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The Feasibility of Conducting Panel Surveys With Migrant Populations: The Case of Venezuelans in Uruguay

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Abstract

These Methods Note analyzes the feasibility of conducting panel surveys with migrant populations in Latin America, which is characterized by increasingly vulnerable migration flows and complex migration trajectories. Since evidence shows that the migration event is an attrition factor in panel surveys, we reflect on methods to minimize its impact and recommend how other researchers could adopt our applied method. We took three steps to accomplish this. First, we compared the sociodemographic profiles of respondents of Venezuelan origin who participated in the 2018 Ethno-Recent Immigration Survey (ENIR) in Uruguay, focusing on those who were recontacted in the ENIR's second round in 2021 versus those who were not. Second, we conducted a multivariate analysis by estimating logistic regression models to predict the probability of being contacted in the ENIR's second round. Finally, we systematized our observations of which factors enabled participants to be recontacted in the second round, thereby determining strategies to allow future studies to recontact participants. Our results indicate that, in addition to the informants' individual attributes, it is imperative to consider the characteristics of their social networks to facilitate recontact.

Keywords: panel surveys, migrant populations, Venezuela, Uruguay

Introduction

The Latin American and Caribbean region has experienced significant changes in international migration within its borders in the last decade. There have been an increase in intraregional migration flows (Bengochea, 2018; Bengochea & Pellegrino, 2023; Prieto Rosas et al., 2022), structural economic and political-institutional crises, changes in migrants' sociodemographic profiles, increased control measures and restrictions in migration policies, modifications in the implementation of regional governance such as the Mercosur Residency Agreement (Ceja et al., 2021), and militarization of borders under the pretext of mobility restrictions imposed during the COVID-19 pandemic (Vera Espinoza et al., 2021). In this context, where Venezuelan migration constitutes an exodus mainly to other South American countries (Ceja et al., 2021), Latin American states' restrictions on migration have not been innocuous. Among their most notorious effects are the growth of irregular flows, increasingly complex migratory trajectories, and an increase in migrants' vulnerability (Álvarez Velasco, 2021; Ceja et al., 2021). This complexity has replaced the notion of migration as characterized by a single origin and a single destination with a new reality where it is characterized by super-complex migratory itineraries with multiple destinations and means of transportation that combine land, air, and water routes (Ceja et al., 2021). Two social expressions of the current context can be found in the phenomenon of migrant caravans that cross Latin America, intending to reach the northern Mexican border (Ceja et al., 2021; Gandini et al., 2020), or a significant number of Venezuelan migrants' state of "permanent wandering back and forth" (Álvarez Velasco, 2021) through Latin American territory. The context of complexity is relevant to this paper, since it prompts us to reflect on the extent to which interest in migrants' social inclusion should be circumscribed by the limits of a nation-state and on the importance of pursuing new ways of measuring the phenomenon

and its characteristics. To this end, we analyze the feasibility of conducting panel surveys of migrant populations in Latin America, considering the probability of recontacting baseline Venezuelan respondents from the first wave of the Ethno-Recent Immigration Survey (ENIR, for its acronym in Spanish) in Uruguay.

One-third of foreign-born residents in Uruguay entered the country in the last 5 years; of these, three-fourths came from a country in the Andean region or the Caribbean (Prieto Rosas et al., 2022). In particular, Venezuela and Cuba are among the main birthplaces of immigrants in the country, taking second and third place, respectively, after Argentina (INE-Uruguay, 2024; Montiel & Prieto Rosas, 2019; Prieto Rosas et al., 2022). According to the 2023 Population Census, 16,115 Venezuelan and 11,838 Cuban citizens lived in Uruguay (INE-Uruguay, 2024). Within this framework of transformation in the Uruguayan immigration scenario, the socioeconomic vulnerability of migrants has become evident (Márquez et al., 2020; Prieto Rosas et al., 2022). For example, the results of ENIR's first round, held in 2018 (which will henceforth be referred to as ENIR r1), indicated that access to adequate housing and labor inclusion were the most significant social inclusion challenges for migrants of Peruvian, Dominican, Cuban, and Venezuelan origin (Prieto Rosas et al., 2022). However, by ENIR's second round (henceforth ENIR r2), in October 2021, the national social and economic scenario had undergone a series of transformations, including the COVID-19 health emergency in March 2020 (ECLAC & ILO, 2020), an economic recession, and increased poverty (Brum & De Rosa, 2020). In this context, the panel survey was implemented to continue the study of the process of social inclusion of Venezuelan migrants.

Panel surveys must deal with attrition, an inherent limitation of this survey type. Since ENIR r1 focused solely on the migrant population, and the migration event itself is an attrition factor (Rindfuss et al., 2007; UN, 2020), we adopted certain methods to minimize its impact and

recommend how other researchers could adopt our approach. For this purpose, we took three steps. First, we compared the sociodemographic profiles of baseline participants of Venezuelan origin who participated in ENIR r1, held in Uruguay[1] in 2018, considering the differences between those who were recontacted in ENIR r2 in 2021 and those who could not be followed up. Second, we estimated logistic regression models to predict the probability that participants would be contacted during ENIR r2. Finally, we systematized a set of observations made during the fieldwork that ensured participants were recontacted for the second round and suggested strategies to be able to recontact them in the future.

