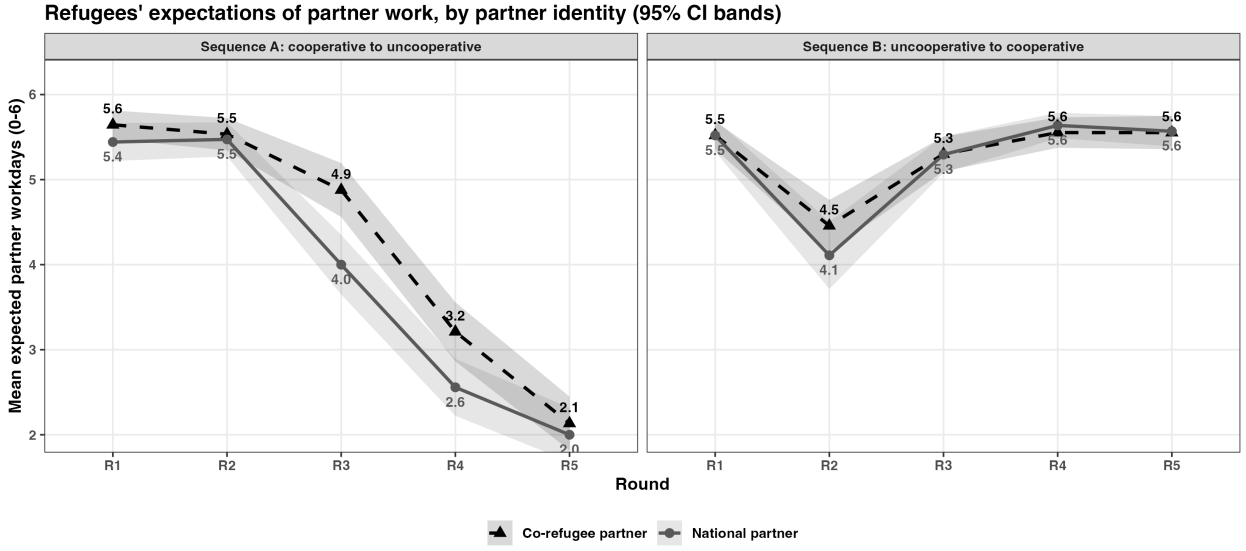



Figure 4.9: Refugees' mean expected partner workdays by round, for a co-refugee (ingroup) versus a national (outgroup) partner, with 95% confidence-interval bands. Refugees show no baseline gap; the only divergence is in the defection rounds of Sequence A.

However, refugees react in the opposite way (Figure 4.9). They carry no baseline penalty for the outgroup. As shown above, in Round 1 they expect the same effort from a national partner as from a co-refugee, with no statistically distinguishable gap. And when a national partner improves, refugees reward them exactly as much as an improving co-refugee. However, when a national partner becomes uncooperative (Sequence A), refugees lower their expectations of them more sharply than of a defecting co-refugee. They expect an uncooperative national to contribute around

1.6 workdays less over four rounds than an uncooperative co-refugee ($t = 2.85$).

The discount operates on the *upside* rather than the downside. When the partner defects nationals are no harsher on a refugee who turns uncooperative than on a co-national who does the same—the two lines fall together and essentially meet by Round 5. What nationals withhold is *credit* for good behavior. When the partner switches from uncooperative to cooperative (Sequence B), nationals do raise their expectations of refugees, but the refugee line trails the co-national line at every round and only nearly converges at Round 5; summed over Rounds 2–5, nationals expect a cooperating refugee to contribute about 1.9 fewer workdays than a cooperating co-national doing exactly the same thing ($p = 0.012$). A refugee partner must cooperate all the way to the final round merely to draw level.

Their only divergence appears on the *downside* — when a national partner defects (Sequence A), refugees lower their expectations of that partner more sharply than of a defecting co-refugee (cumulative Rounds 2–5 difference $-1.64$ days, $p = 0.006$) — while they reward an improving national exactly as much as an improving co-refugee (Sequence B difference $-0.22$ days, $p = 0.58$). Set side by side against an outgroup partner (Figure 4.10), the two groups react to the same behavior in opposite directions: refugees punish outgroup defection harder and reward outgroup improvement faster, while nationals are muted in both.

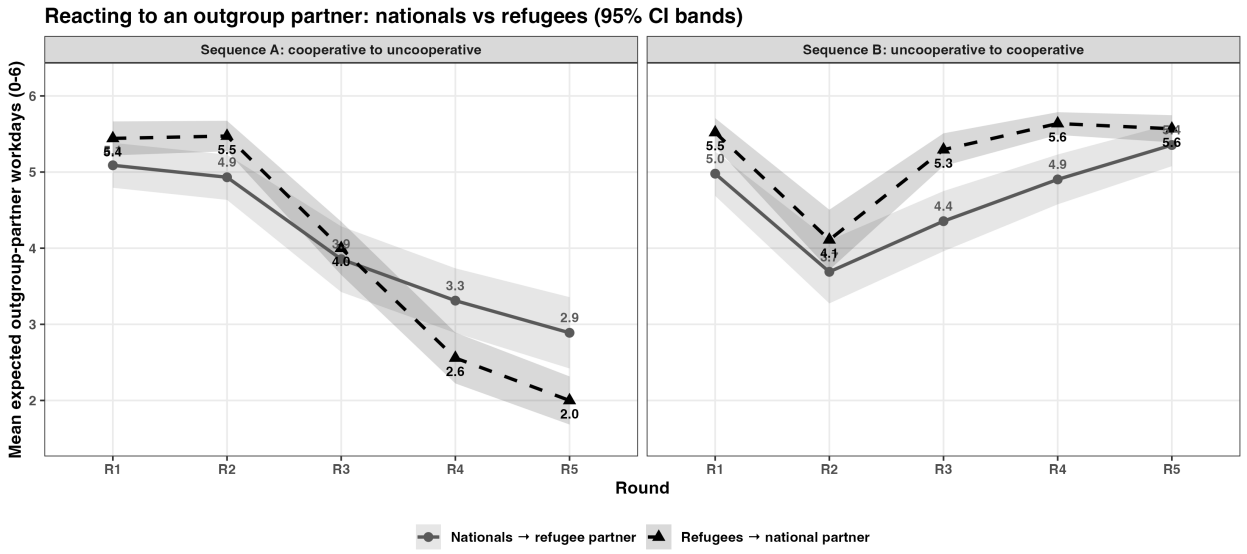



Figure 4.10: Reactions to an *outgroup* partner, by round: nationals responding to a refugee partner versus refugees responding to a national partner. Against the same outgroup behavior, refugees punish defection more (Sequence A) and reward improvement more (Sequence B); nationals are muted in both directions.

Looking at the two groups' reactions to an outgroup partner side by side (Figure 4.10) reveals fundamentally different strategies. Refugees are responsive to their partner's behavior: they reward a cooperating national and penalize a defecting one, applying an outgroup penalty only when the national partner fails to cooperate. Nationals, by contrast, are largely unresponsive to the signal. They do not reward a refugee who cooperates, nor do they punish one who defects especially harshly — instead, the outgroup penalty appears precisely when the refugee partner *does* cooperate. Faced with the same information, refugees update their behavior in line with what they observe, while nationals hold to a fixed prior regardless of what the outgroup partner does.

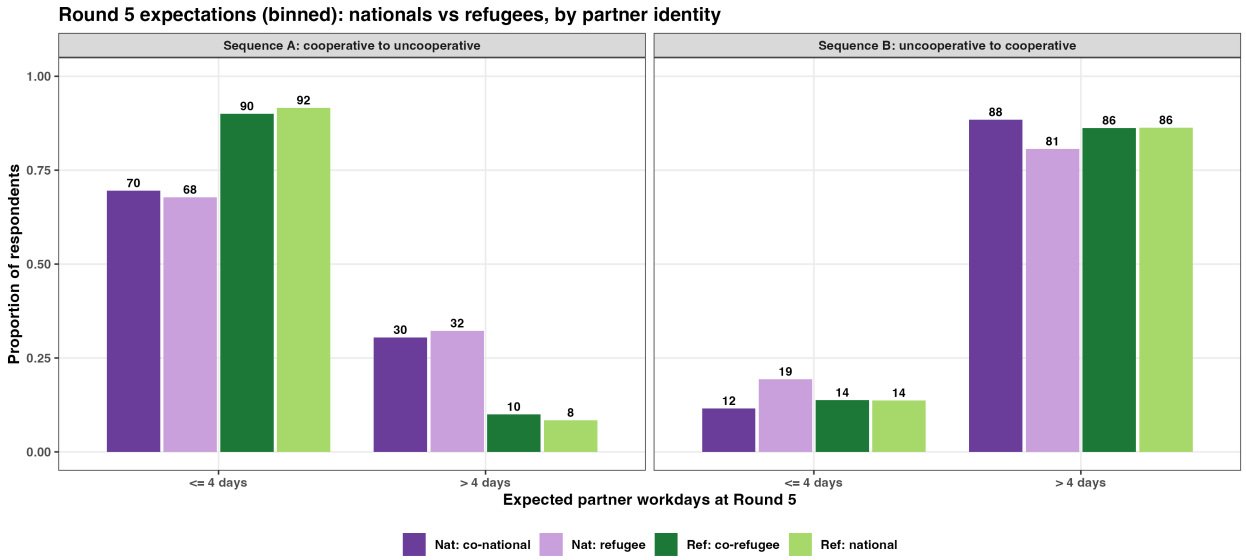



Figure 4.11: Round 5 expectations, binned as $\leq 4$ versus $> 4$ expected partner workdays, for all four respondent×partner conditions, by sequence. For both sequences the conditions converge, but the asymmetry of nationals' expectations of co-nationals and refugees in Sequence B remains the largest, even after sustained cooperation.

