

Thriving beyond Borders?

Understanding Refugee Children's Life Outcomes

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Abstract

By 2023, more than 108 million people were forcibly displaced worldwide, with children under 18 constituting 45 percent. This study examines the human development gaps between forcibly displaced migrant and host children and adolescents, focusing on cognitive and socioemotional skills and physical and mental health. The study also explores how access to services and regularization programs are correlated with these disparities using a unique and comprehensive longitudinal data set of around 2,500 Venezuelan migrant

and Colombian host children and adolescents, ages 5 to 17 and living in Medellín, Colombia. The findings reveal significant developmental delays among migrant children in physical and cognitive development, but interestingly, no significant differences in socioemotional and mental health outcomes. The research underscores how the availability of public services and engagement in regularization programs are crucial for mitigating these developmental gaps.

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Thriving beyond Borders? Understanding Refugee Children's Life Outcomes*

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I INTRODUCTION

Over the past decade, the number of individuals forcibly displaced worldwide has more than doubled, surpassing 110 million by 2023 ([UNHCR 2023](#)). Notably, children and adolescents under 18 years of age make up 45 percent of international forced migrants ([UNICEF 2023](#)). Forced displacement exposes these young individuals to severe well-being challenges and traumatic experiences, placing them at heightened vulnerability. This is particularly concerning as such events unfold during critical developmental stages that significantly influence their future life paths. Despite the urgency, our understanding of the impact of forced displacement on this demographic is still limited.

This challenge is partly due to data restrictions that obstruct the diagnosis of problems and the design of effective aid strategies. This issue is particularly acute for forced migrants living in local communities in developing countries, where an estimated 80% of the world's refugees reside ([Climate Center 2022](#)). These individuals often face trust issues and may lack the formal documentation needed to establish their legal status within host communities. Consequently, they may fear detection by authorities when asked to respond to surveys or participate in public initiatives.¹ Furthermore, collective representative and longitudinal data on forcibly displaced migrants, a population with high mobility rates, is difficult and costly ([Ibáñez et al. 2024](#)). This complexity is compounded when focusing on children and adolescents, given the need for enumerators to receive specific training to interact with such a vulnerable demographic and for migrant parents to authorize their children's involvement despite prevailing distrust issues.

To address this knowledge gap, we launched the Venezuelan Refugee Panel Study for Kids (VenRePs-Kids) in Medellín, Colombia. VenRePs-Kids is a longitudinal study representative of forcibly displaced Venezuelan and Colombian children and adolescents aged 5 to 17. To our knowledge, it is the first study to gather panel data specifically on forcibly

¹This concern is also prevalent among undocumented migrants in the United States, as highlighted by [Amuedo-Dorantes and Lopez \(2015\)](#).

displaced children and adolescents residing in host communities, rather than in refugee camps.

Particularly, VenRePs-Kids collects data on 2,556 households including 1,338 Colombian and 918 Venezuelan households, respectively. The study collects rich and comprehensive data on children's and adolescent's development including anthropometric measures, vocabulary ability tests, and socio-emotional and mental health assessments. It also collects data on risk behaviors, time use, social integration measures, prosocial behaviors, and parents and caregivers sociodemographics, among other dimensions.²

The study includes Colombian children and adolescents as the comparison group to highlight the developmental differences of Venezuelan forcibly displaced children. This choice stems from the fact that comparing Venezuelan children in Colombia with their counterparts remaining in Venezuela is impractical due to the latter's exposure to a severe economic and humanitarian crisis, marked by limited access to services and food. This environment severely hampers their potential for normal human development. Additionally, many Venezuelan children and adolescents have spent more of their lives in Colombia than in Venezuela. Therefore, Colombian children and adolescents serve as the most appropriate benchmark for assessing the developmental gaps of their Venezuelan peers.

This paper analyzes data from the initial wave of VenRePS-Kids, conducted from October to December 2022, to outline key demographics and stylized facts about forcibly displaced children and adolescents. Initially, we examine the human development disparities of forcibly displaced Venezuelan children and adolescents in comparison to their Colombian counterparts. Our approach to human development is broad, covering physical, cognitive, socio-emotional, and mental health aspects. Additionally, we complement our analysis by exploring differences in food security, social cohesion, and the economic status of parents. Although our analysis is descriptive, it represents a crucial initial step

²Venezuelan households are defined as those where both parents and their children have a Venezuelan nationality. Colombian households are composed of Colombian citizens only.

towards grasping the current circumstances of forcibly displaced children in developing nations. Following this, we investigate the association between the development disparities of forcibly displaced children and their access to services, legal regularization status, and time of settlement in Colombia.

