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Participation and learning: a quasi-experimental examination of refugee settlement program and its impacts on refugees' socioeconomic capabilities

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The severity of today's global refugee crisis calls for the involvement of international non-profit organizations and their comprehensive settlement programs. However, evidence of these programs' effectiveness, especially in African settings, remains limited. This study examines how international nonprofit programs affect refugee settlement using the case of economic activities and community engagement in Uganda. We implemented a quasi-experimental design to evaluate whether participation in these programs is associated with positive differences in refugees' attitudes and behaviors regarding economic involvement and community problem-solving through social learning. Our findings suggest that nonprofit initiatives may play an important role in promoting refugee settlement and fostering social integration.

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Introduction

In today's interconnected world, local issues often extend beyond national boundaries and require cooperation from multiple governments to be addressed effectively. Unfortunately, some problems are related to political issues and civil wars, forcing people to leave their home countries. In these cases, individuals cannot depend on their governments to protect human rights and dignity. This situation is even more critical for those forced to leave, and their migrations impact neighboring nations. As a result, these neighboring governments face critical challenges in upholding the fundamental rights and dignity of all individuals fleeing persecution (Montgomery, 1999; Schmitz and Mitchell, 2015).

These vulnerable individuals, known as refugees, require substantial support to become members of their host community and ensure that their human rights and dignity are upheld. According to the 1951 Convention relating to the Status of Refugees (Art.1 A(2)), a refugee is defined as "a person who, owing to a well-founded fear of persecution for reasons of race, religion, nationality, membership of a particular social group, or political opinion, is outside the country of his nationality and is unable or owing to such fear, is unwilling to avail himself of the protection of that country."

According to the United Nations High Commissioner for Refugees (UNHCR), in 2024, 188,800 refugees were resettled to rebuild their lives in safety, marking the highest number in more than 40 years (UNHCR, 2025). By the end of 2024, there were a total of 123.2 million people who had been forcibly displaced, encompassing 42.7 million refugees and 73.5 million internally displaced people (IDPs), continuing the steady year-on-year rise in the number of refugees and others compelled to flee their homes (UNHCR, 2025). Thus, the global refugee crisis, which is escalating at an alarming rate, demands immediate action (UNHCR, 2025).

Despite the urgency of this humanitarian issue, securing and delivering the necessary resources has become increasingly complicated, necessitating comprehensive and multifaceted solutions (Nolte et al., 2020). However, not all governments can adequately support the complex challenges of assisting refugees, as addressing these issues requires significant social support and financial resources. This difficulty is where the nonprofit sector plays a vital role in helping refugees become self-reliant and successfully integrate into their new communities (OECD, 2022; Pécoud, 2018).

International nonprofit organizations, guided by a humanitarian approach, provide essential programs that build refugees' socioeconomic skills and facilitate their transition into productive members of society (Hilhorst and Jansen, 2010; Savun, 2022; Simmonds, 1988). Their involvement is essential for refugees migrating to host communities with limited public resources (Cholewinski and Taran, 2009). Empirical evidence of the needs of international nonprofit organizations with regard to refugee settlement is abundant (Esses et al., 2017; Strang and Ager, 2010).

However, two critical gaps limit our understanding of the social dynamics surrounding refugee support programs. First, empirical evidence connecting participation in nonprofit refugee assistance programs to refugees' socioeconomic development is limited. While previous research highlights nonprofits' vital role in protecting human rights in areas where governmental services are insufficient (Lester, 2005; Schmitz and Mitchell, 2015), there is relatively little empirical evidence demonstrating nonprofit organizations' role in supporting refugees' social integration (Strang and Ager, 2010).

Second, while scholarship has begun to address African refugee situations (Serwajja and Refstie 2023; Watson, 2025), the socioeconomic capabilities of refugees in African camps or settlements remain under-researched (Bett et al., 2017; Davidoff-Gore and Le

Coz, 2023). When examining refugees from an academic perspective, it is important to strive for a more balanced global representation (Omata, 2013; Katsampa et al., 2025). Despite African nations' increasingly central role in global humanitarian initiatives, further research on these contexts is necessary (Kolade et al., 2022; Shaw et al., 2021), particularly because refugees in the Global South typically face severely constrained conditions and limited access to economic resources (Omata, 2013). Thus, empirical studies in these environments could reveal fresh insights and strategies vital for effective refugee settlement and create hope for the future.

To address these gaps in the literature on the global refugee crisis, this study applies the lenses of social capital and social learning theories to examine how participation in nonprofit programs affects the socioeconomic capabilities of refugees in Uganda, a significant host country for refugees. Integrating these theoretical frameworks can enrich our understanding of the complex processes involved in refugee integration, as social capital and social learning theories provide a clear conceptual framework for understanding how participation in nonprofit programs supports refugee settlement. Specifically, joining these programs helps refugees build social networks, which enables them to engage more actively in community issues; moreover, participation increases learning opportunities, strengthening refugees' socioeconomic capabilities and facilitating their transition into community life.

To investigate these effects, we employed a quasi-experimental design to test whether social learning mechanisms and various dimensions of social capital contribute to positive integration outcomes for refugees. We hope that our findings can inform the design and implementation of more effective and impactful settlement initiatives. By applying the theoretical frameworks of both social capital and social learning, this research contributes in three important ways. First, it highlights the importance of the nonprofit sector adopting a rights-based approach to uphold human rights and dignity globally by explicitly evaluating the effectiveness of international NGOs in the local refugee migration process. Second, it examines how participation in income-generating programs can improve refugees' socioeconomic capabilities, particularly their involvement in economic activities and community problem-solving initiatives. Finally, we contribute to the literature by focusing on Uganda's refugee settlements, which are among the largest settlement areas on the African continent and the third largest worldwide, yet to date, remain under-explored in scholarly research.