Panel Studies With Migrant Populations

Literature that has studied international mobility from a longitudinal perspective is very scarce due to the limited availability of information on migrants' life trajectories. This lack is due to specific challenges intrinsic to working with geographically mobile populations, such as people concealing their migrant status, the absence of a sample frame of reference, or constantly changing places of residence. These factors have led to migrants being referred to as hard-to-reach populations (Genoni et al., 2021; Lynn et al., 2018).

Longitudinal and panel data methodologies have increasingly proven to be essential in migration research due to their ability to capture the temporal dynamics of migrants' socioeconomic trajectories and patterns of geographic mobility (UN, 2020). However, applying

[1] At the time of the 2018 ENIR, all respondents lived in Montevideo, but when they were recontacted to join the panel, their residence could be any city in Uruguay. However, 97.6% of those surveyed in 2021 reported living in the country's capital, and most residential changes occurred within Montevideo, with internal migration being very rare (Bengochea et al., 2024). However, the place of residence was unknown for a subset of people who could not be recontacted and for whom no recent data were available.

these approaches to immigrant populations presents unique methodological challenges, stemming from their inherent mobility and the legal, social, and economic precarity that often defines their circumstances (UN, 2020). Consequently, the dearth of panel studies targeting migrants limits the understanding of their trajectories in the different dimensions of social life, constraining the analysis of migration to the origin-destination binomial (Erlinghagen et al., 2020) and inhibiting the possibility of analyzing events of interest at different points of a migrant's life in an interrelated manner (Rindfuss et al., 2007).

Despite their potential, panel studies face a significant limitation associated with losing participants as the follow-up waves progress. If attrition is not random in all longitudinal perspectives, this can generate bias in the sample (Jacobsen & Siegert, 2023; Rindfuss et al., 2007). The evidence indicates that the panel attrition rate is between 5% and 10% and increases between successive waves (Jacobsen & Siegert, 2023; Thomas et al., 2012), mainly due to the migration or explicit refusal of baseline participants but also because of factors such as mortality. Of interest to us, Thomas et al. (2001) reported that if they had not followed up with participants who had changed residence between rounds, the attrition rate would have been over 30%.

In response to this concern, we identified seven preceding panel studies involving migrant populations. While not intended as an exhaustive review, these precedents allowed us to illustrate key methodological approaches and challenges in the field. By examining studies conducted in various contexts and employing varied sampling strategies, we assessed reported attrition rates, described sampling designs, and identified critical dimensions for minimizing attrition across waves.

Teruel et al. (2013) used the Mexican Family Life Survey (MxFLS), a nationally representative prospective panel survey to trace individuals who relocated internally or migrated

to the United States that took place in 2002, followed by subsequent rounds in 2005–2006 and 2009–2011; they underscored that between 2000 and 2005, 3% of the initial respondents relocated to the United States, and 91% of them were reinterviewed. In a comparable vein, the New Immigrant Survey (NIS), conducted by the Office of Population Research of Princeton University, sought to understand the processes of social inclusion and the quality of life of documented immigrants and their children over time in the United States. This project was conducted through direct interviews with individuals at three points (pilot in 1996, first wave in 2003, and second wave in 2007) with a representative sample from administrative records; it achieved a 68% response rate (Jasso et al., 2020).

For its part, the Longitudinal Health Survey of Women from Venezuela in Colombia (ELSA-VENCOL) aimed to understand the health trajectories of Venezuelan women who took the Cúcuta-Bucaramanga migratory route. For this, they selected respondents through non-probabilistic sampling (snowball method) and conducted two rounds of interviews. The first round consisted of personal interviews in February 2021; after 1 month, participants were reinterviewed by telephone, and the follow-up response rate was 56.4% (Acosta-Reyes et al., 2023).

Likewise, the *Encuesta de Refugiados: Experiencias Sociales y Salud* (ERESS) was a panel survey of refugees and other migrants living in Costa Rica who needed international protection (Weitzman et al., 2024). The panel began in October 2021 and ended in April 2022, enrolling 260 participants. After the first round, the response rate was 95% (Weitzman et al., 2024).

The German Emigration and Remigration Panel Study (GERPS) was a representative panel survey of a probabilistic sample using a push-to-web approach of German emigrants and returnees[2] based on information from the public registers of their countries of origin; it followed them for 2 years (Genoni et al., 2021). While their results contained no explicit attrition rate, they did mention a panel consent rate of 92.8% (Genoni et al., 2021).