These different strategies leave a single, telling residue by the final round. In most cases the ingroup–outgroup gap has closed to no more than two percentage points— among refugees in either sequence, and among nationals after a partner has become uncooperative. The exception is the case most central to the updating story: even after a partner has cooperated through to Round 5 (Sequence B), almost one-fifth (19%) of nationals still expect a refugee partner to shirk at least two of the six days, against 12% of nationals paired with a co-national— a seven-point gap that sustained cooperation does not erase (Figure 4.11). The outgroup penalty survives where it is most detrimental to cooperation, in nationals' willingness to reward a cooperating refugee.

## Why nationals do not update

So, why do nationals have a lower baseline expectation for refugees and resist updating even with new, positive information? I argue that this reflects a prejudicial heuristic nationals hold about refugees: that they refugees are less hardworking, and therefore are unreliable partners. Crucially, this heuristic is rooted in the belief that refugees receive humanitarian assistance and can subsist

on it, make them less willing to work.

In interviews, nationals repeatedly described refugees as not liking or being used to farm work like Ugandans. This belief was reflected by a Ugandan in a national-only NURI group but was in a mixed group in a previous NGO program: "The refugees cannot work for a long time. . . when they come at around 8 am, they'll want to leave at 10 am leaving others in the field to work alone." Nationals sometimes described refugees as "lazy" and also as being "uninterested" in farm work. When I dug deeper to understand why they had these beliefs, I found that it was often tied to the fact that refugees receive food aid from UNHCR. As one Ugandan put it: "[refugees] generally don't like garden work . . . they are used to getting free things from UN, thus making them prefer waiting for their rations than doing garden work." The same Ugandan who observed that refugees did not want to stay long for work said, "when the day of work collides with the day of receiving their food rations, they choose to go for food rather than coming to do farm work."

This reasoning surfaced not only in general interviews but also in direct follow-up questions to the vignette experiments. This same explanation was given directly after enumerators asked nationals why they gave the answers they did to the vignette experiments. Nationals who were paired with cooperative refugee partners in the "mixed signals" vignette justified their low expectations with the fact that they get other support from NGOs. One Ugandan paired with a refugee partner that sent cooperative signals tied it explicitly: "She wouldn't want to exploit herself like I do given they receive aid".

In the iterated cooperation game, nationals who expected their refugee partner to show up for four days or fewer in the first round — before observing any behavior — frequently cited food aid as the reason. When their refugee partners showed sustained cooperative behavior (Sequence B) in the iterated cooperation game, nationals used the same explanation to discount refugee's positive change in behavior, anticipating that their refugee partner will not show up because "She would also get another support from the NGOs". One national gave aid as the reason why she expected a refugee partner to show up less than she does: "She would feel she has done too much given the support she receives from the NGOs — as for me, I don't get [any aid]".

Nationals draw on the same story across interviews, vignette debriefs, and the cooperation game: that refugees are less willing to work because they can rely on aid. This reasoning appears regardless of the context in which they are asked and the evidence in front of them. This suggests that while prejudicial heuristics may initially form in low-information environments, they do not necessarily update as new information accumulates. This is particularly the case when heuristics are anchored in a structural condition — in this case, the aid system — that individual-level cooperative behavior cannot address. Because the source of the heuristic lies outside the intergroup interaction itself, even sustained positive signals from refugees provide little that nationals interpret as grounds for updating.

## Are refugees actually less cooperative?

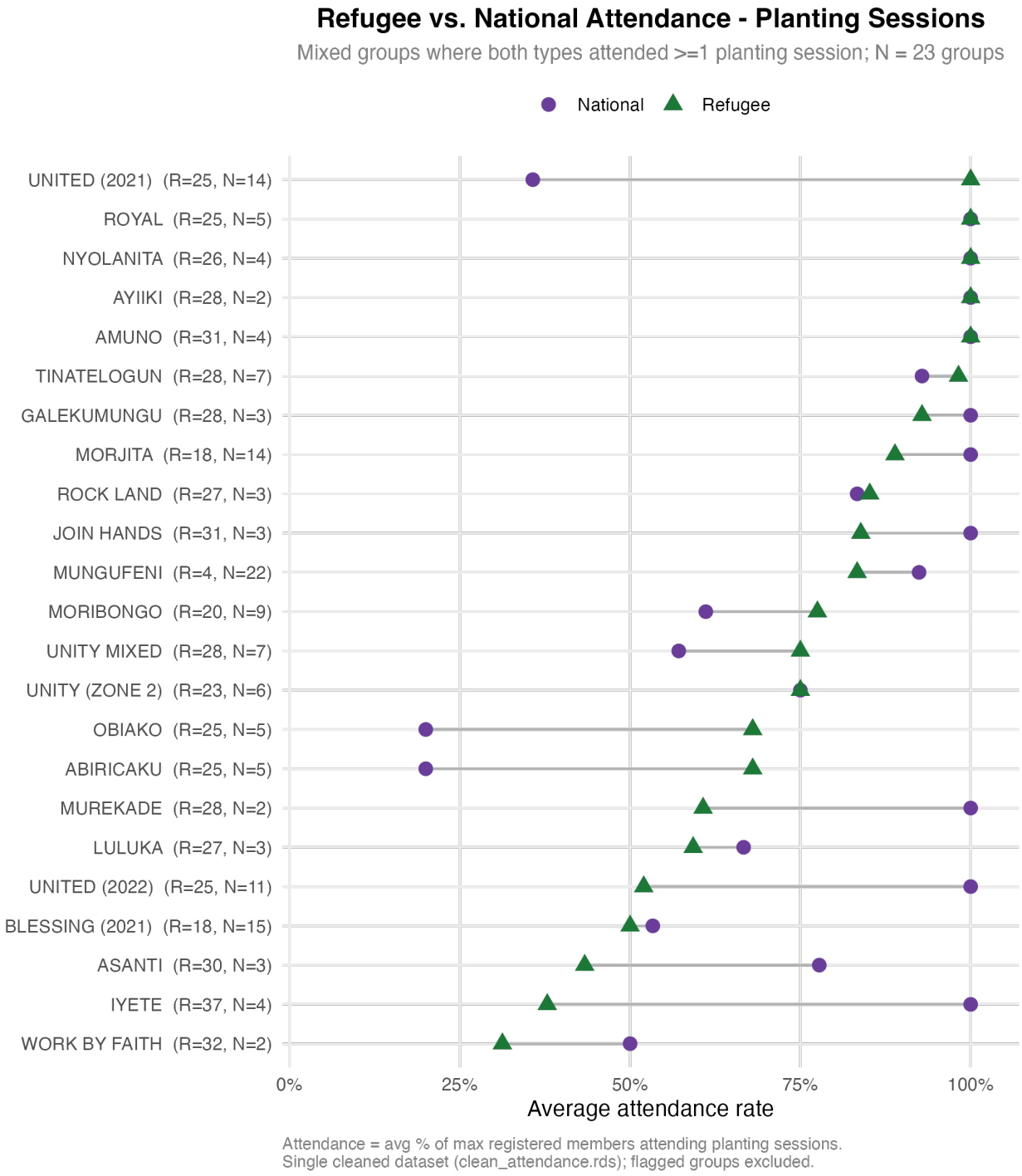



Figure 4.12: Average attendance rates of refugees and nationals in mixed farmer groups.

A natural question arising from these results is whether refugees actually show up less than nationals to farmer group activities, particularly demanding ones like planting days. To answer this, I examined the attendance data discussed in the previous chapter, focusing on average planting-session attendance within mixed groups. Figure 4.12 reports average planting-session attendance for refugees and nationals within mixed groups. Refugees attend at high rates across groups. Nationals do attend at a higher rate in most groups, but that gap is largely mechanical: where it is widest — OBIAKO, ABIRICAKU, NYOLANITA— the national denominator is very small (N = 4 or 5), so one extra national attending moves the rate sharply, whereas refugees who number in the 25-30 range must mobilize far more of themselves for the same proportion. GALEKUMUNGU and ROCK LAND (both N = 3) sit near the top for the same reason. Where the national group is comparable in size (MUNGUFENI, N = 22) the two rates converge, and groups with larger national denominators (UNITED (2021), N = 14; BLESSING (2021), N = 15) show smaller gaps generally.