The following section outlines the importance of international organizations in addressing refugee issues. We then introduce social capital and social learning theories as the foundational frameworks for our hypotheses regarding whether refugees can improve their socioeconomic capabilities by participating in nonprofit programs. Next, we discuss the focus of our survey research, which is refugee settlement in Uganda. In the data and methods section, we describe our sample data and the coarsened exact matching strategy, which we used to examine differences associated with program participation. In our final sections, we present the results of our research and then conclude with a discussion of the theoretical and practical implications of our work and possible directions for future research.

Theoretical Framework

A rights-based approach to nonprofit support in refugee crises. Many refugees in Africa are forced to leave their home countries due to dire circumstances, such as civil wars and widespread persecution (Loescher and Milner, 2005). These individuals and

families seek refuge in safer environments, hoping for better living conditions, the protection of their fundamental human rights, and a more stable future (UNHCR, 2020). However, the influx of refugees places pressure on neighboring countries, which often face the dual challenge of hosting these displaced populations while providing adequate settlement options and services. This situation creates a different migration pattern from that observed in developed nations, where migrants typically pursue economic opportunities and a higher quality of life in wealthier countries (Fransen and de Haas, 2022; Matsui and Raymer, 2020).

Unfortunately, many developing host countries are not prepared to provide these essential services because of limited resources, political instability, or a lack of infrastructure (Betts, 2021; Cho et al., 2025). This situation highlights international nonprofit organizations' critical role in bridging the gap between the services that governments are required to deliver and what they can actually provide (Adamson and Tsourapas, 2020). To support refugees and provide essential services, international nonprofit organizations adopt a humanitarian approach that prioritizes acknowledging and protecting human rights (Hilhorst and Jansen, 2010; Schmitz and Mitchell, 2015; Savun, 2022). This multifaceted approach includes the immediate provision of essential needs, such as food, shelter, and healthcare, as well as vital social services like skill-building programs aimed at helping refugees achieve socioeconomic stability and address the pressing challenges they face (Alexander and Nank, 2009).

Nonprofit organizations often supplement or sometimes replace the essential governmental roles that refugees urgently need to access services. In this context, their intervention is particularly crucial, which highlights the significant impact of the nonprofit sector in addressing humanitarian needs. Such responses should prioritize effective resource utilization while fostering humanitarian, developmental, and peace-building initiatives. These efforts are essential for upholding human rights, a responsibility that is increasingly becoming a shared obligation between the public and nonprofit sectors (Hilhorst and Jansen, 2010). By aiding or complementing the public sector's efforts, these organizations play a vital role in ensuring that refugees can access the support and resources they need to ensure their survival and retain their dignity (Garkisch et al., 2017; Schmitz and Mitchell, 2015; Salamon and Anheier, 1997; 1998).

From social capital to Community Cultural Wealth (CCW).

Social capital theory is key for understanding how individuals can access vital support and resources through their interconnected social networks (Pinheiro et al., 2016). Social capital encompasses a range of elements, including the networks that individuals form, the norms and values that govern their interactions, and the trust that is developed over time, which collectively facilitate effective collaboration and cooperation among individuals (Bourdieu, 1986; Coleman, 1988). This understanding is particularly relevant for refugees undergoing the complex process of settling into new host communities, and social capital plays a crucial role in localizing humanitarian responses, specifically in fragile settings (Mpanje et al., 2018; Tippens, 2020).

Bonding social capital refers to the close relationships formed within similar groups, which provide emotional support and foster a strong sense of community. For refugees, this form of capital offers critical comfort and assistance when confronting the hardships associated with displacement (Putnam, 2000). For instance, research shows that Afghan refugees in Australia leverage their strong connections to navigate settlement challenges (Vergani et al., 2021). However, while this close-knit support is vital, it can also restrict access to broader resources and limit engagement with more diverse communities.

The second important type of social capital is bridging social capital, which connects various social groups and is essential for refugees seeking societal integration. Bridging social capital enables refugees to engage with individuals from different backgrounds, thus opening job and mentorship opportunities and access to necessary services (Tippens, 2020). Finally, linking social capital focuses on the relationships between individuals and organizations or systems of power, which are crucial for refugees in accessing formal resources such as legal aid, healthcare, and education. Building these relationships helps refugees navigate the complex processes required for successful settlement (Elliott and Yusuf, 2014), and research demonstrates that refugees with robust social capital are better equipped to overcome systemic barriers (Lamba and Krahn, 2003).

Nonprofit organizations play a crucial role in fostering all three types of social capital. They offer community-building activities that cultivate bonding social capital and facilitate interactions between refugees and residents, promoting bridging social capital. Additionally, these organizations enhance social capital by connecting refugees with essential services that are critical for their integration. Indeed, recent investigations suggest that effective refugee programs should promote all three types of social capital, as Otero et al. (2022) assert that increased social connections and access to resources significantly enhance settlement outcomes. Such a comprehensive approach builds individual resilience and fortifies the social ties between refugees and their host communities.