Also in the German context, the IAB[3]-BAMF[4]-SOEP[5] Survey of Refugees consisted of a six-wave panel study developed between 2016 and 2022, with a focus on the asylum-seeking population that entered the country in 2013[6] (BAMF, 2024; Jacobsen & Siegert, 2023). The surveyed population was selected using a random sample from the Central Register of Foreigners (AZR) (BAMF, 2024); information was collected with computer-assisted personal interviews (CAPI). The survey inquired about different dimensions of the asylum-seeking population's living conditions.

Finally, the Indonesia Family Life Survey (IFLS), a longitudinal study of a representative sample of 83% of the Indonesian population in 1993 (Thomas et al., 2001; Thomas et al., 2012), analyzed the particularities of attrition in the follow-up rounds in 1997, 2000, and 2007. In the second wave, the response rate was 91.4%, with a refusal rate of 1.1% and 7.5% not interviewed,

[2] The survey covered emigrants from Germany living in several destination countries as well as returnees who had previously lived in another country (GERPS, 2025). The common aspect is the selection by country of origin, i.e., they were all Germans with migration experience (GERPS, 2025).

[3] Institute for Employment Research.

[4] The Federal Office for Migration and Refugees.

[5] German Socioeconomic Panel.

[6] This research was conducted by the Research Center of the Federal Office for Migration and Refugees, the Institute for Employment Research, and the DIW Berlin.

and in the 2007 round, these rates were 86.5%, 1.1%, and 12.3%, respectively. This underlines the importance of continuous follow-up and the inherent difficulties of attrition in long-term panel studies.

These precedents indicated that attrition in panel surveys of migrant populations can be more significant than in traditional ones, but it is manageable through specific strategies. Also, we found diversity in the types of sampling of migrant populations in the panel studies, which may have led to different attrition levels. However, we could not find a relationship between the sampling type and the attrition level. Furthermore, a shared conclusion is that attrition is not random but shaped by individual attributes and methodological strategies. Based on this comparative review, we identified three interconnected dimensions that influence the attrition rate between waves: implementing robust tracking systems, refining fieldwork methodologies, and accounting for sociodemographic factors linked to follow-up success.

First, studies from diverse geographic contexts highlighted the importance of a robust tracking system to ensure recontact between waves. Jasso et al. (2000) applied a recontact module that established a comprehensive profile of migrants, families, and friends, making it easier to track individuals when direct contact was impossible. Rindfuss et al.'s (2007) evidence suggested the value of collecting contact information from the friends and relatives of first-wave participants to have alternative location methods in successive waves of the panel. To this end, Thomas et al. (2012), based on their field experience, developed a set of recommendations to minimize attrition. The first was to create a tracking database that contains detailed information about participants, including household and family attributes, as well as data about other family members residing at different addresses. This enabled them to track individuals who relocated from their baseline location between rounds. It is noteworthy that some of the strategies mentioned in this review,

particularly those adopted by Teruel et al. (2013) and Thomas et al. (2012), were implemented in ENIR r1's respondent-driven sampling methodology and were essential for recontacting the panel members in the second wave (see following sections). They were also considered during the ENIR r2 fieldwork.

Second, certain characteristics of the fieldwork methodologies may reduce attrition. Thomas et al. (2001, 2012) noted that unmeasured factors, such as the interviewers' characteristics, influence the level of attrition. Additionally, they emphasized the importance of explaining the study's relevance to participants and providing financial incentives to encourage ongoing participation (Thomas et al., 2012). In line with this, Jasso et al. (2000) emphasized the importance of having a qualified team of surveyors, who must be trustworthy enough to encourage participants to share their personal information. Also, they mentioned that participants were given monetary compensation after each interview, which was also extended to members of their social networks who were contacted, and stressed the importance of a short time between waves and a stable telephone number for a high response rate (Jasso et al., 2000).

Finally, Genoni et al. (2021) demonstrated that the "push to web" strategy effectively achieved high response rates and panel consent among internationally mobile populations, whereas traditional "pen and paper" methods did not increase response levels. While there is evidence indicating that the "push to web" method is particularly sensitive to spatial selectivity, the researchers could not find evidence of this by comparing non-response rates within specific groups in the GERPS study. They also noted that traditional survey methods were more expensive and more complex but did not enhance data quality.

Third, accounting for sociodemographic factors associated with follow-up success is essential to mitigating the selective bias introduced by attrition. Weitzman et al. (2024) observed

that after the first round, the response rate was homogeneous among different sociodemographic and socioeconomic profiles, such as sex, education levels, and the presence of minors in the family. However, the researchers found significant differences in the response rate due to socioeconomic characteristics; it was 5 percentage points lower among those who experienced homelessness (Weitzman et al., 2024). Regarding the effect of the type of housing, Teruel et al. (2013) similarly found that most individuals who could not be followed up were living in rented accommodations at the time of the baseline survey. Jacobsen and Siegert (2023) reached comparable conclusions, since asylum seekers' attrition risk was higher among refugees living in shared accommodations than those living in private accommodations. Furthermore, they found that the attrition risk was higher among those who were not working compared to those who were employed, and among asylum seekers with higher educational attainment. Conversely, they found that gender differences were irrelevant, and the attrition risk decreased with age.