These patterns appear to contradict the stereotype documented earlier in this chapter: refugees do show up to farm, at rates comparable to nationals once small national denominators are accounted for. The sample is small and self-selection into mixed groups cannot be ruled out, so these patterns are suggestive rather than conclusive. That said, they do indicate that where cooperation breaks down, it is not simply because refugees fail to attend.

That the evidence contradicts the belief that refugees do not show up to planting days, but does not weaken it. Nationals do not simply lack information about refugees' work effort; they reinterpret information that contradicts their expectations. A refugee who works reliably is read not as dependable but as temporarily motivated, one aid cycle away from defecting. A co-national who exhibits identical behavior is simply seen as trustworthy. The heuristic does not predict what refugees will do today — it predicts what they will \textit{eventually} do, making any present cooperation irrelevant to the assessment.

## 4.5 Alternative explanations

### Higher work standards for refugees

One alternative explanation behind refugees and nationals' prejudicial heuristics is that they have different standards of work for themselves and the outgroup. Nationals expect refugees to work harder, and refugees expect nationals to have lower work expectations of them than nationals actually do. Nationals might have higher standards for refugees than themselves because they expect refugees to work harder as outsiders, for the same benefit as nationals. This possible explanation comes from literature on natives' attitudes towards immigrants, which have found that immigrants are punished more harshly than natives when they exhibit "unfavorable behavior", when natives evaluate how deserving a welfare claimant is (Kootstra, 2016). To measure whether refugees and nationals measure work effort differently of the outgroup versus ingroup, I run a vignette experiment about a member in their farmer group missing work. The co-member's identity was randomized to either be an ingroup or outgroup identity. They were told:

*"Let's say you hear about a dispute in another farmers group. The group had agreed that everyone would show up to work four days a week to dig in their communal land. But one of their members, who is a (Ugandan Lugbara/South Sudanese Kakwa/South Sudanese Dinka/Congolese Alur) woman, only showed up two days a week for many weeks. When it comes to harvest time, the group said that she has to receive less because she only showed up two out of the agreed four days a week. She asks for forgiveness and explains that she did not show up because she needed to take care of her children and had to go to many burials."*

They were asked how acceptable it is for their hypothetical co-worker to miss work and whether they agreed with the group members who want her harvest portion to be reduced. They were then asked: "If everyone was entitled to five bags of harvest, how many bags should she be given?"

If this alternative explanation is true, then nationals will be less accepting of refugees who miss work than nationals who miss work, but refugees will be equally accepting of refugees and nationals who miss work. Furthermore, nationals will want a bigger reduction of the harvest portion of refugees who miss work, than nationals who miss work, while refugees will reduce equal amounts of the harvest portion of refugees and nationals who miss work.

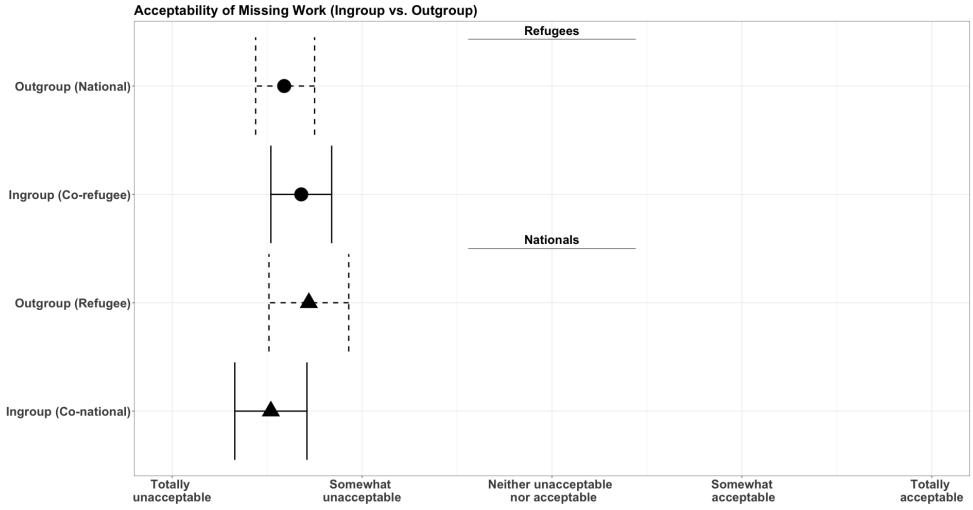



Figure 4.13: There is no significant difference in how acceptable respondents thought it was for an identity ingroup vs. outgroup co-member to miss work. The point estimates represent the mean response depending on whether the co-member was an identity ingroup or outgroup person. The bars represent 95% confidence intervals.

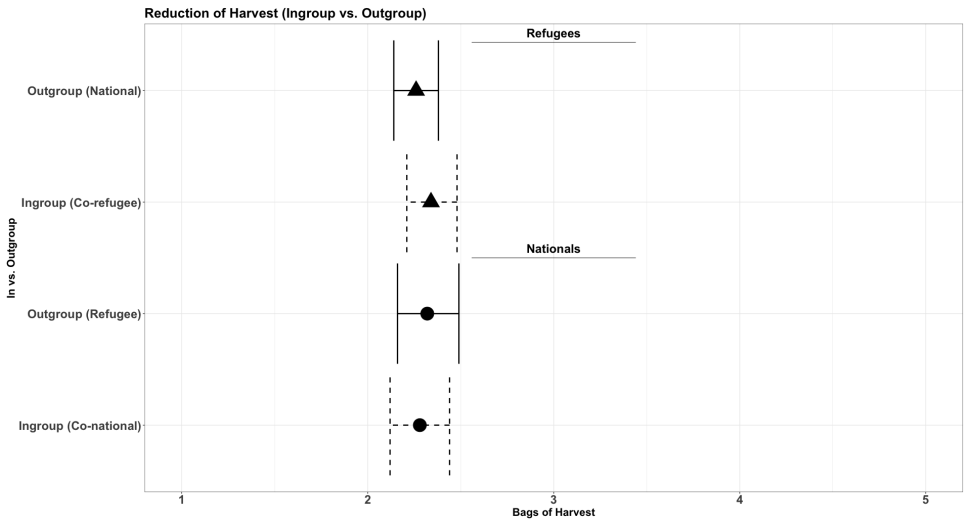



Figure 4.14: There is no significant difference in how many bags respondents thought should be reduced for an identity ingroup vs. outgroup co-member when they miss work. The point estimates represent the number of bags refugee and Ugandan national respondents thought the absent co-member in the vignette should receive out of the usual five bags. The bars represent 95% confidence intervals.

As can be seen from Figures 4.13 and 4.14, both nationals and refugees are equally critical of refugees and nationals who miss work, and there are no significant differences in how much they want to reduce a refugee or a national's harvest when they miss work. This goes the expectation that nationals would be less accepting of refugees who miss work, but are in line with the expectation that refugees will be equally accepting of both refugees and nationals who miss work. Therefore, it is not the case that prejudicial heuristics come from the belief that refugees should be held to a higher work standard than nationals.

## Relative deprivation

For refugees, it is a possibility that a sense of relative deprivation vis-a-vis Ugandan nationals can partly explain their prejudicial heuristics that lead them to inflict an outgroup penalty. The theory of relative deprivation posits that people feel deprived of resources that they think are realistic for them to obtain, when they compare themselves to other people or groups that possess it (Greitemeyer & Sagioglou, 2019; Runciman & Runciman, 1966; Stouffer & Stouffer, 1977). Relative deprivation is especially salient for refugee-host relations as both sides feel a sense of relative deprivation. Unsurprisingly, refugees feel relatively deprived compared to Ugandan nationals because of the great losses refugees have suffered (Koubi, Böhmelt, Spilker, & Schaffer, 2018). On the other hand, nationals of developing countries often feel a sense of relative deprivation when they see the aid provided to refugees by international organizations (Zhou, 2019). This has implications for cooperation between the two sides, as they might be less willing to reciprocate and contribute resources in a cooperative situation because of feelings of relative deprivation.