Although social capital theory offers a useful lens for explaining how personal interactions facilitate integration, we also incorporate an asset-based perspective through community cultural wealth (CCW) to supplement our conceptual framework regarding the refugee settlement process. CCW acknowledges the various forms of capital possessed by marginalized communities, which include aspirational, linguistic, familial, social, navigational, and resistant capital, thus shifting the focus from deficits to community agency (Yosso, 2005). In refugee contexts, these forms of wealth include aspirations for stability, multilingual capabilities, kinship, and community bonds, as well as everyday strategies for navigating complex systems. These resources are valuable assets that can be activated and strengthened through participation in the programs offered by international nonprofits.

In our case, the programs align closely with the principles of CCW. For instance, education on how to generate income strengthens financial systems by enhancing navigational capital while also reinforcing familial and social capital. Similarly, activities at women's development centers not only boost familial and social capital but can also contribute to resistant capital as collective efficacy increases. This perspective suggests that nonprofit organizations do not create social capital from scratch; instead, they amplify and connect the existing social capital within the community. In these contexts, refugees exercise their agency by mobilizing and circulating these assets within their networks and beyond (Liou et al., 2009).

The CCW approach also aligns well with social learning theory, the second key theoretical framework of this study, which emphasizes the significance of observational learning and vicarious reinforcement in CCW-rich environments. In these settings, peers showcase their positive saving habits and collaborative problem-solving skills. In the case of refugees, as they build their self-efficacy, they can leverage their navigational and linguistic skills to access services and markets. Additionally, familial and social capital are crucial in supporting long-term engagement. In this way, CCW embodies the essential knowledge and skills that are cultivated, while social capital serves as the relational foundation through which this learning is shared and disseminated (Ong et al., 2011).

Social learning theory and its mechanisms. Social learning theory posits that individuals acquire behaviors, skills, and attitudes through social contexts via observation, imitation, and modeling (Bandura and Walters, 1977). This theory emphasizes the significance of social interactions in learning, highlighting that this process occurs within environments where individuals observe and engage with others. Within this framework, social learning encompasses three primary mechanisms: observational learning, vicarious reinforcement, and self-efficacy.

First, observational learning allows individuals to learn new behaviors by watching others, and role models in these contexts can be peers, family, instructors, or community leaders (Bandura and Walters, 1977). In refugee support programs, observational learning is crucial, as observing peers and facilitators enables individuals to acquire practical skills and adopt social norms. Second, vicarious reinforcement occurs when individuals witness others receiving rewards or facing consequences for certain behaviors, influencing their likelihood of adopting similar behaviors (Bandura and Walters, 1977). In refugee contexts, when refugees observe peers achieving financial stability through nonprofit programs, this success can inspire further engagement and participation. Thus, such programs leverage vicarious reinforcement to underline the value of skill acquisition and proactive community involvement. Finally, self-efficacy refers to an individual's belief in their ability to execute tasks and achieve goals. Bandura and Walters (1977) note that higher self-efficacy enhances motivation and persistence in challenging scenarios. Programs that cultivate self-efficacy facilitate this through skill-building activities, coaching, and positive reinforcement. As refugees participate in these initiatives and witness their progress, their self-efficacy increases, further motivating their engagement in community activities.

Social learning processes in refugee programs. In nonprofit programs that support refugees, social learning fosters environments that promote observation, interaction, and skill development. For instance, in programs offering activities related to income generation, refugees can watch skilled instructors demonstrate various trades such as crafting, cooking, and financial management, through which they can engage in observational learning and acquire practical skills. Similar positive results have been observed in other contexts. For example, UNHCR (2019) reports that vocational training and livelihood initiatives in Asia and the Middle East enable refugees to acquire marketable skills and move toward self-reliance, and evaluations of the Norwegian Refugee Council's (2021) programs have demonstrated that hands-on training workshops can improve economic skills.

When participants share their successes, such as starting a small business or achieving financial independence, these experiences act as vicarious reinforcement, motivating other participants and reinforcing the perceived value of the skills they have learned. Initiatives like peer mentorship also exemplify social learning, where newcomers can observe how experienced refugees navigate challenges and access resources. These mentorship relationships boost confidence and the belief that one can achieve similar outcomes. As reported by the UNHCR's Refugee Education 2030 strategy (2019), successes in this respect include peer mentorship initiatives in Jordan and Lebanon, which have improved adaptation and self-esteem among refugees.

Research supports the applicability of social learning within refugee contexts. One study by Torres et al. (2017) indicates that peer observations significantly bolster learning outcomes and skill development, as participants reported improved psychosocial well-being and greater adaptability to their new environments due to the strong social networks and support systems fostered

through these programs. The mechanisms of social learning are also evident in various behaviors observed among refugees. For instance, after attending a financial literacy workshop led by a qualified facilitator, refugees may demonstrate improved budgeting practices in their daily lives and often share learned strategies with fellow participants, reinforcing their understanding and modeling responsible financial behaviors. Moreover, engaging in community service projects organized by nonprofits enables refugees to develop practical project management and teamwork skills while cultivating social capital through connections with local residents. This involvement fosters valuable networks and promotes positive behaviors, such as increased volunteering, which can open job opportunities and encourage social integration.

As refugees acquire skills and strengthen their self-efficacy through these programs, they become more empowered to participate actively in their communities. The interplay between social capital and social learning mechanisms illustrates how both theories construct pathways for refugees to thrive in their new environments.

Methodology

We adopted a quasi-experimental design to empirically examine how nonprofit programs influence refugee integration. This approach enabled us to reduce potential endogeneity factors by creating comparable groups of refugees participating in nonprofit programs and refugees not participating in nonprofit programs. In addition, to reduce systematic differences between the two groups, we employed coarsened exact matching (CEM) to balance observable characteristics.