Rindfuss et al. (2007) also emphasized the role of housing in attrition rates, since they found that short-term residence in dwellings or jobs lowered the probability of recontact. Additionally, having a stable and dense social network increased the likelihood of recontact. They also identified that the level of attrition was affected by migratory propensity, social conditions at the destination, and the density of social networks at the destination and the origin. These findings imply that it is crucial to consider the sociodemographic and life course attributes associated with migratory propensity, such as marital status, childbearing, and age, to reduce the incidence of attrition.

Thomas et al. (2001, 2012) also found that response rates were generally higher among participants who, at baseline, lived in rural areas, had lower levels of education, came from less educated family backgrounds, were in relationships, were employed and earned lower incomes,

had less migration experience, and owned their homes (Thomas et al., 2012). For their part, Acosta-Reyes et al. (2023) found that respondents were more educated, had been in the destination longer, and had more contact with public health institutions in the destination than non-respondents. Geroni et al. (2021) also found that the willingness to participate in a second round was higher among those more educated.

The three key dimensions—effective tracking systems, improved fieldwork methodologies, and consideration of sociodemographic factors—highlight the complex strategies needed to reduce attrition in longitudinal studies. Effective tracking involves systematically collecting detailed contact information, including details about participants' social networks, and maintaining updated databases to help locate those who have moved. The quality of fieldwork, shaped by interviewers' characteristics, the level of participant engagement, and financial incentives, plays a critical role in encouraging ongoing participation. Additionally, understanding how attrition relates to factors like housing stability, employment, education, or characteristics of the migration experience is relevant for reducing attrition and the selective bias arising from uneven follow-up.

Data and Methods

In this study, we used information from ENIR r1 held in 2018 and r2 held in 2021. ENIR r1 was based on the traditional ethno-survey protocols of the Mexican and Latin American Migration Project (Massey, 1987). It consisted of applying an ethno-survey questionnaire to migrants of Venezuelan, Cuban, Peruvian, and Dominican origin and was not originally designed as a panel. The first round applied the non-probability sampling technique of respondent-driven sampling (RDS), which replicates the logic of "snowball" selection strategies to reduce selection biases and enables statistical inference within hidden or hard-to-reach populations. Specifically,

ENIR r1 began its sampling process with five individuals (seeds) of each national origin, each of whom referred three contacts to be interviewed (Prieto Rosas et al., 2022). Since not all referrals ultimately participated in the survey, key relational data were recorded, including who referred whom and the degree of reciprocity in the connections. The successive referrals from respondents allowed the construction of a referral chain, and as referred individuals could decline to participate in the survey, chain sizes varied by national origin and segments of the referral chain. This information allowed for the construction of referral chains centered on each seed participant. Accordingly, every ENIR respondent could be situated within a documented referral network, identifying their link to a seed and the individuals they referred to. The resulting dataset comprised referral chains of varying lengths, which served as empirical approximations of the social networks within migrant communities. In addition, RDS incorporates controls for selection bias, given that those with more contacts are more likely to be referred and thus may be overrepresented in the sample. While ENIR r1 included four national origins, the panel focused solely on Venezuelans for three reasons: First, they represented the second-largest nationality in Uruguay's immigrant stock (INE-Uruguay, 2024); second, they were the group with the highest number of responses in ENIR r1; and third, budgetary constraints demanded the selection of a single country of origin.

Subsequently, ENIR r2 was directed to 371 baseline informants of Venezuelan origin who had participated in ENIR r1. The field strategy was based on contacting them through cell phone numbers registered in 2018. It should be noted that the panel's initial methodological design involved face-to-face interviewing; however, the COVID-19 pandemic required us to distance ourselves from the traditional ethno-survey protocols, instead using a telephone survey and an

online questionnaire.[7] However, given that some numbers had become inactive between rounds, strategies were developed to recover participants' contact numbers during ENIR r2. First, information on the new ethno-survey was disseminated through social media by a member of *Manos Veneguayas*, a civil society organization that brings together the population of Venezuelan origin in Montevideo. Second, we recontacted individuals who had been referred to ENIR r1 but had not participated; and third, at the conclusion of the ENIR r2 survey, informants were asked to share the cell phone numbers of the individuals they had referred to in ENIR r1. This allowed us to update contact information in case any of the numbers had changed. Once contact was established, the informants were invited to participate in ENIR r2, and after their informed consent, the interviews were scheduled.