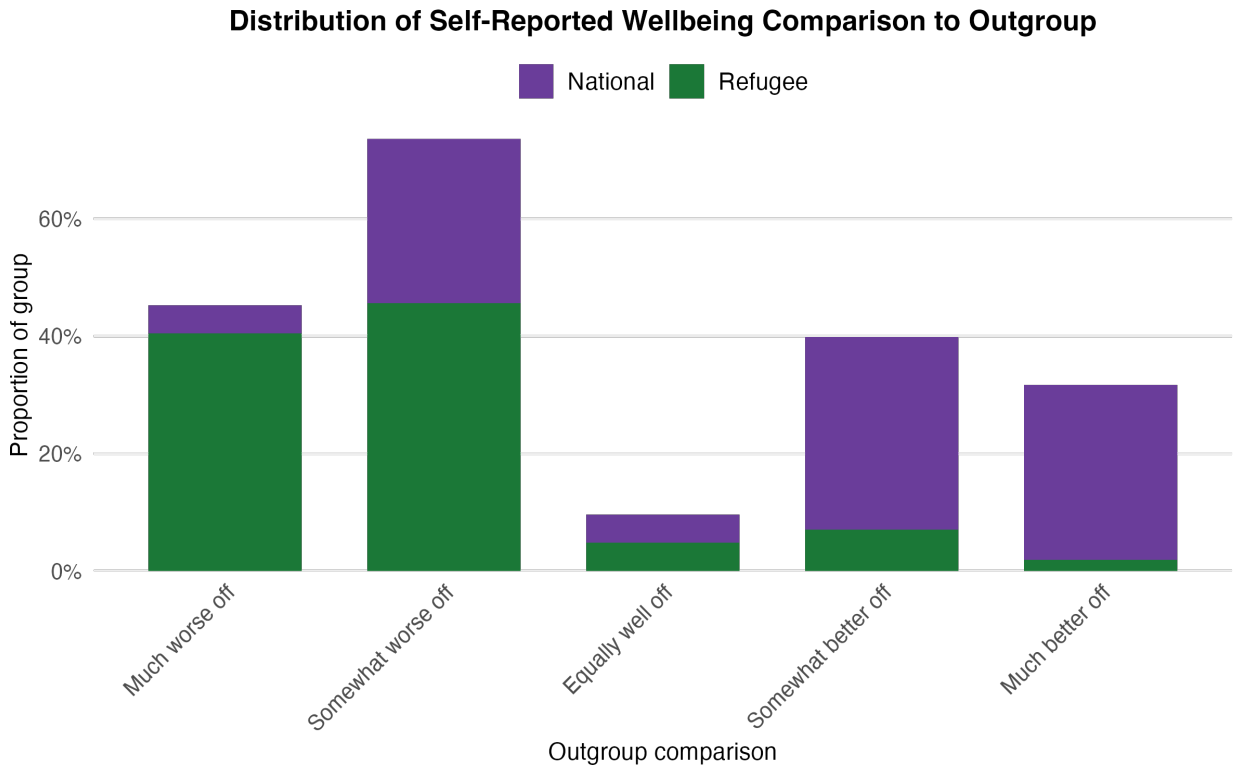



Figure 4.15: Distribution of self-reported wellbeing relative to the outgroup. Refugees overwhelmingly report being worse off than Ugandan nationals, with over 80% selecting "much worse off" or "somewhat worse off." Nationals show a more dispersed pattern, with roughly equal proportions reporting being somewhat or much better off than refugees. Very few respondents from either group report being equally well off as the outgroup.

Even though both refugees and nationals might feel relatively deprived compared to each other, I expect relative deprivation to have more explanatory power for why refugees do not positively reciprocate. As Figure 4.15 shows, when asked to compare their wellbeing to the outgroup, refugees overwhelmingly report feeling worse off than nationals. Nationals' responses are more varied — some do report feeling worse off than refugees, but the majority consider themselves better off. To test whether feelings of relative deprivation affect refugees' or nationals' willingness to reciprocate, I ran an experiment in which I prime relative deprivation by telling respondents one of three prompts:

1) Refugees are less likely than Ugandan nationals to have access to agricultural land to farm to support themselves and their families. Because of this, refugees are less likely than host

communities to have enough food to feed their families.

2) Most refugees are able to rely on aid from the World Food Program (WFP) and other NGOs as their main source of food, while most host communities have to rely on their own production for food.

3) Both Ugandan nationals and refugees do not have adequate access to food and medical treatment. Both nationals and refugees struggle to feed their family and they have to walk very far to get medicine.

| | **Treatment 1: In-group > Out-group** | **Treatment 2: In-group < Out-group** | **Control Treatment: In-group = Out-group** |
|---|---|---|---|
| **Round 1** | Amount A | Amount B | Amount C |
| **Round 2** | Amount 1 | Amount 2 | Amount 3 |

Table 4.8: Comparison of treatments across rounds

They were then told to imagine that an NGO is coming to give out seeds for planting to improve their livelihood, and they want the respondent's community to distribute it among each other. They were told that each season they will be paired with someone and they will take turns deciding how to split 7 bags of seeds. In pre-tests, we found that refugees were responding that they had no need for seeds as they did not have land. So, we added that the NGO will also lease them land. They are then paired with a hypothetical identity out-group and told that in the first season, they will be given 7 bags of seeds to be shared with their partner and they have to decide how many to give to their partner and how many to keep (Round 1). They will then be told that in the next season, they will be paired with a different outgroup partner and it will be their partner's turn to decide how to split the 7 bags of seeds (Round 2). They will be told that the partner gives them 4 bags and keeps 3 bags for themselves. Then asked, "If you are paired with the same person next season, how many bags will you give to them out of 7 bags the NGO gives you?" (Please refer to Appendix A.6 for the script for clarity).

As this vignette experiment primes relative deprivation, it was played at the end to not affect the other experiments. This vignette measures whether feelings of relative deprivation vis-a-vis an outgroup will change a person's willingness to positively reciprocate. If relative deprivation is at work here, I expect that refugees' contributions will be lower overall than nationals' contributions.

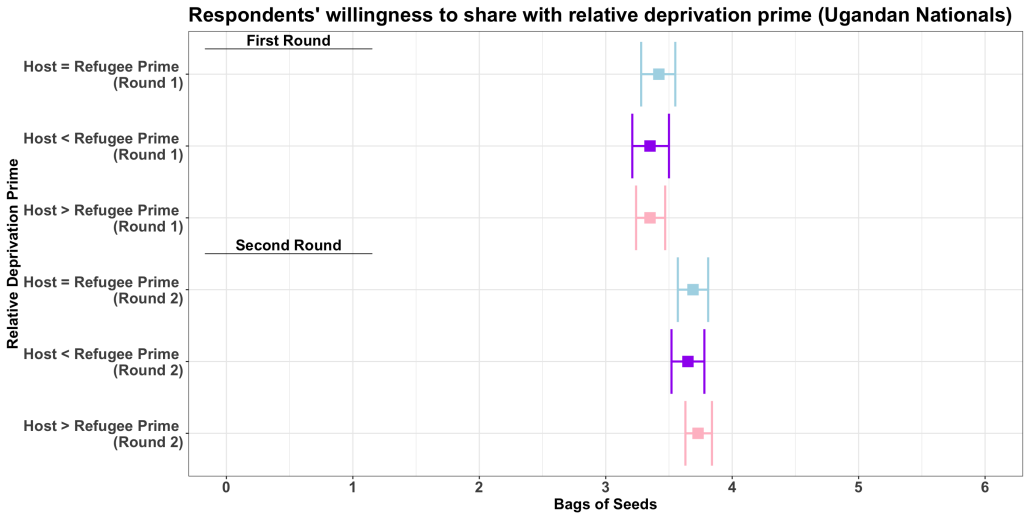



Figure 4.16: The point estimates represent mean number of seed bags nationals are willing to share, based on the relative deprivation prime they receive (y axis). The bars represent 95% confidence intervals. There is no significant difference in willingness to share when respondents are given different primes.

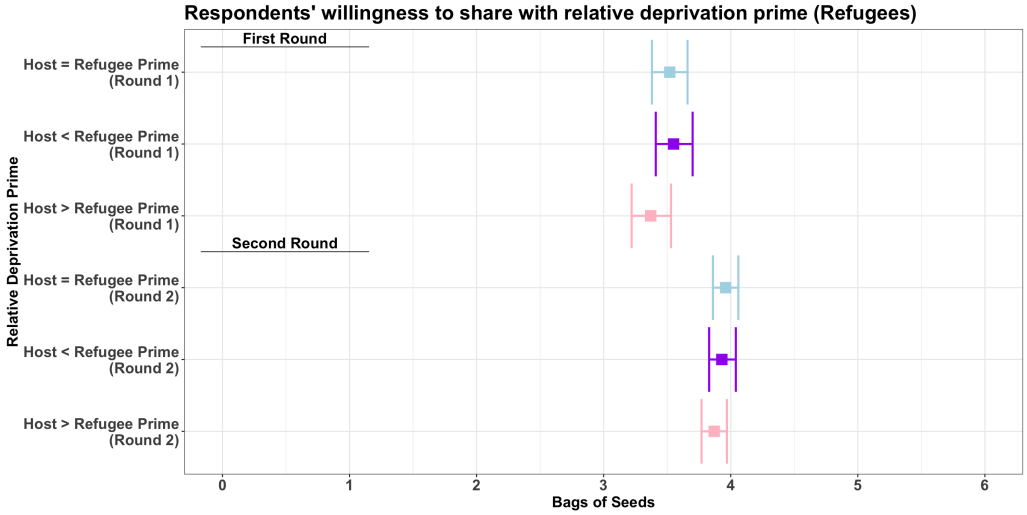



Figure 4.17: The point estimates represent mean number of seed bags refugees are willing to share, based on the relative deprivation prime they receive (y axis). The bars represent 95% confidence intervals. There is no significant difference in willingness to share when respondents are given different primes.