Research questions and hypotheses. Building on the theoretical framework integrating social capital, community cultural wealth, and social learning, our study addresses the following research question: *Do nonprofit programs facilitate both the economic and civic dimensions of refugee integration?* In addressing this question, we propose two hypotheses:

H1: Refugees participating in support programs are more likely to engage in (a) income-generating activities and (b) saving practices.

H2: Refugees participating in support programs are more likely to engage in community activities, including (a) voting and (b) problem-solving efforts.

Research context: Uganda's refugee settlements and the role of international nonprofit organizations. Civil wars in various regions of Africa have caused widespread suffering among civilians and contributed to a surge in the global refugee population. A key country in this respect is Uganda, which is Africa's largest host nation for refugees and the third largest globally (Betts, 2021). The main reasons for the influx of forced migration into Uganda include conflicts, violence, and persecution, particularly from regions such as the Horn of Africa and the Great Lakes Region. Ongoing issues such as the turmoil in South Sudan, ethnic violence in the Democratic Republic of Congo, political instability, and human rights violations in Burundi are significant factors driving this refugee influx (UNHCR, 2020).

To support the settlement process, the Ugandan government enacted the 2006 Refugee Act and the 2010 Refugee Regulations, which grant refugees a comprehensive range of rights including the freedom of movement, the ability to reside in designated settlements, the right to work, opportunities to start businesses, property ownership, and access to essential national services such as education and healthcare (Betts, 2021; UNHCR, 2020). Additionally, the Uganda Country Refugee Response Plan

(RRP), developed in collaboration with Uganda's Office of the Prime Minister (OPM) and the UN High Commissioner for Refugees (UNHCR), is aligned with the Comprehensive Refugee Response Framework (CRRF) and the Global Compact on Refugees (GCR). This plan supports government efforts and includes strategic objectives such as ensuring emergency preparedness, providing protection, promoting inclusion and self-reliance, integrating the delivery of essential social services, and achieving durable solutions that create socioeconomic opportunities (UNHCR, 2020).

A key focus of the RRP is to empower refugees by strengthening their socioeconomic capabilities, with a goal of building their self-reliance. This focus is fundamental within the Humanitarian–Development–Peace Nexus (HDP Nexus), a framework recognized by the international development community. As defined by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and Development (OECD), the HDP Nexus is an approach that encourages collaboration and coherence among humanitarian, development, and peace interventions to reduce vulnerability and address the underlying causes of conflict (OECD, 2022).

Since the formal introduction of the HDP Nexus at the World Humanitarian Summit in 2016 (Nguya and Siddiqui, 2020), many international nonprofit organizations have recognized that effectively addressing complex and prolonged crises requires minimizing displaced individuals' vulnerabilities while strengthening their socioeconomic capabilities and addressing immediate needs. This aspect of the HDP Nexus approach is vital, as many refugees must rebuild their lives and communities in unfamiliar environments. Crucially, in contrast to the temporary security traditionally found in refugee camps, refugee settlements in Uganda present the potential for long-term stability. Therefore, it is essential to apply the HDP Nexus framework to enhance the socioeconomic capacities of refugees.

Many international nonprofit organizations have begun to collaborate with the Ugandan government to build refugee villages and provide essential programs for refugees, aiming to empower them with the socioeconomic capabilities to become members of the host communities. However, it is important to stress that refugees often face significant challenges when adapting to new community conditions and securing livelihood opportunities (Tippens, 2020). To address these challenges, international nonprofit organizations must offer adequate services while collaborating with the public sector to implement supportive initiatives.

One prominent refugee settlement area in Uganda is the Kyaka II settlement within the Kyegegwa district. This settlement currently accommodates approximately 118,266 refugees and asylum seekers who have fled their home countries, particularly the Democratic Republic of the Congo, Burundi, and Rwanda. Since 2018, Good Neighbors International (GNI), an international nonprofit organization, has taken a proactive role in implementing various projects within the Kyaka II refugee settlement, aiming to bolster these settlement efforts and improve the living conditions of the refugees. GNI's initiatives are multifaceted, with a primary focus on enhancing refugees' economic and social capabilities. Among its key programs are literacy education initiatives designed to teach individuals essential reading and writing skills, which are crucial for navigating day-to-day life and accessing further educational and employment opportunities. Additionally, among its many programs, GNI has introduced savings and credit group programs that encourage financial literacy and cooperative savings among refugees. The overarching aim of these support projects is to improve refugees' self-reliance by enabling them to transition from reliance on humanitarian aid to more stable and

sustainable livelihoods. Given these points, a refugee village where the GNI provides refugee support programs is a proper setting for assessing the effectiveness of international nonprofit organizations' efforts regarding refugee settlement in local villages.

Data and variables. The dataset for this study was drawn from a GNI survey conducted in October 2022. The original survey yielded 1477 responses. After data cleaning and the exclusion of incomplete cases, the dataset was reduced to 1389 individuals residing in Uganda's Kyaka II settlement. We then excluded respondents who did not identify as refugees, resulting in a final analytic sample of 1006 refugees. Program participation was measured using a survey question asking whether respondents had participated in nonprofit programs, including income-generation training, gender-based violence awareness training, and activities organized by women's development centers. Of the respondents, about 16.6% (167 individuals) reported participating in GNI programs, including income-generation training. Because the primary goal of this study is to determine whether participation in these programs increases refugees' involvement in economic activities and their efforts to address community issues, utilizing a survey dataset that includes refugee information was considered an appropriate method for estimating our empirical model. Ethical approval for this study was obtained from the Institutional Review Board of the Uganda National Council for Science and Technology (approval number: MAKSS-REC04.2022.592; approval date: October 6, 2022) and from Ewha Womans University (approval number: 202209-0010-05; approval date: September 4, 2022).