Table 1 presents the results from ENIR r2 and the outcomes of the recontact effort. First, it shows that of the 371 reference informants of Venezuelan origin who participated in the first round, by the end of the fieldwork in 2021, we were able to recontact 304 of these informants, while we were unable to reach 67 of them. Second, in the last quarter of 2021, 290 (78%) continued to reside in Uruguay, 33 (9%) had re-emigrated to a third country or returned to Venezuela, and 48 (13%) were lost to follow-up. Of the informants we were able to contact who were residing in Uruguay, 236 (63.6%) agreed to complete the survey, and 54 (14.6%) explicitly refused. Of the 33 informants who had re-emigrated, we confirmed through their networks in Uruguay that they were residing in another country at the time of ENIR r2. Likewise, contact with their networks allowed us to contact 14 (3.8%) of them directly, as the networks provided us with their new cell phone

[7] At the end of the interviews, participants were provided with a voucher equivalent to US$12. The research was also ethically endorsed by the Research Ethics Committee of the Faculty of Economic Sciences of the Universidad de la República.

numbers or email addresses. In such cases, they were interviewed in depth through Zoom. Unfortunately, we were unable to follow up with 19 (5.1%) of the 33 whose networks verified that they were residing in another country.

To meet our research objectives, we used information from 371 migrants of Venezuelan origin who participated in ENIR r1, whose contact status we had for ENIR r2. This categorization allowed us to carry out an analysis that described the sociodemographic profiles of those participants who were contacted and those who could not be contacted. Specifically, an informant could have the following five statuses: (a) contacted and survey completed, (b) contacted but refused to participate in the second round, (c) living abroad and contacted through their network, (d) unreachable with an unrecoverable telephone number, and (e) unreachable and living abroad (current place of residence known through their network). In this sense, our dependent variable has two categories. The first aggregates the cases that were contacted and whether they agreed to take the survey or not, while the second comprises the cases that we could not contact.

Table 1. Specification of the Dependent Variable

		Participants situation	2018	2021
		Baseline participants	**371 (100%)**	
Dependent variable	Contacted	a) Survey completed		236 (63.6%)
		b) Refused to participate		54 (14.6%)
		c) Living abroad		14 (3.8%)
		Total contacted		**304 (81.9%)**
	Not contacted	d) Unreachable with unrecoverable telephone number		48 (12.9%)
		e) Unreachable and living abroad		19 (5.1%)
		Total not contacted		**67 (18.1%)**
		Total		**371 (100%)**

The demographic variables used for the analysis were sex, age, educational attainment, arrival cohort in Uruguay, employment status, children's and partner's location, plan to return to the country of origin, and information on the type of dwelling they occupied in 2018. Finally, based on the referral chain dataset mentioned before, we constructed a variable named *stability of the informant´s reference chain*, defined as the ratio between (a) the number of individuals within an informant's reference chain who completed the survey in 2021 and (b) the total number of individuals in that chain who completed the survey in 2018. Thus, a ratio of one indicates a strong reference chain, since all individuals surveyed in 2018 were also surveyed in 2021, while values approaching zero reflect weaker chains, with fewer individuals from the original group participating in the later round.

We performed a bivariate analysis of the sociodemographic and individual characteristics of the cases according to their contact status in ENIR r2. We estimated a binomial logistic model to predict the probability of having been contacted in ENIR r2 (1 = contacted, 0 = not contacted[8]) (Equation 1). The independent variables selected were gender, age group (in three categories: 18–29, 30–49, 50–64), educational attainment, arrival cohort in Uruguay (grouped into two categories), type of dwelling, and a continuous variable that reflected the stability of the informant referral chain (Table 2).

Equation 1:

$$contact = \beta_0 + \beta_1 sex + \beta_2 age + \beta_3 years_{schooling} + \beta_4 cohort_{arrival} + \beta_5 couple_{situation} + \beta_6 children_{situation} + +\beta_7 employed + \beta_8 dwelling_{type} + + \beta_9 return\ plans + \beta_{10} stability\_referral\_chain + \varepsilon$$

[8] Refers to the category of untraceable informants.

Table 2. Specification of the Variables Used in the Estimated Model

Variable	Specification
Contact (dependent variable)	0 = not contacted / 1 = contacted
Sex	0 = male (reference category) / 1 = female
Age	0 = 18–29 (reference category) / 1 = 30–49 / 2 = 50–64
Years of schooling	Continuous
Cohort of arrival	0 = 2000–2017 (reference category) / 1 = 2018
Couple situation	0 = no couple (reference category) / 1 = couple in destination / 2 = couple out of destination[9]
Children situation	0 = childless (reference category) / 1 = children in destination / 2 = children out of destination[10]
Employed	0 = not employed (reference category) / 1 = employed
Type of dwelling	0 = collective (reference category) / 1 = private[11]
Return plans	0 = no return plans (reference category) / 1 = return plans in next 3 years
Stability of the referral chain	Continuous (bounded between 0–1)

[9] The category "Couple out of destination" indicates that the partner could be in the country of origin or another country.

[10] The category "Children out of destination" indicates that the children could be in the country of origin or another country.

[11] The private dwelling category includes the following types of housing: houses, apartments, private rooms in a shared apartment, and shared rooms in a shared apartment. The collective dwelling category includes the following types of housing: pensions, hotels, hostels, and state-provided shelters.