The study location was chosen because Colombia is the primary host for forced migrants in the Americas, and due to its unprecedented generosity towards Venezuelan forced migrants, despite its own challenges as a developing country with constrained resources. Specifically, in 2021 Colombia created the Estatuto Temporal de Protección para Migrantes Venezolanos (ETPV), allowing all Venezuelan migrants who arrived before January 2021 the opportunity to access job permits and full social services temporarily for ten years. This initiative has set a precedent for other developing countries, inspiring similar measures in Chile, Argentina, Perú, Ecuador, and the Dominican Republic. In fact, similar programs had only been implemented before in Canada, the United States, Spain, and Italy. Hence, understanding the current conditions of Venezuelan children and adolescents in Colombia is crucial for providing effective support and guiding international policies in hosting minor forcibly displaced migrants in developing countries.

Medellín, chosen as the specific location for this study, is the third-largest host city for Venezuelan migrants in Colombia. The need for a geographically confined study area stems from the prohibitive costs associated with tracking a highly mobile population in a longitudinal study. Additionally, Medellín has shown high response rates from migrants in past research ([Ibáñez et al. 2024](#)), further justifying its selection for this important work.

In the initial phase of our analysis, we examine the main trends observed in the data, uncovering several key insights. First, we find that the wealth distribution among forcibly displaced Venezuelan households is significantly skewed towards lower values when compared to Colombian households. This disparity is largely attributed to the loss of asset ownership that these households faced during their migration. Consequently, Venezue-

lan households tend to possess fewer assets, including property, yet they have access to services—such as utilities and communications—at levels comparable to Colombian households. It is evident that regaining the level of asset ownership experienced before migration will require time for the forcibly displaced populations.

Second, our analysis reveals that, on average, Colombian children and adolescents have a 0.3 higher standardized score in years of education compared to their Venezuelan counterparts. This difference translates to roughly a one-year educational delay for Venezuelan children and adolescents. The gap varies by age group: it stands at 0.19 standard deviations (SD) for younger children aged 5-10 years, but widens significantly to 0.46 SD for adolescents aged 11-17 years. The larger gap among adolescents could be attributed to their increased likelihood of participating in income-generating activities.

Third, our findings highlight the Colombian government's progressive policies towards Venezuelan forced migrants as a remarkable example of integrating the forcibly displaced within a developing country context, particularly in terms of service access. Notably, school enrollment rates for Venezuelan minors in Colombia approach 75%, and the take-up rate for regularization programs is around 70%. However, it is still puzzling that take-up is not higher considering the large benefits of school enrollment and regularization programs (Ibáñez et al. 2022). In fact, there clearly exists potential for further enhancement in service enrollment rates for Venezuelan minors, especially concerning *sisbén* (the system used to allocate social program benefits in Colombia) and health insurance. Specifically, we find that Venezuelan minors are 20, 45, and 50 percentage points less likely than Colombian minors to be enrolled in school, *sisbén*, and health services, respectively.

In the second phase of our analysis, we characterize the human development disparities between Colombian and Venezuelan children and adolescents, examining how these differences interact with their time of settlement, regularization status, and access to ser-

vices. Our findings reveal significant delays in the physical and cognitive development of Venezuelan minors compared to their Colombian peers. Specifically, we observe a 0.3 standard deviation difference in Body Mass Index (BMI), indicative of nutritional status, and a 12-percentage point difference in the Peabody Vocabulary Test scores, which assesses receptive vocabulary and verbal ability. Surprisingly, our analysis does not identify any disparities in socio-emotional and mental health between the two groups. This outcome is unexpected, given the high incidence of socio-emotional and mental health challenges among forcibly displaced populations. The absence of discernible gaps in these areas could be attributed to the non-exposure of Venezuelan migrants to warfare, or it may reflect the vulnerabilities of the Colombian population, which has its own extensive history of internal forced displacement and violence.