Treatment vs. comparison groups. The treatment group included respondents who had participated in nonprofit programs. The survey asked, "Have you ever participated in any activities conducted by Good Neighbors?" The response options for this question were "yes" (coded as 1) and "no" (coded as 0). As mentioned earlier, about 16.6% of refugees in this region participated in nonprofit programs, resulting in a sample of 167 participants. Specifically, 167 respondents participated in income-generating programs, while 839 respondents did not. Therefore, these remaining 839 respondents form the potential group, compared with the treated units. After applying CEM (which we discuss in a later section), 85 individuals among 839 participants were selected as matched controls, deemed comparable to the 59 respondents who had participated in nonprofit programs. This setup enabled us to analyze any differences in outcomes between the two groups when we employed coarsened exact matching.

Outcome variables. Four outcome variables were identified to assess whether refugees who participated in nonprofit programs were more likely to engage in income-generating or income-saving activities than those who did not. To test Hypotheses 1a and 1b (income-generating activities and saving activities, respectively), we used two Yes/No survey questions: "Have you engaged in any income-generating activities in the last 12 months?" and "Have you saved money in the last 12 months?" Approximately 35% of refugees ($n = 352$) reported participating in income-generating activities over the past year, while 31% ($n = 312$) indicated that they had saved money in the same timeframe.

Similarly, to test Hypotheses 2a and 2b regarding civic integration, we employed two additional Yes/No survey questions: "Did you vote in the previous Refugee Welfare Council (RWC) election?" and "In the last 12 months, have you collaborated with other village members to address a problem or common issue?" Approximately 62% of the survey respondents

($n = 624$) reported participating in the RWC election, while about 48% ($n = 483$) indicated that they had engaged in community problem-solving efforts with other community members.

Matching covariates. We used a coarsened exact matching method to identify the untreated units—specifically, refugees who did not participate in nonprofit programs—which were most comparable to the treated units, which were refugees who did participate in these programs. We focused on matching covariates, which are characteristics of respondents that could influence their decisions to participate in nonprofit programs. We selected two primary matching covariates, gender (coded as 1 for female and 0 for male) and age (ranging from 18 to 72 years), to align the demographic characteristics of the refugees, as well as five other matching covariates: marital status (1 for married, 0 for not married), learning difficulties (1 for yes, 0 for no), educational level (ranging from 1 for no education to 4 for university education), arrival time to the current village (1 for 2021 and onward, 2 for 2020, 3 for 2019, 4 for 2018, 5 for 2017, and 6 for before 2017), and language proficiency in Rutoro (anchored from 1, indicating “Barely to not at all,” to 5, indicating “Proficient at conversation”). In the survey, “Learning difficulties” refers to self-reported challenges in literacy or numeracy that hinder daily functioning. We included this variable as a covariate because previous research shows that literacy-related barriers impact access to training, savings practices, and civic participation (Dryden-Peterson, 2016). These factors are essential outcomes of interest in this study. In sum, because these characteristics may significantly influence individuals’ decisions to participate in income-generating programs for themselves or their relatives, matching survey respondents based on these attributes can enhance the accuracy of our empirical findings. The descriptive statistics for all study variables are presented in Table 1.

Quasi-experimental design: coarsened exact matching. In this study, we employed coarsened exact matching (CEM) to match refugees participating in programs with those who were eligible but not participating. This approach ensured that both groups had comparable personal and socioeconomic backgrounds. By

minimizing differences in these characteristics (the covariates in our model), we were able to reduce observable differences between the two groups and strengthen inference about the relationship between program participation and refugees’ socioeconomic capabilities (Blackwell et al., 2009; Iacus et al., 2009; Morgan and Winship, 2015).

An experimental design typically requires random assignments to explore causal relationships. However, random assignments are often neither feasible nor ethical. For example, randomly assigning refugees to receive program benefits can raise ethical concerns. Therefore, researchers may opt for quasi-experimental methods to reduce systematic differences between treated and control groups as well as potential confounding factors that could impact treatment and outcome variables (Morgan and Winship, 2015).

With this in mind, we conducted CEM for two main reasons. First, as noted above, randomly assigning refugees to participation status in the programs would be unethical. Second, we only had access to a cross-sectional survey dataset. The CEM approach, then, enabled us to reduce the differences between refugees who participated in nonprofit programs and those who did not. By minimizing the imbalance caused by matching covariates—factors that could influence refugees’ decisions to engage in outcome-related activities—we can argue that our findings are less likely to be driven by observable confounding factors.

Matching and analysis. CEM evaluates the imbalance in matching covariates by comparing groups’ overall imbalance level, with values of 0 and 1 referring to a perfect balance and a perfect imbalance, respectively. For this study, the overall imbalance was measured to be 0.923 (see Appendix 1). This number indicates that the groups of participating and non-participating refugees differ significantly in terms of matching covariates (i.e., demographic and other characteristics). Appendix 1 presents the imbalance levels of each covariate between the two groups. All numbers exhibit meaningful differences between the two groups. For example, two groups showed significant differences in age (see Appendix 1) at the mean level, with a difference of 0.774, and the overall difference was $L_1 = 0.118$. We performed exact matching on the coarsened data, and the results indicated that the imbalance level approached 0 (see Appendix 2) after generating 775 strata, of which 51 effectively matched the treated and untreated groups. That is, among 775 strata, CEM identified untreated units that were comparable to treated units with respect to the matching covariates.