Results

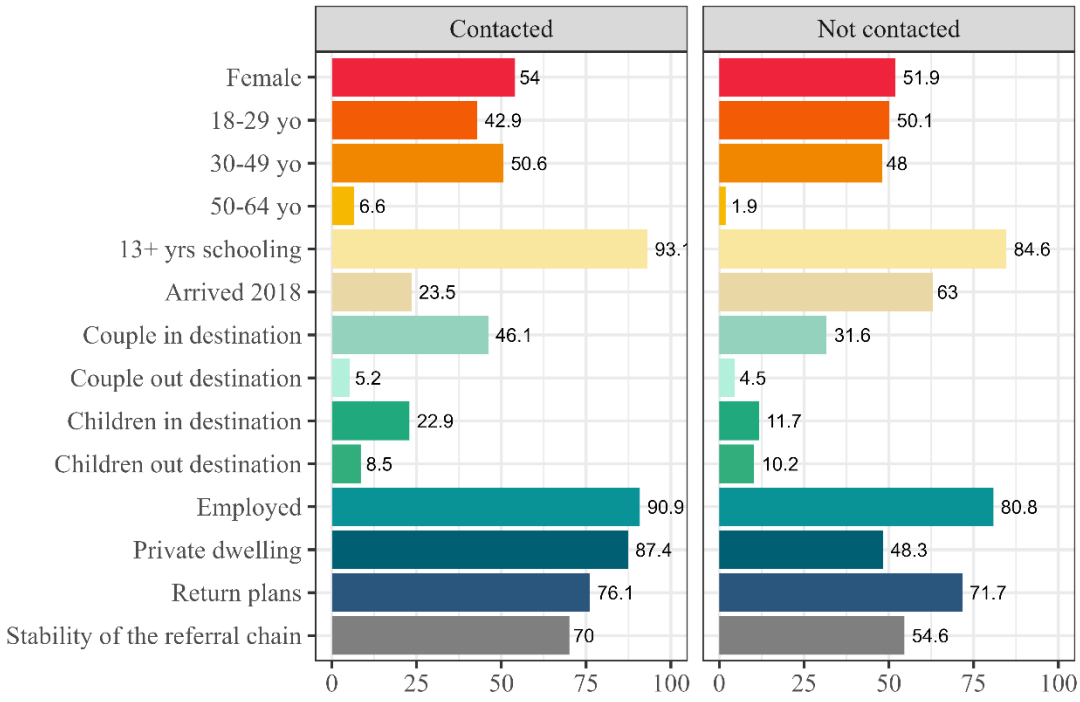
As previously mentioned, it was possible to contact 304 informants, representing 81.9% of the baseline Venezuelan informants who participated in the first round of ENIR. Women were slightly more likely to be reached than men, as were those in the middle/older age groups (older than 29 years in 2018) and people with a more extended residence in the country who lived in a private dwelling at the time of the 2018 survey (Figure 1). In contrast, the essential characteristics of those who could not be contacted were that they had arrived more recently in the country, were younger, and were living to a greater extent in collective housing in 2018 (Figure 1). The influence of the characteristics of the type of dwelling is shared with most of the precedents reviewed, with a higher attrition rate among those who were living in rented (Teruel et al., 2013) or shared accommodations (Jacobsen & Siegert, 2023), experiencing homelessness (Weitzman et al., 2024), or living in a short-term residence (Rindfuss et al., 2007).

On the other hand, in contrast with Thomas et al. (2012) and Jacobsen and Siegert (2023), we observed that respondents' years of education did not influence the possibility of recontact (Figure 1). However, this finding aligns with Weitzman et al. (2024), who also examined a Latin American context. This consistency reflects the unique characteristics of recent migration flows in the region, particularly the homogeneously high levels of educational attainment among migrants (Prieto Rosas et al., 2022). This highlights the need to carefully consider the sociodemographic specifics of the migrant populations being studied before generalizing the theoretical effects of variables like education on attrition. As sociodemographic profiles can vary significantly across different regions and over time, it is essential to approach assumptions about these effects with caution and contextual sensitivity.

Regarding family structure, the majority in both groups did not have children or a partner. However, those who were contacted showed a slightly higher proportion of having both a partner and children at the destination. These results are similar to those observed by Thomas et al. (2012). For the remaining attributes, employment and return plans, similar patterns were observed between both groups. Finally, we observed that the reference chains of those who were contacted had, on average, completed a higher proportion of surveys in 2021 (Figure 1), which increased our chances of obtaining an updated telephone number.

In summary, many variables associated with having been recontacted are related to a specific notion of the establishment of settlement in the destination, observed in characteristics such as the type of dwelling where the informant resides or a more extended period in the destination country. This observation leads us to believe that the individual's network also shares this stability, increasing the chances of contacting that person. That is, the contact network of someone with less time in the country will consist primarily of acquaintances, while those with more time in the country will have a closer and more permanent contact network. This latter characteristic is associated with a greater possibility of recovering these contacts, which led us to include a variable denoting this network characteristic in the analysis.