When examining the role of time of settlement, regularization status, and service access on the developmental disparities between Venezuelan and Colombian minors, we uncover two significant facts. On the one hand, the gaps in both cognitive and physical development are diminishing over time. For Venezuelan migrants who have been in Colombia for 1-3 years compared to those there for 4+ years, the gap in Body Mass Index (BMI) has narrowed from a 0.42 standard deviation to a 0.29 standard deviation—a 30% reduction. Similarly, the disparity in percentile scores on the vocabulary assessment has decreased from 15.15 percentage points to 9.12 percentage points—a 40% reduction. These trends indicate that Venezuelan migrants are progressively catching up over time.

On the other hand, our analysis of the data also suggest that access to services and regularization plays a vital role in bridging the cognitive development gap between Colombian and Venezuelan minors. However, these factors appear less influential in addressing disparities in Body Mass Index (BMI). This is particularly evident in the case of school enrollment, highlighting the importance of prioritizing educational access as a policy strategy to mitigate cognitive development gaps between Colombian and Venezuelan children

and adolescent forced migrants.

We contribute to the body of work examining the impacts of migration on children.³ The vast majority of this literature has been centered on examining the impacts of migration on left-behind children ([Ohinata and Van Ours 2013](#), [Mu and De Brauw 2015](#), [Edwards and Ureta 2003](#), [Tumen 2021](#)), native children ([Cascio and Lewis 2012](#), [Geay, McNally and Telhaj 2013](#), [Hunt 2017](#), [Figlio et al. 2021](#) [Çakır, Erbay and Kırdar 2023](#)), and on how voluntary (as opposed to forced) migration impacts immigrant children ([Macours and Vakis 2010](#), [Felfe, Rainer and Saurer 2020](#)).⁴ We contribute to these studies by collecting the first longitudinal study that collects comprehensive data on forcibly displaced children and adolescents residing in host communities, rather than in refugee camps. This analysis has been limited by the data availability as it is difficult to find these migrants. To overcome these obstacles, we developed an innovative approach for constructing sampling frames for forcibly displaced migrants living outside of refugee camps, where traditional census data or official records are unavailable. Our methodology involves an extensive listing exercise that integrates information from various sources, including population censuses, satellite imagery of new migrant settlements provided by humanitarian organizations, contributions from migrant groups and donors, field verification, and referrals from within the migrant community itself. This approach mirrors similar efforts documented in studies on the impact of regularization programs ([Ibáñez et al. 2022](#)), but expands on them by incorporating satellite data on new settlements and focusing on a demographic group that has been less studied in this context—children and adolescents.

We also contribute to the literature by collecting rich and comprehensive information on children's and adolescent's development covering aspects such as physical, cognitive,

³See [Cortina, Jimenez and Roza \(2024\)](#) or a detailed literature review of findings from 113 studies produced between 1990 and 2023 focusing on the social and economic impacts of migration on various child groups affected through the migration path.

⁴A relevant focus in this group of studies has been centered on understanding the role of public policies, such as enforcement policies or school mixing, on the outcomes on migrant children (see [Amuedo-Dorantes and Lopez 2015](#), [Amuedo-Dorantes, Arenas-Arroyo and Sevilla 2018](#), [Amuedo-Dorantes and Arenas-Arroyo 2019](#), [Alan et al. 2021](#)).

socio-emotional and mental health development, food security, time use, engagement in risky behaviors, and social integration. These data allow us to examine the short to medium-term human development gaps faced by forcibly displaced minors and hosts in a comprehensive way.⁵ It also enables the characterization of the variables that help reduce gaps between migrants and their hosts. Previous work, has mostly focused on the employment and earnings gaps between adult migrants and hosts (Borjas 1985, Abramitzky, Boustan and Eriksson 2020, Abramitzky et al. 2021) and the persistence of the economic status from first to second generations of immigrants in developed settings (Abramitzky, Boustan and Eriksson 2014). Focusing on children allows to diagnose gaps in human development that can have long-term consequences for immigrants' economic success, including career choices and wages (Bleakley and Chin 2004, Bleakley and Chin 2010, Carlana, La Ferrara and Pinotti 2022). It can also inform the design of targeted interventions aimed at improving the life trajectories of both migrant and host populations, ultimately contributing to more informed and effective policy decisions.