As can be seen from Figures 4.16 and 4.17, the different relative deprivation primes did not move both refugees and nationals respondents' willingness to share seeds in significantly different ways. However, respondents did share significantly more bags of seeds with their partner in the second round, after they observed their partner's generosity. This could be because people already have entrenched beliefs about the relative privilege of refugees and nationals and a simple information prime will not move their beliefs.

## 4.6 Conclusion

This chapter set out to examine whether mixed farmer groups deliver on the two promises embedded in their theory of change: expanding refugees' access to land, and fostering intergroup cooperation through sustained contact. On the first count, mixed groups do appear to facilitate greater land access for refugees, though self-selection makes it difficult to isolate the effect of the group structure itself. On the second, the picture is more complicated. Nationals in mixed groups express lower outgroup animus and greater acceptance of refugees in the abstract, consistent with intergroup contact theory. Yet when asked to cooperate with a refugee in concrete, situationally specific scenarios, they are no more willing — and in some cases less willing — than nationals in homogeneous groups. This disconnect is driven by prejudicial heuristics, particularly the belief that refugees are unreliable partners because they can fall back on humanitarian aid. These heuristics prove resistant to updating: nationals discount cooperative signals from refugees, reinterpreting positive behavior through the same story rather than revising their expectations. Refugees, by contrast, are responsive to their partners' behavior but face a partner who does not reciprocate, creating an asymmetry that can trap both groups in a low-cooperation equilibrium. Neither differential work standards nor relative deprivation primes explain these patterns. The core finding is that low outgroup animus is not sufficient for productive cooperation — what matters is whether the situational heuristics that govern cooperation can be changed by the contact that institutions provide.

# CHAPTER 5

# Conclusion

Intergroup contact interventions are widely promoted by policymakers and international organizations to foster social cohesion across ethnic, religious, and cultural divides. These interventions span from local initiatives, such as interfaith sports teams and community development groups, to national policies aimed at integrating schools, public spaces, and labor markets. Academics and practitioners champion intergroup contact not only as a tool to reduce prejudice but as a path to broad-based development — expanding equal access to opportunities, strengthening local economies, and building the trust that underpins functioning communities. For such opportunities to be realized, however, individuals must be both willing and able to cooperate effectively across group lines. This dissertation has shown that willingness to enter a diverse setting is not the same as willingness to cooperate within it.

## 5.1 Summary of the argument

The central contribution of this dissertation is a distinction between two subtypes of prejudice — outgroup animus and prejudicial heuristics — and a demonstration of how each shapes a different stage of the cooperative process. Outgroup animus governs whether people are willing to enter intergroup settings at all. Prejudicial heuristics govern what happens once they arrive: how they interpret their partners' behavior, whether they reciprocate cooperative signals, and whether cooperation is sustained over time.

In the Ugandan farmer groups I study, nationals who self-selected into mixed groups held low

outgroup animus and expressed genuine acceptance of refugees in the abstract. Yet when placed in cooperative scenarios, they were no more willing — and sometimes less willing — to cooperate with refugees than nationals in homogeneous groups. The disconnect was driven by a prejudicial heuristic anchored in the humanitarian aid system: the belief that refugees lack the incentive to work because they can fall back on aid. This heuristic produced lower baseline expectations of refugees, led nationals to discount cooperative signals, and proved resistant to updating even when refugees demonstrated sustained cooperative behavior. Refugees, who did not hold a comparably strong heuristic about nationals, entered the interaction willing to cooperate and responsive to their partners' behavior — but faced partners who did not reciprocate. The result was an asymmetric dynamic in which two reinforcing mechanisms — a strong, structurally anchored prior and a downward cooperative spiral — trapped both groups in a low-cooperation equilibrium that the intergroup setting was designed to prevent.

## 5.2 Implications for intergroup contact theory

These findings challenge a key assumption in the intergroup contact literature: that reducing prejudice is sufficient to produce cooperation. The literature has rigorously examined the link between contact and prejudice reduction but has largely treated cooperation as a downstream consequence that follows automatically once attitudes improve. My results show that this assumption does not hold. Contact can reduce outgroup animus without improving cooperation, because the prejudicial heuristics that govern situational decision-making operate on a different register than general attitudes — one that interpersonal contact alone may not reach.

This also helps explain why intergroup contact interventions produce inconsistent results across different outcome measures. Most interventions are designed in ways that primarily engage prejudicial heuristics — through personalized, small-group interaction — yet they are frequently evaluated against measures of outgroup animus. When the intervention changes behavior toward individuals without shifting general attitudes, it appears to have "failed" on attitudinal measures even though it succeeded at the level it was designed to operate on. Conversely, when general attitudes improve

but cooperation does not follow, as in my case, the intervention appears to have succeeded" on attitudinal measures while missing its practical objective entirely. Recognizing that animus and heuristics are distinct — and that each requires different conditions to change — can help both researchers and practitioners design more targeted interventions and evaluate them against the right outcomes.

The framing I develop also offers a more precise account of when and why heuristics resist updating. The issue is not that people are inherently unwilling to revise their beliefs — a framing that would collapse heuristics back into taste-based animus. Rather, the strength of the prior relative to the signal determines whether updating occurs. When a heuristic is informed by an external context that the person can independently observe — such as the existence of an aid distribution — the prior is strong, and the cooperative signals generated by any single interaction are too weak to overwhelm it.

## 5.3 Implications for program design

If prejudicial heuristics are anchored in systemic conditions rather than individual attitudes, then interventions designed to change attitudes through interpersonal contact will be insufficient on their own. Program design must address the structural conditions that sustain heuristics, not just facilitate interaction. In the Ugandan case, the farmer group program successfully addressed one dimension of the cooperation heuristic — refugees' ability to farm — by providing agricultural training that nationals could observe directly. But it did not address the other dimension — refugees' perceived incentive to cooperate — because the aid system that anchors the heuristic persists independently of anything that happens within the farmer group. The broader lesson is that understanding *why* people hold the beliefs they do about their cooperative partners — and whether those beliefs are anchored in structural conditions or individual impressions — is essential for designing interventions that shift cooperation rather than merely shifting attitudes. What specific programmatic changes might achieve this, and what questions this dissertation leaves unanswered, are the subjects of the following section.

## 5.4 Limitations and future research

This study has several limitations that point toward productive directions for future work. First, because group membership is endogenous — nationals self-selected into mixed or homogeneous groups — I cannot make strong causal claims about the effect of mixed-group membership on cooperation. The patterns I document are consistent with my theoretical framework, but a randomized design would provide cleaner identification. However, as I have argued throughout, the self-selection setting is itself theoretically informative: if cooperation breaks down even among those who chose to participate, the barriers to cooperation are likely to be more severe in settings where participation is coerced or random.

Second, through follow-up interviews exploring why nationals hold lower expectations of refugees, I find suggestive evidence that the heuristic is rooted in the perception that humanitarian aid provides refugees with an outside option that reduces their incentive to invest effort in cooperative work. However, I have not directly tested whether nationals' expectations would change if that structural condition were altered or absent. A natural extension of this work would be to examine refugee-host cooperation in a setting where aid is not available as an outside option. One possible site is Kenya, where refugee aid was already limited and has been further reduced following the closure of USAID programs. If my theoretical framework is correct, nationals in a Kenyan mixed farmer group program should update more readily in response to refugees' cooperative behavior, because the prior that refugees can fall back on aid would lack a structural anchor. Comparing updating patterns across the two contexts would provide a direct test of whether it is the aid system, rather than something intrinsic to refugee-host dynamics, that sustains the heuristic.

A simpler test could be conducted within Uganda itself by varying the visibility or structure of aid distribution — shifting ration days so they no longer conflict with farming schedules, converting in-kind aid to less observable forms, or replacing rations with income-generating opportunities that align refugees' incentives with cooperative work. Another possible intervention is to make cooperation within the group contractually binding or introduce formal sanctioning mechanisms

that raise the cost of defection for both parties. This does not change the heuristic directly, but it changes the incentive calculus in a way that makes cooperative behavior harder to dismiss as temporary. If such changes weakened nationals' priors and made cooperative signals from refugees more informative, it would confirm that the heuristic is anchored in the structural environment rather than in deeper attitudes about refugees — and it would point toward concrete, actionable interventions.

Third, while this dissertation focuses on refugee-host dynamics in Uganda, the theoretical framework is not specific to that context. Prejudicial heuristics anchored in systemic conditions are likely present wherever intergroup cooperation occurs in environments marked by structural asymmetries — immigrant integration in labor markets, interethnic cooperation in post-conflict settings, or cross-class collaboration in educational institutions. In each case, the relevant question is the same: what structural condition anchors the heuristic, and does the intergroup setting address it or leave it intact? Future research could test whether the mechanisms I identify — the asymmetry in prior strength, the cooperative spiral, and the interaction between the two — generalize across these contexts.