Figure 1. Selected Indicators of Factors Associated With the Status of Informants at the End of the ENIR r2 Fieldwork (%). Uruguay, 2021



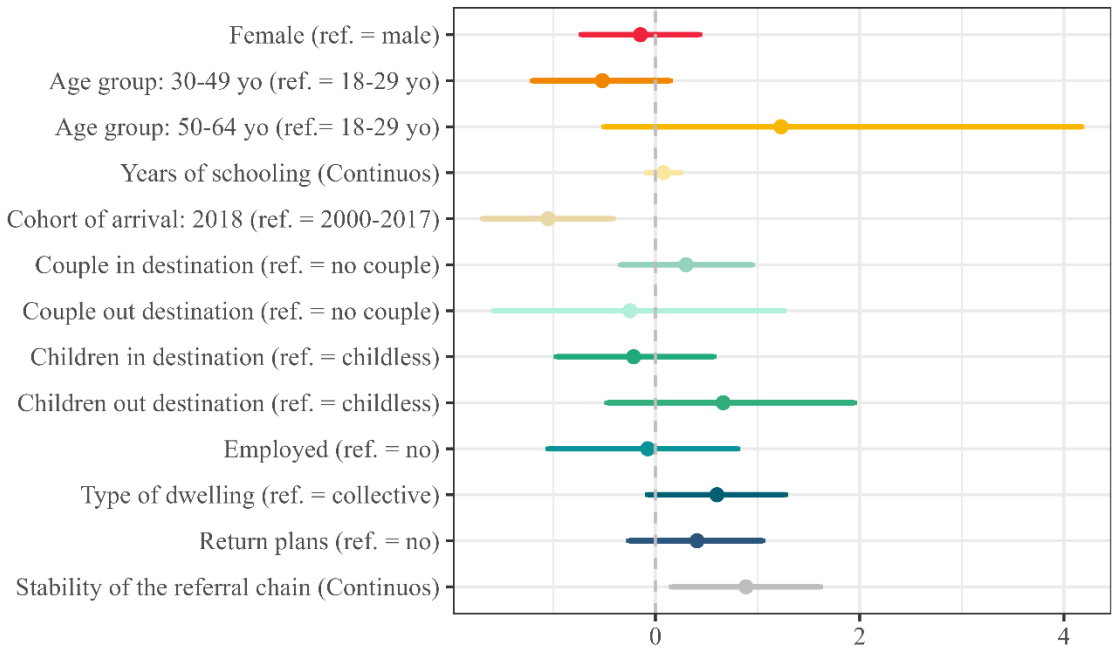
Note. *N* = 371.
Source: ENIR r2.

Additionally, the binomial logistic regression model reinforces some of the differences found in the bivariate analysis by highlighting the effect of the arrival cohort and the stability of the referral chain, the only statistically significant independent variables in explaining the probability of being contacted in ENIR r2 (Figure 2).[12] In particular, the results show that migrants who arrived in 2018 were less likely to be contacted in ENIR r2 compared to previous cohorts, while the probability increased with the stability of the referral chain, controlling for the remaining selected attributes (Figure 2). Therefore, as found by Rindfuss et al. (2007), Thomas et al. (2012),

[12] See the Appendix for details of the model and the order in which the models were run.

Teruel et al. (2013), and Acosta-Reyes et al. (2023), the likelihood of being contacted in ENIR r2 was determined by the presence of stable and dense social networks, as well as specific attributes associated with the process of settling in the destination. Finally, like Jacobsen and Siegert (2023) and Weitzman et al. (2024), we found that gender did not determine the probability of recontact. This leads us to note that even in surveys that differ in terms of the migrant population studied, i.e., specifically targeting asylum seekers or migrants regardless of their document status, gender does not segment the probability of recontact. Like the results achieved by Weitzman et al. (2024) but in contrast with Thomas et al. (2012) and Jacobsen and Siegert (2023), we found that migrants' educational attainment and age were not significant in explaining attrition.

Figure 2. ***Coefficients of Logistic Regression Model on the Probability of Contact in ENIR r2. Uruguay, 2021***



Note. N = 371, confidence interval = 95%.
Source: ENIR r2.

Final Remarks

The panel survey described here aimed to recontact Venezuelan informants who had participated in the first round of the survey to understand how the social inclusion processes continued between rounds. Staggered recontact strategies were employed during the fieldwork. First, potential participants were contacted directly via cell phone numbers provided in ENIR r1, and when these numbers were unavailable, we updated them by consulting their reference chain. In this sense, having reference contacts from a sample constructed by the RDS method was vital to carrying out a panel survey of this population. During the second round, these contacts were an essential resource for contacting informants who had migrated to another country or changed their cell phone numbers. The latter is significant given that a large part of the migrant population does not keep the same cell phone number for long, at least during the first period of settlement. The results highlight the importance of stable, lasting contact networks to contact respondents successfully during a panel survey of migrant populations.