Our research complements and extends the findings of Demirci, Foster and Kirdar (2022), who investigated health and nutrition disparities between native children and Syrian refugee children aged 0 to 5 years in Türkiye, using data from the Demographic and Health Survey. The authors document find no significant differences in infant or child mortality rates between refugee children born in Türkiye and their native counterparts, it did reveal that refugee infants have lower birth weights and age-adjusted weights and heights compared to native infants. Our work broadens the scope of analysis beyond anthropometric indicators to encompass a holistic assessment of child development. By incorporating measures of physical, cognitive, socio-emotional, and mental health development, along with factors such as food security, time use, risky behaviors, and social integration, we offer a more comprehensive understanding of the developmental challenges faced by displaced minors. Additionally, our study includes a wider age range,

⁵Chiovelli et al. (2021) examine the effects of forced displacement on separated sibling in the long-term.

encompassing not only infants and young children but also older children and adolescents, thereby providing a fuller picture of the developmental trajectories of forcibly displaced youth.

Finally, our work contributes to the body of research examining the impact of children's experiences on cognitive and socio-emotional development, particularly in developing countries. Pioneering research has shed light on the developmental deficits experienced by children living in poverty, emphasizing the profound and lasting effects these deficits have on the intergenerational transmission of poverty ([Attanasio, Cattan and Meghir 2022](#), [Alesina et al. 2021](#)). By focusing on the specific context of forced displacement, our work adds a crucial dimension to this existing literature, exploring how such displacement interacts with the human development process in the short term. In fact, given that over 75% of the world's forcibly displaced populations are hosted in developing countries ([UNHCR 2023](#)), understanding the nuances of how forced migration affects child development is both pertinent and urgent. Our analysis of the immediate developmental impacts of forced displacement provides valuable insights into a phenomenon that is both widespread and deeply consequential in the developing world, highlighting the critical need for policies and interventions that address the unique challenges faced by displaced children and adolescents.

The remainder of the paper is organized into five main sections. The upcoming section provides an overview of the situation facing Venezuelan migrants in Colombia, setting the stage for understanding the context within which our study is situated. Section three offers a comprehensive description of the VenRePS-Kids study, covering aspects such as the sampling frame, the instrument used for data collection, the representativeness of the study, its implementation process, and an overview of descriptive statistics. Section four delves into the human development disparities observed among forcibly displaced children and adolescents, providing detailed insights into the nature of these gaps. In section

five, we explore the relationship between these developmental gaps and various factors including access to services, regularization status, and duration of stay in Colombia. The final section, section six, presents concluding remarks, summarizing key findings and reflecting on their implications.

II CONTEXT: VENEZUELAN MIGRATION TO COLOMBIA

II.A Venezuelan migration to Colombia

Over the past decade, more than 7.1 million Venezuelans, roughly 25% of Venezuela's population, have been forced to flee their country due to economic collapse, political instability, and a dire humanitarian crisis. A majority of these displaced individuals, exceeding 6 million, sought refuge in Latin American countries, with Colombia becoming the primary destination, hosting approximately 2.8 million Venezuelan migrants ([Migración Colombia, 2023](#)).

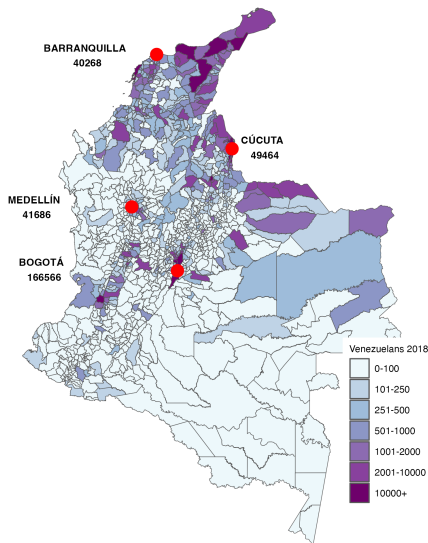
The geographic distribution of Venezuelan migrants in Colombia, as illustrated by the 2018 population census in Panel (a) of Figure 1, shows that these migrants primarily settled in border areas and Colombia's major cities such as Bogotá, Medellín, Cúcuta, and Barranquilla. Panel (b) of the same figure outlines the annual influx of Venezuelan migrants to Colombia over the last decade, highlighting a marked increase in arrivals from 2016, with a peak around 2019.