Finally, this work opens a broader question about the relationship between distributive politics and intergroup cooperation. The aid system in Uganda's refugee settlements is a form of distributive politics — it determines who receives what resources and on what terms — and it shapes how ordinary citizens perceive each other's incentives to cooperate. As migration and forced displacement continue to rise globally, the intersection between resource distribution and intergroup attitudes will become increasingly consequential. A substantial literature examines how natives evaluate the "deservingness" of migrants and refugees for aid or welfare, and how those evaluations shape preferences over immigration policy. But this work focuses primarily on attitudes — who deserves what, and how much immigration a society should accept. Less attention has been paid to the downstream consequences: how the structural conditions of aid and welfare distribution shape the way natives and migrants actually interact when they must cooperate. The question is not only whether natives think refugees deserve aid, but whether the existence of that aid changes

what nationals expect from refugees as cooperative partners — and whether it undermines the very cooperation that integration programs are designed to produce.

## 5.5 Returning to Pamela

I began this dissertation with Pamela's story because it succinctly captures the central puzzle of my dissertation. She got along well with refugees and formed deep personal bonds with refugees, which even resulted in life-saving assistance. But when it came to working alongside refugees in the farmer group, she described them as stubborn, uncooperative, and uninterested in work. Her experience is not a contradiction — it is precisely what the distinction between outgroup animus and prejudicial heuristics can explain. Pamela holds low animus toward refugees as people, but she carries a strong prior about how they will behave as cooperative partners, one anchored in the aid system rather than in her personal experience of refugees as individuals. For interventions to bridge the gap between her genuine goodwill and her reluctance to cooperate, they must address that structural environment she and her refugee friends are in — because no amount of interpersonal warmth can dislodge a belief whose foundation lies outside the relationship itself.

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# APPENDIX A

# Supplementary Materials

## A.1 Additional plots for vignette on willingness to cooperate

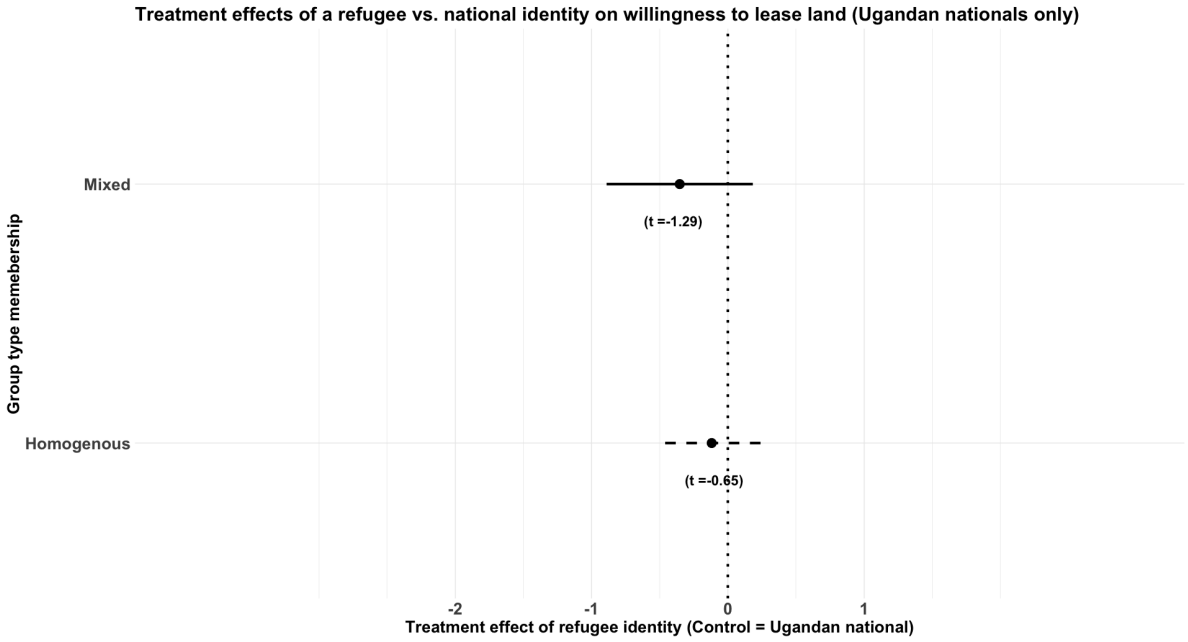



Figure A.1: When asked about willingness to lease land, Ugandan nationals in both mixed and homogeneous groups were equally willing to lease land to a refugee as to a co-national. The points represent the difference in responses to vignettes featuring a refugee (South Sudanese Dinka, South Sudanese Kuku, and Congolese combined) versus a Ugandan national. The "control" treatment is the Ugandan national identity. The dotted line at 0 indicates no difference in treatment effect, and the bars show 95% confidence intervals.

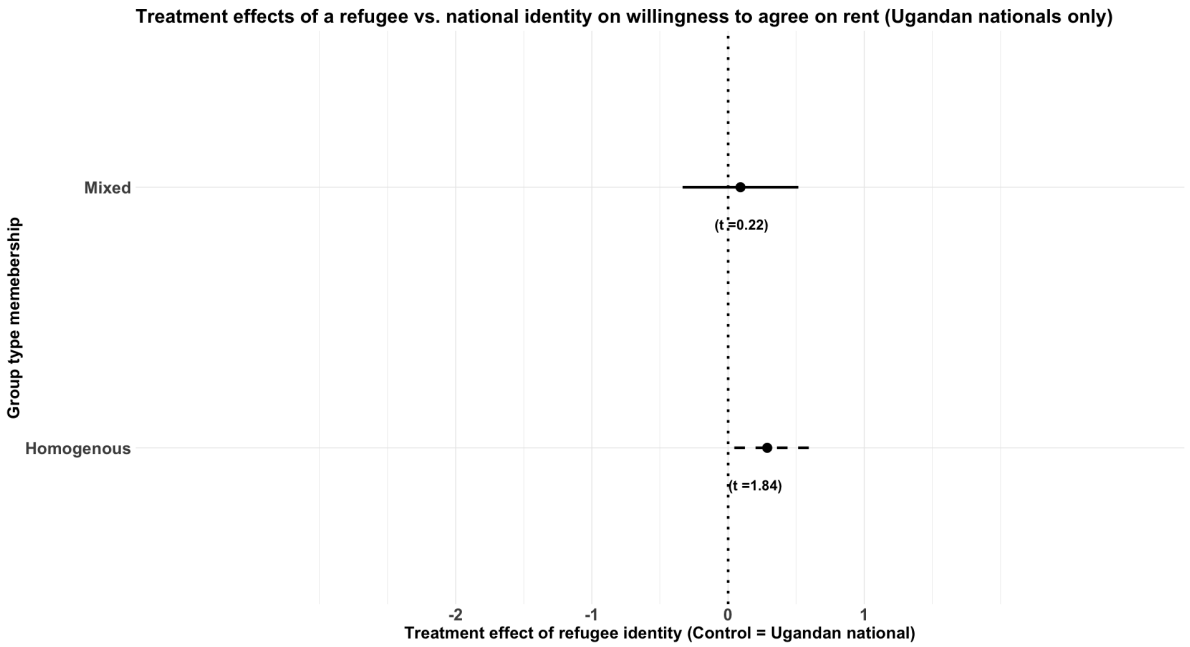



Figure A.2: When asked about compromising on rent, Ugandan nationals in both mixed and homogeneous groups thought it was equally possible to compromise on rent with a refugee as with a co-national. The points represent the difference in responses to vignettes featuring a refugee (South Sudanese Dinka, South Sudanese Kuku, and Congolese combined) versus a Ugandan national. The "control" treatment is the Ugandan national identity. The dotted line at 0 indicates no difference in treatment effect, and the bars show 95% confidence intervals.