After the matching process, the final treated group consisted of 59 refugees who participated in the nonprofit programs, while the untreated group included 85 refugees with similar matching covariate values. This careful matching resulted in a nearly perfect balance of covariates between the two groups. As shown in Appendix 2, the reduction in imbalance levels was nearly 0, with the only remaining difference being program participation status. Therefore, we can conclude that no significant differences existed in the matching covariates among the 144 refugees, except for their program participation status. To visually summarize these procedures, Fig. 1 illustrates the process of the coarsened exact matching design, from the initial survey sample to the construction of the matched sample and the estimation of outcomes.

The descriptive statistics for the 144 refugees included in our analysis are presented in Table 2.

Empirical results. Table 3 presents the empirical results obtained through the CEM process described above. To ensure more

Table 1 Summary statistics before matching process.				
Variable	Mean	Standard deviation	Min	Max
<i>Outcome Variables</i>				
Income	0.35	0.47	0	1
Saving	0.31	0.46	0	1
Voting	0.62	0.48	0	1
Community Problem	0.48	0.50	0	1
<i>Treatment Group</i>				
Nonprofit Program Participation (1 = yes; 0 = no)	0.16	0.37	0	1
<i>Matching Covariates</i>				
Gender (1 = female; 0 = male)	0.48	0.50	0	1
Marital Status (1 = yes; 0 = no)	0.58	0.49	0	1
Age	36.68	11.69	18	77
Difficulty in Learning	0.64	0.47	0	1
Educational Level	1.67	0.77	1	4
Arrival Time	4.70	1.30	1	6
Language Proficiency	1.62	0.98	1	5
All variables from total sample size ($n = 1006$; except for Arrival Time = 1004). Village dummies (3 villages) are not listed.				

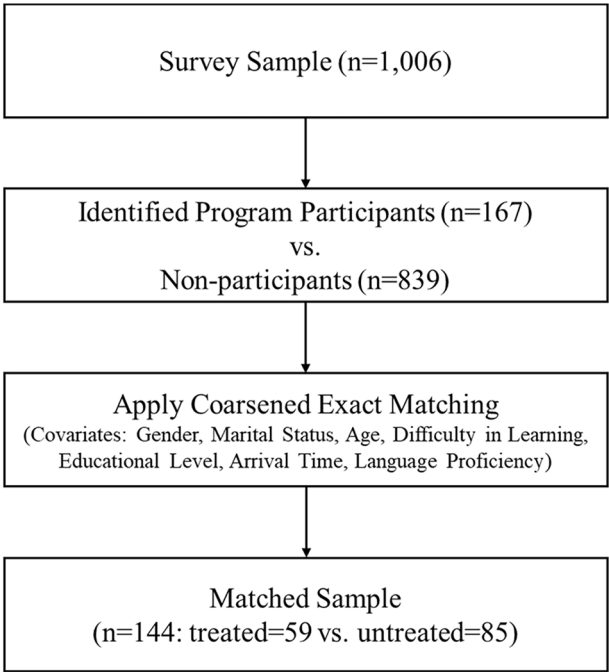


Fig. 1 Process of the coarsened exact matching designs.

Table 2 Summary statistics after matching process.				
Variable	Mean	Standard Deviation	Min	Max
<i>Outcome variables</i>				
Income	0.40	0.49	0	1
Saving	0.28	0.45	0	1
Voting	0.57	0.47	0	1
Community problem	0.51	0.50	0	1
<i>Treatment group</i>				
Nonprofit program participation (1 = yes; 0 = no)	0.40	0.49	0	1
<i>Matching covariates</i>				
Gender (1 = female; 0 = male)	0.54	0.49	0	1
Marital status (1 = yes; 0 = no)	0.64	0.48	0	1
Age	35.47	7.95	18	53
Difficulty in learning	0.61	0.48	0	1
Educational Level	1.45	0.56	1	3
Arrival time	5.05	1.18	1	6
Language Proficiency	1.27	0.48	1	3

Sample size = 144. Village dummies (3 villages) are not listed.

robust empirical results, we included all matching covariates as control variables in our empirical models. For Hypothesis 1a (income-generating activities), the coefficient is not statistically significant, indicating that program participants were no more likely than non-participants to engage in income-earning work. By contrast, Hypothesis 1b (savings) is supported: the refugees who participated in international nonprofit programs were 26.2% more likely to have savings than refugees who did not participate ($p < 0.01$). Regarding civic integration, Hypothesis 2a (voting) is not supported. That is, program participants and non-participants showed similar levels of voting behavior, which suggests that participation in nonprofit programs did not translate into higher voting participation within the Refugee Welfare Council or the local settlement context. By contrast, Hypothesis 2b (problem-solving) is supported: refugees who participated in

their support programs were 18.6% more likely to engage in community problem-solving efforts by communicating and discussing village issues with other members ($p < 0.05$).

Overall, our empirical results demonstrate that program participation is positively associated with savings and community problem-solving but not with income generation or voting. Because we applied CEM, we can argue that the two groups (participants in GNI's programs vs. non-participants) in our analyses are similar regarding their covariates, allowing a more credible comparison by program participation status. Crucially, these findings suggest that refugees can learn from participating in GNI's programs and, in turn, enhance their socioeconomic capabilities. We expect that these findings could be extended to other international nonprofit organizations' efforts to support refugees.