Considering the fieldwork experience and the results obtained, we developed a series of methodological reflections on what aspects should be considered to increase the likelihood of recontact when conducting panel surveys among migrant populations. Specifically, we highlighted three situations that represent limitations when recontacting migrant populations through panel surveys: the non-establishment of close ties because of newcomer status, possession of a temporary cell phone number during the initial period of residence, and being in transit to another destination.

Therefore, we make two suggestions regarding future implementations of the RDS methodology when surveying migrant populations. First, when registering a contact number for participants, it is essential to have complementary connection alternatives such as email, since mobile telephone numbers can have high turnover rates, considering that migratory trajectories are complex and may involve many countries (IOM, 2022). In this sense, and in line with Thomas et

al. (2012) and Teruel et al. (2013), it is also essential to have the contact information of the participant's family, regardless of whether they are migrants. For example, having the email address of a close relative, such as a parent, sibling, or offspring, may guarantee recontact no matter the geographic location of the person of interest. Accordingly, at the end of the interview, we informed participants about the possibility of contacting them again for a new panel round. If they agreed, we asked for more than one contact method. Second, when constructing reference chains, it is essential to remember the importance of including people with close relationships with a certain degree of permanence. This suggestion is especially relevant for studies based on RDS samples. For example, researchers should avoid using coworkers as referrals, especially among newly arrived migrants experiencing an unstable employment trajectory, or conationals who share collective housing during the first settlement period; additionally, conjugal ties may be unstable. According to Rindfuss et al. (2007) and Thomas et al. (2012), the implementation of panel surveys with migrant populations is successful where there is a cohesive community of origin and strong interpersonal contact networks. However, leaving out those who do not have these resources may bias the study. In these cases, we need to devise particular strategies to recontact participants even though they have weak social networks due to their recent arrival. This reinforces the idea of collecting contact information from a close relative of the migrant.

Likewise, once the fieldwork was completed, we found that a proportion of the Venezuelan informants had remigrated or returned 36 months after the first contact in Uruguay. As with Teruel et al. (2013), our methodological strategy enabled us to contact at least part of the migrant population that was no longer in the country at the time of the follow-up panel. This was made possible by the prior construction of the reference chains, reinforcing the ideas highlighted above.

Growing international mobility in Latin America, which implies more complex migrant itineraries, together with the evidence presented above on the relevance of transnational kinship networks in establishing recontact, leads us to conclude that it is essential to consider an approach that goes beyond methodological nationalism to ensure adequate monitoring of the life trajectories and social inclusion of migrant populations. To this end, it is essential to have methodological tools, such as RDS, that guarantee opportunities for future recontact with panel study participants regardless of their country of residence.

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Appendix

***Table 2.** Coefficients of logistic regression models for the Probability of Contact in the ENIR r2. Uruguay, 2021*

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	1.51 *** (0.13)	0.89 *** (0.24)	0.79 (1.3)	0.56 (1.33)	0.15 (1.35)	-0.33 (1.42)
Stability of the referral chain (continuous)		1.00 ** (0.34)	0.82 * (0.36)	0.88 * (0.36)	0.85 * (0.37)	0.89 * (0.37)
Cohort of arrival: 2018 (ref. = 2000-2017)			-1.23 *** (0.29)	-1.23 *** (0.3)	-1.03 ** (0.32)	-1.05 ** (0.32)
Female (ref. = male)			-0.22 (0.29)	-0.19 (0.29)	-0.16 (0.29)	-0.15 (0.29)
Age group: 30-49 yo (ref. = 18-29 yo)			-0.42 (0.31)	-0.48 (0.34)	-0.5 (0.34)	-0.52 (0.34)
Age group: 50-64 yo (ref. = 18-29 yo)			1.26 (1.07)	1.24 (1.07)	1.17 (1.08)	1.23 (1.08)
Years of schooling (continuos)			0.06 (0.08)	0.07 (0.08)	0.07 (0.08)	0.08 (0.08)
Employed (ref. = not employed)			-0.01 (0.46)	-0.06 (0.47)	-0.09 (0.47)	-0.07 (0.47)
Children in destination (ref. = no children)				-0.13 (0.39)	-0.2 (0.39)	-0.21 (0.39)
Children out destination (ref. = no children)				0.54 (0.6)	0.64 (0.61)	0.66 (0.61)
Couple in destination (ref. = no couple)				0.33 (0.32)	0.29 (0.33)	0.3 (0.33)
Couple out destination (ref. = no couple)				-0.24 (0.7)	-0.3 (0.71)	-0.25 (0.71)
Type of dwelling (ref. = collective)					0.61 (0.34)	0.6 (0.34)
Return plans (ref. = no)						0.41 (0.33)
Obs.	371	371	371	371	371	371
AIC	352.4	345.9	334.3	340.2	339.1	339.7
BIC	356.4	353.7	365.7	387.2	390	394.5
ll	-175.2	-170.9	-159.2	-158.1	-156.6	-155.8

Note: Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Source: ENIR r2.