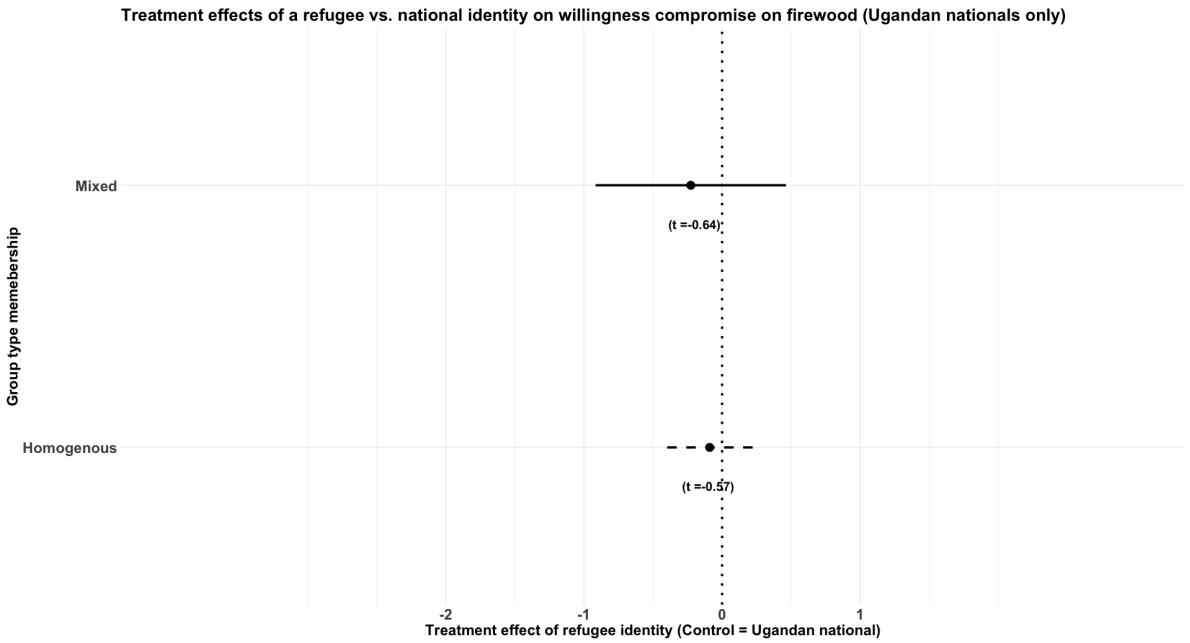



Figure A.3: When asked about compromising on cutting down trees for firewood, Ugandan nationals in both mixed and homogeneous groups thought it was equally possible to compromise with a refugee as with a co-national. The points represent the difference in responses to vignettes featuring a refugee (South Sudanese Dinka, South Sudanese Kuku, and Congolese combined) versus a Ugandan national. The "control" treatment is the Ugandan national identity. The dotted line at 0 indicates no difference in treatment effect, and the bars show 95% confidence intervals.

## A.2 Mixed signals vignette script

"Suppose one season pests have come to your land and your farmland is unable to be planted. An NGO sees this and offers you a piece of productive land for planting. The land is so big that it needs two people to finish the planting. So they have paired you with a (Ugandan Lugbara/South Sudanese Kakwa/South Sudanese Dinka) woman. The NGO says you and your partner have to farm together and the harvest must be shared equally between two of you who farmed the land, no matter if someone worked more than the other. That is the agreement and it cannot be changed. Both of you agree to work six days a week in the fields.

1) Your partner always always shows up to work on the agreed days and you are able to finish the work on time.

OR:

2) Some weeks she shows up to work every day you agreed, some weeks she only shows up to work about half the days that you agreed to dig the land together. When she misses, she tells you that it is because her child is sick or she had to go for a burial. But when she does not show up, you cannot finish the work on time.

Imagine a week that is very important for farming because it is the planting week and you have a short time to plant all the seeds.

How many days do you think she will show up to work in this planting week?

How many days will you come to work given that only when your partner comes, you can finish the planting?

Imagine a week where it rains every day, which makes walking to the field and working the field hard.

How many days do you think she will show up to work in this rainy week?

How many days will you come to work given that only when your partner comes, you can finish the work on time?"

## A.3 Pre-registered hypotheses for iterated vignette experiment

**Hypothesis 3**: Both refugees and nationals will expect a larger *initial* contribution from an in-group partner than an out-group partner.

**Hypothesis 4a**: Both refugees and nationals will have a greater *unfavorable* reaction to negative initial interaction with the out-group than negative initial interactions with the in-group.

**Hypothesis 4b**: Both refugees and nationals will have a less *favorable* reaction to positive initial interaction with the out-group than with the in-group.

**Hypothesis 5a**: Both refugees and nationals will be quicker to punish a negative change in cooperation in the second week, when paired with an outgroup partner than with an ingroup partner.

**Hypothesis 5b**: Both refugees and nationals will be slower to reward a positive change in cooperation in the second week, when paired with an outgroup partner than with an ingroup partner.

## A.4 Hypothetical work contribution game script

Suppose one season pests have come to your land and your farmland is unable to be planted. An NGO sees this and offers you a piece of productive land for planting. They say you can keep all of the harvest but because the land is very big, they want you to farm it with someone else. They pair you with a person whose land also became unproductive and wants to farm. They are a (Ugandan Lugbara/South Sudanese Kakwa/South Sudanese Dinka).

The NGO says you and your partner have to farm together and the harvest must be shared equally between two of you who farmed the land, no matter if someone worked more than the other. That is the agreement and it cannot be changed. The land is so big that both you and your partner both have to work together almost every day. So both of you agree to work 6 days a week.

**FIRST ROUND**

How many days would you work if it was a typical week without any disturbances?

How many days a week do you trust your partner to show up to work?

**SECOND ROUND**

*ONLY READ OPTION A OR OPTION B*

Option A: Let's say your partner keeps to their agreement and works 6 days the first week. Would you trust your partner to continue working 6 days in the next week?

Option B: Let's say your partner only shows up to dig only 2 days the first week. Do you trust your partner to work 6 days in the next week?

How many days do you trust your partner to show up to work the next week?

How many days will you choose to work the next week?

**THIRD ROUND**

*CONTINUE WITH THE OPTION YOU CHOSE IN SECOND ROUND*

Option A: Let's say your partner has a change of heart and only shows up to dig 2 days the next week. Do you trust them to become more hardworking following week?

Option B: Let's say your partner has a change of heart and only shows up to dig 6 days the next week. Do you trust them to continue being hardworking next week?

How many days do you trust your partner to show up to work the next week?

How many days will you choose to work the next week?

**FOURTH ROUND**

*CONTINUE WITH THE OPTION YOU CHOSE IN THIRD ROUND*

Option A: Let's say your partner continues to work 2 days the next week. Do you trust them to become more hardworking next week?

Option B: Let's say your partner continues to work 6 days the next week. Do you trust them to continue working hard?

How many days do you trust your partner to show up to work the next week?

How many days will you choose to work the next week?

**FIFTH ROUND**

*CONTINUE WITH THE OPTION YOU CHOSE IN FOURTH ROUND*

Option A: Let's say your partner continues to work 2 days the next week. Do you trust them to become more hardworking next week?

Option B: Let's say your partner continues to work 6 days the next week. Do you trust them to

continue working hard?

How many days do you trust your partner to show up to work the next week?

How many days will you choose to work the next week?

## A.5 Acceptability of missing work vignette script

”Let’s say you hear about a dispute in another farmers group. The group had agreed that everyone would show up to work four days a week to dig in their communal land. But one of their members, who is a Ugandan Lugbara/South Sudanese Kakwa/South Sudanese Dinka woman, only showed up two days a week for many weeks. When it comes to harvest time, the group said that she has to receive less because she only showed up two out of the agreed four days a week. She asks for forgiveness and that the group does not reduce her harvest portion. How acceptable do you find her missing work?”

## A.6 Relative deprivation prime allocation game script

“Now we would like to tell you something about the West Nile region, including where you live. A research team evaluated the needs of refugees and Ugandan nationals and found that”:

1) Refugees are less likely than Ugandan nationals to have access to agricultural land to farm to support themselves and their families. Because of this, they are less likely than host communities to have enough food to feed their families.

OR:

2) Most refugees are able to rely on aid from WFP and other NGOs as their main source of food, while most host communities have to rely on their own production for food.

OR:

3) Both Ugandan nationals and refugees do not have adequate access to food, drinking water and medical treatment. Both nationals and refugees struggle to feed their family and they have to walk very far to get medicine."

"Suppose an NGO hears this research and wants to improve livelihood in the community. So they come to distribute seeds, but they want your community to distribute it among each other. They pair you with a Ugandan national/South Sudanese Kakwa refugee. You and your Ugandan national/South Sudanese Kakwa refugee partner will take turns to decide how to split 7 bags of seeds each season. The NGO also finds you a piece of land to plant these extra seeds. If you are the one to decide the first season, how much out of 7 bags of seeds will you give to the Ugandan national/South Sudanese Kakwa refugee?"

"The second season you are paired with a different Ugandan national than in the first one. The new Ugandan national chooses to give you 4 bags of seeds and keep 3 bags for herself. The next season, you are given 7 bags of seeds to distribute between you and this same Ugandan national. How much will you give to her out of 7 bags of seeds and how much will you keep for yourself?"