Discussion

Our findings indicate that involvement in nonprofit programs shapes refugees' attitudes and behaviors regarding socioeconomic awareness, easing their integration into host communities. By applying social capital and social learning theories to our empirical models, we have established a foundation for understanding how refugee social capital can be cultivated under specific circumstances (Field, 2005; Ziersch et al., 2023). This framework clarifies the dynamic refugee integration process (Strang and Ager, 2010) and provides practical insights for designing and implementing more effective settlement programs.

Ultimately, the roles of international nonprofit organizations are crucial, as their initiatives notably improve economic opportunities for refugees, particularly in situations where local integration policies may be insufficient (Libal and Harding, 2011). Our empirical evidence suggests that participation empowers refugees to pursue objectives beyond these initial goals. Recent research in Germany also supports this finding, showing that participation in nonprofit programs can strengthen Ukrainian refugees' social capital, social networks, and individual coping strategies (Pierobon, 2024). Through these programs, refugees can acquire proper economic skills and a deeper understanding of community problem-solving efforts. In turn, these changed attitudes and behaviors can further facilitate their integration into the new host communities, as participating in nonprofit programs enables refugees to build social capital by communicating and interacting with others (Pierobon, 2024).

From a theoretical perspective, integrating social capital theory, the CCW approach, and social learning theory offers a compelling framework for understanding how nonprofit programs benefit refugee communities. By participating in these programs, refugees can not only gain opportunities to observe others' behaviors in their neighborhoods but also build strong relationships with other community members, which is associated with the bonding and bridging dimensions of social capital (Putnam, 2000). One important way that refugees participating in these programs can become empowered is through vicarious reinforcement (Bandura and Walters, 1977), which involves individuals adopting more sustainable livelihood skills when they see their peers within their social network benefiting from them (e.g., Kumar et al., 2024). This, in turn, can lead to improvements in their socioeconomic capabilities.

At the same time, social capital and CCW would not be treated as fully interchangeable concepts. While social capital perspectives emphasize networks, trust, and reciprocal relations, the CCW approach draws attention to forms of knowledge, resilience, and community agency that are often undervalued by dominant institutions. In refugee settlements, these perspectives may complement one another, but they may also be in tension because

Table 3 Empirical Results.

Outcome	Income	Saving	Voting	Community problem
Program Participation				
Yes vs. No	0.083 (0.096)	0.262*** (0.079)	0.004 (0.087)	0.186** (0.086)
Gender	0.006 (0.188)	−0.203 (0.160)	0.112 (0.167)	−0.167 (0.165)
Marital Status	0.028 (0.199)	0.252 (0.172)	−0.073 (0.167)	0.132 (0.169)
Age	−0.0008 (0.006)	0.008 (0.005)	0.013** (0.005)	0.012** (0.005)
Educational Level	0.056 (0.098)	0.085 (0.085)	−0.265*** (0.080)	−0.008 (0.097)
Difficulty in Learning	−0.047 (0.113)	0.008 (0.107)	0.075 (0.098)	−0.052 (0.102)
Arrival Time	−0.004 (0.042)	−0.021 (0.030)	−0.024 (0.038)	−0.099*** (0.035)
Language Proficiency	0.117 (0.132)	−0.015 (0.096)	0.076 (0.117)	0.151 (0.118)

Positive coefficients indicate higher levels of outcomes for participants relative to non-participants. Sample size = 144. Village dummy variables are included. Robust standard errors are in parentheses.
 *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

access to networks and resources is shaped by unequal relations of power, race, legal status, and capital. Thus, our findings should be interpreted not as evidence that nonprofit programs simply produce social capital, but as suggesting that such programs may help activate and connect existing community-based resources under structural constraints.

This interpretation is particularly relevant to community problem-solving initiatives, where participation in these programs appears to foster stable environments that encourage interaction and knowledge-sharing among refugees. Through program participation, refugees can gain self-efficacy, which contributes to the overall community's ability to solve its own problems (Tippens, 2020; Pierobon, 2024). In addition, the formation of bridging and linking social capital that continues even after the program is crucial, given the protracted situations in Uganda refugee settlements (Tulibaleka et al., 2022). As many refugees encounter limited opportunities for communication, which hampers their ability to build community networks (Omata, 2013; Tippens, 2020), these programs equip refugees with critical skills and knowledge while motivating them to share their learning to address challenges within their communities (Libal and Harding, 2011). Social learning theory effectively captures these dynamics, in which stable interactions are facilitated that promote mutual understanding and encourage active engagement in community issues (Pierobon, 2024).

Our findings also highlight significant challenges linked to integrating refugees into host communities. Although international nonprofit organizations have partnered with the Ugandan government to offer income-generating programs focused on financial literacy, refugees still face limited prospects for stable income despite their awareness of available opportunities and eagerness to work (WB and UNHCR, 2024). This challenge highlights the need for international nonprofits to develop tailored programs that consider host communities' unique conditions and constraints to enable refugees to apply the skills they gain effectively.

In a similar issue, many refugees lack a clear understanding of voting systems and often find it challenging to engage politically in local issues (Strang and Ager, 2010). While interactions on platforms offered by nonprofit organizations can boost their self-awareness, a gap exists regarding the importance of civic participation in community engagement (Khawaja et al., 2006; Sawtell et al., 2010). Thus, this difficulty highlights the need for further educational opportunities. With adequate support, including customized income-generating programs and comprehensive civic education, refugees can better understand political systems and become more engaged citizens in their host countries (Sawtell et al., 2010).

Overall, international nonprofit organizations can improve the economic and social well-being of refugee communities by tailoring programs to meet the specific needs of the local context. To achieve

this, nonprofits, policymakers, and researchers must collaborate on settlement support programs that aid refugees while also promoting community-building and problem-solving efforts. Encouraging peer-to-peer sharing and learning opportunities can further facilitate the adoption of new attitudes and behaviors among refugees, ultimately fostering greater socioeconomic capabilities.

Limitations. Future research should consider several limitations of our study. We employ a constructed comparison group within a cross-sectional survey. The survey was conducted at the end of 2022, after GNI's support programs had been updated. This timing suggests that many respondents likely participated in relevant activities before 2022, which may have affected the accuracy of their responses regarding recent socioeconomic changes. This limitation highlights the challenges of conducting a quasi-experimental study without a formal design; therefore, caution is needed when interpreting our findings. It is also crucial to note that although GNI covered transportation costs for the refugees participating in program activities, refugees with higher incomes and existing savings may still have been more likely to participate in additional programs, which may have increased the likelihood of selection bias in our study. Finally, we opted for a binary scale to assess respondents' activity status due to some individuals' limited familiarity with numeric values. While this approach streamlines data collection, it also limited our ability to capture the full extent of respondents' socioeconomic capabilities. Ultimately, future research should address these limitations to better understand how international nonprofit organizations can support refugees' socioeconomic development during settlement.

Future research. Our study can also serve as a basis for further research on other refugee camps and settlement contexts, including those in Africa and Asia (e.g., Kutupalong refugee camp in the Cox's Bazar region of Bangladesh, one of the largest refugee camps), to corroborate our findings and implications. Given the need for empirical evidence on refugees' socioeconomic capabilities (WB and UNHCR, 2024), applying our approach to other refugee contexts could provide additional theoretical insights about social capital and social learning, as well as practical implications for practitioners and policymakers in the field, who rely on empirical evidence. Beyond extending this analysis to other contexts, we propose that future studies should examine not only whether refugees participate in community or civic activities, but also why they choose to engage or refrain from doing so. Such motivations may be shaped by refugees' legal and social positioning, as well as by prior experiences of political exclusion, voting, conflict, or violence in their countries of origin. Methodologically, subsequent research could also use randomized

controlled trials with baseline and endline measures to generate more robust quasi-experimental evidence.

Conclusion

Recent research on refugee issues has increasingly highlighted the importance of local policies and governance in delivering specific services in Western countries (Barkdull et al., 2012; Calò et al., 2022; Soederberg, 2019). Although we have learned a great deal about refugee settlement patterns from previous research, there has been relatively little empirical evidence available to less developed countries, especially regarding how to improve refugees' socioeconomic capabilities in the settlement context. This focus is particularly urgent given the growing number of global refugee crises fueling migration to these nations (Brumat et al., 2022). Recognizing the relative lack of research on the roles of international nonprofit organizations and their impacts through refugee support programs, our study aimed to address this gap by exploring the impact of participation in refugee support programs run by international nonprofits in Uganda, a country known for its strong commitment to hosting refugees.

Despite the limitations of our research design, our findings offer valuable insights into refugee settlement in African contexts. The challenges faced by settling refugees require collaboration among public, nonprofit, and civic sectors, whose shared responsibility is crucial to successful integration efforts. In particular, our study highlights the benefits of fostering cooperation with international nonprofit organizations to achieve effective and sustainable refugee settlement. We hope that this knowledge can empower stakeholders to take meaningful action, promoting unity and cooperation within host communities.

Our research also emphasizes the complex nature of refugee settlement processes in Uganda and the critical need for tailored support initiatives. By addressing socioeconomic challenges and civic engagement needs, international nonprofits can significantly improve both the well-being of refugees and the communities that host them. Future studies should explore these dynamics and the broader implications of refugee integration for societal development in Uganda and beyond.

Data availability

The data underlying this study were provided by Good Neighbors International (GNI) under permission for the current study and are subject to third-party restrictions. Because the data contain confidential information from a vulnerable population, they cannot be made publicly available by the authors. Requests for access to the underlying data should be directed to the corresponding author and are subject to GNI's approval and applicable ethical and confidentiality requirements.

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Author contributions

DL conceptualized the study, developed the methodology, conducted the formal analysis, interpreted the findings, and led the writing of the original draft and the revision process. MK contributed to project administration, data collection, and the initial framing of the study. MJ contributed to data collection, prepared the initial analysis draft, and contributed to the revision process. All authors reviewed the manuscript and approved the final version. Competing interests

The authors declare no competing interests.

Ethical statement

This study was conducted in accordance with the Declaration of Helsinki. Ethical approval for this study was obtained from the Institutional Review Board of the Uganda National Council for Science and Technology (approval number: MAKSS-REC04.2022.592; approval date: October 6, 2022) and from Ewha Womans University (approval number: 202209-0010-05; approval date: September 4, 2022).

Informed consent

Verbal informed consent was obtained from all participants prior to participation during data collection in October 2022, as approved by the relevant Institutional Review Boards. Additional safeguards were applied where participants were considered part of a vulnerable population.

Additional information

Supplementary information The online version contains supplementary material available at <https://doi.org/10.1057/s41599-026-07803-x>.

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