## A.7 Additional analyses for one-shot vignette experiment

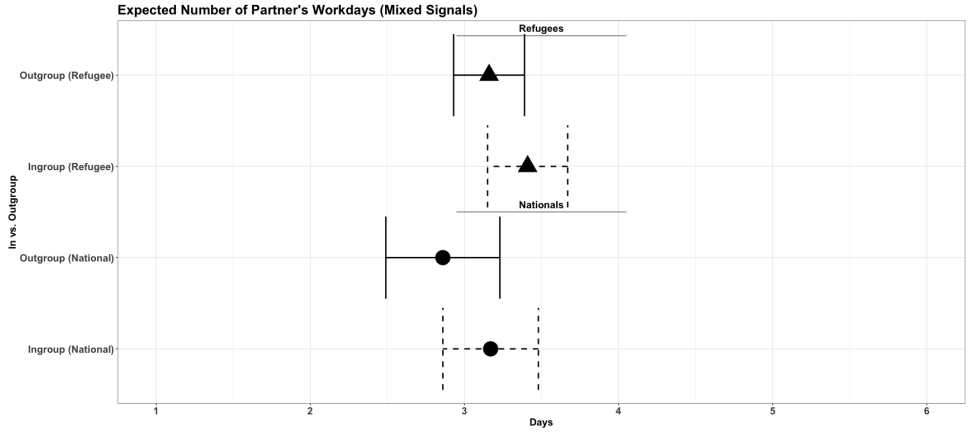



Figure A.4: There is no significant difference in refugee and national respondents' expectations of ingroup vs. outgroup partners who send mixed signals. The point estimates represent the mean number of days the respondent expected their partner who sends **mixed signals** to work, based on whether their partner has an ingroup or outgroup identity. The bars represent 95% confidence intervals.

## A.8 Additional analyses for iterated cooperation experiment

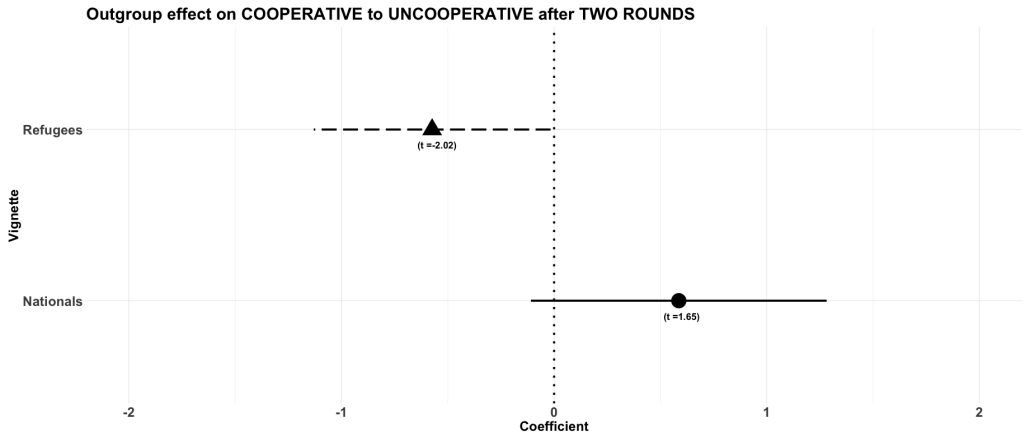



Figure A.5: Refugees significantly reduce their expectations of national partners who switched from **cooperative to uncooperative** more than their expectations of co-refugee partners who exhibited the same behavior. There is no significant difference between nationals' expectations of refugee and co-national partners. The point estimates represents the difference between a respondent's expectation of an outgroup vs. ingroup partners' workdays, after observing their partner's switch in behavior from **cooperative to uncooperative** after **two rounds** (expectation in 2nd round vs. 4th round). The 2nd round is when they observed their partner's behavior for the first time. O means that the change in expectation of workdays was the same between outgroup and ingroup partners. The bars represent 95% confidence intervals.

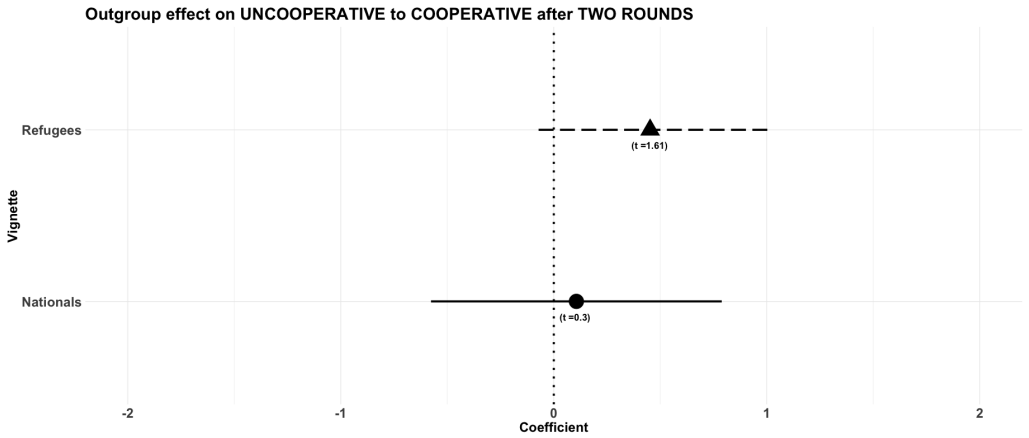



Figure A.6: he point estimates represents the difference between a respondent's expectation of an outgroup vs. ingroup partners' workdays, after observing their partner's switch in behavior from **uncooperative to cooperative** after **two rounds** (expectation in 2nd round vs. 4th round). The 2nd round is when they observed their partner's behavior for the first time. There is no significant difference between expectations of ingroup and outgroup partners who switched from **uncooperative to cooperative** for both refugee and national respondents. O means that the change in expectation of workdays was the same between outgroup and ingroup partners. The bars represent 95% confidence intervals.

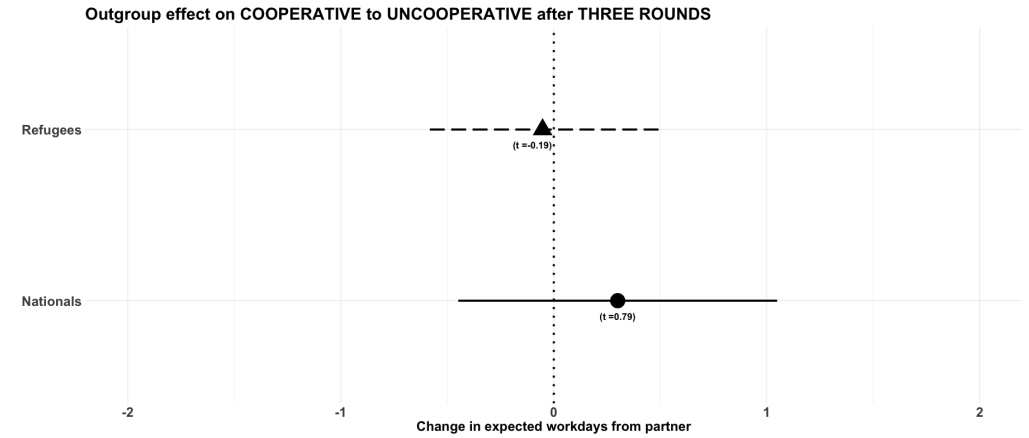



Figure A.7: The point estimates represents the difference between a respondent's expectation of an outgroup vs. ingroup partners' workdays, after observing their partner's switch in behavior from **cooperative to uncooperative** after **three rounds** (expectation in 2nd round vs. 5th round). There is no significant difference between expectations of ingroup and outgroup partners who switched from **cooperative to uncooperative** for both refugee and national respondents. O means that the change in expectation of workdays was the same between outgroup and ingroup partners. The bars represent 95% confidence intervals.

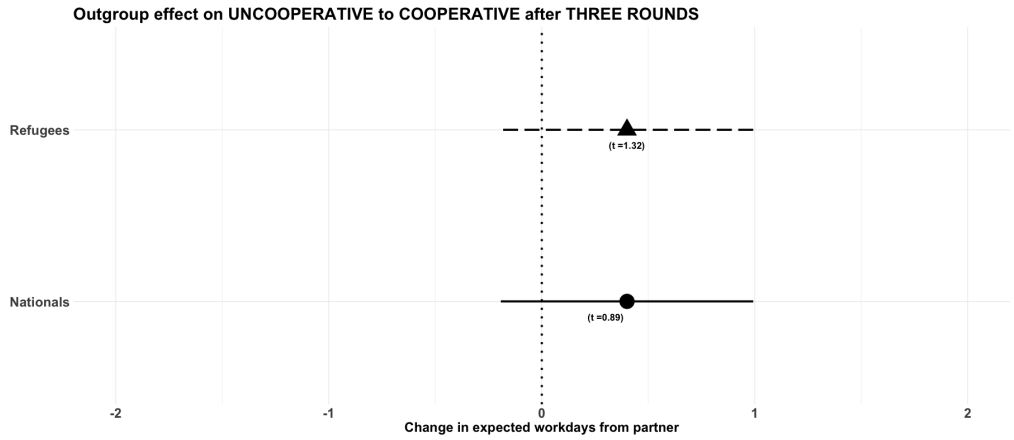



Figure A.8: The point estimates represents the difference between a respondent's expectation of an outgroup vs. ingroup partners' workdays, after observing their partner's switch in behavior from **uncooperative to cooperative** after **three rounds** (expectation in 2nd round vs. 5th round). There is no significant difference between expectations of ingroup and outgroup partners who switched from **uncooperative to cooperative** for both refugee and national respondents. O means that the change in expectation of workdays was the same between outgroup and ingroup partners. The bars represent 95% confidence intervals.