II.B Colombia's policy response

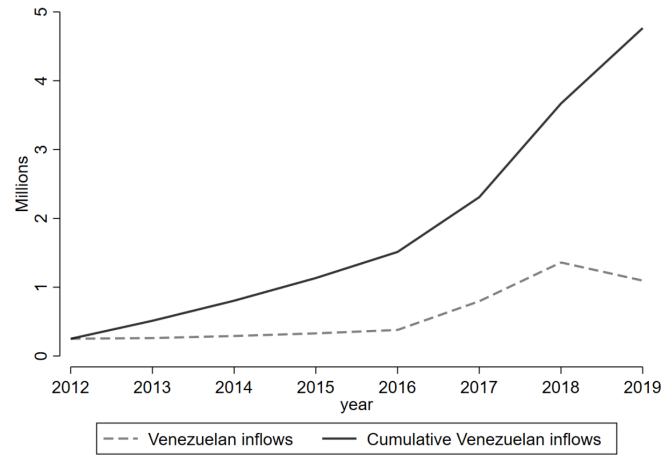
The Colombian government has adopted a generous approach towards migrants through an unparalleled policy response to the migratory crisis. It has rolled out extensive regularization programs specifically aimed at Venezuelan migrants. These temporary initiatives offer migrants full access to labor markets and ensure their integration into the comprehensive array of social programs and safety nets available in the country. This strategy has not only had a significant impact within Colombia but has also set a precedent for the region, with countries like Chile, the Dominican Republic, Ecuador, and Peru launching

Figure 1. Characterizing Venezuelan Migration to Colombia

(a) Migrant's Distribution, 2018 Census



(b) Inflows to Colombia



Notes. Panel (a) illustrates the number of Venezuelans per municipality reported in the 2018 Colombian census, an approximation of the overall distribution of migrants in the country in that year. The red circles depict the four top destinations of migrants in the country. Panel (b) illustrates the yearly Venezuelan inflows to Colombia and the corresponding cumulative inflows for each year. The figures from panel (b) come from the Colombian Migration Agency.

similar, though somewhat less ambitious, initiatives inspired by the Colombian model.

Initially the government of Colombia issued a few number of PEP permits to the “better off” migrants who had higher education and firms willing to sponsor. However, in 2018 the government announced a large scale program that offered to regularize approximately half a million irregular migrants (those without legal documents) in Colombia. An even larger scale version of this program was enacted in 2021 where every migrant who arrived to Colombia before January of 2021 was offered the possibility to apply to a 10-year regularization program known as the *Permiso por Protección Temporal* (PPT). By 2023 over 1.8 million permits had been granted and 4 hundred were initiate by the Colombian government ([Migración Colombia, 2023](#)). Recent research has focused on the impact of these policies on labor market conditions and economic welfare of adult workers,⁶ docu-

⁶See for example [Ibañez et al. \(2023\)](#); [Bahar, Ibañez and Roza \(2021\)](#); [Ibañez et al. \(2022\)](#); [Bahar, Cowgill](#)

menting large gains in consumption and income for displaced migrants who took up the regularization program.

II.C Legal service access for migrant children and adolescents in Colombia

In Colombia, migrant children and adolescents, irrespective of their migration status, are afforded basic access to emergency health services and education, although the latter comes without the possibility of graduation. A summary of the rights available to Venezuelan migrant children and adolescents in Colombia, categorized by their migration status, is presented in detail in Table 1. Children and adolescents with regularized status enjoy full access to all social services. In contrast, undocumented minors encounter barriers, including limitations on obtaining a bachelor’s degree, accessing technical or technological education, affiliating with subsidized public health insurance, and registering for the principal administrative survey (Sisbén), which facilitates eligibility for means-tested programs. These disparities in service access could profoundly influence the life chances and well-being of migrant children from varied backgrounds.

Table 1. Legal Rights and Services for Venezuelan Children and Adolescents in Colombia

	Regular	Irregular
Education		
Food and school bus service	✓	✓
Primary and secondary	✓	✓ ^a
Promotion across levels	✓	✓
Bachelor’s degree upon completion	✓	No
Technical or technological education	✓ ^b	No
Health		
Emergency care	✓	✓
Public health programs	✓	✓
Vaccines	✓	✓
Prevention campaigns	✓	✓
Affiliation subsidized regime	✓	No
SISBEN		
Registry	✓	No

Notes: (a) Children without a valid ID must register at the local secretary of education prior to enrollment, (b) Adolescents over 14 years old only.

and Guzman (2022).

III THE VENREPS-KIDS STUDY

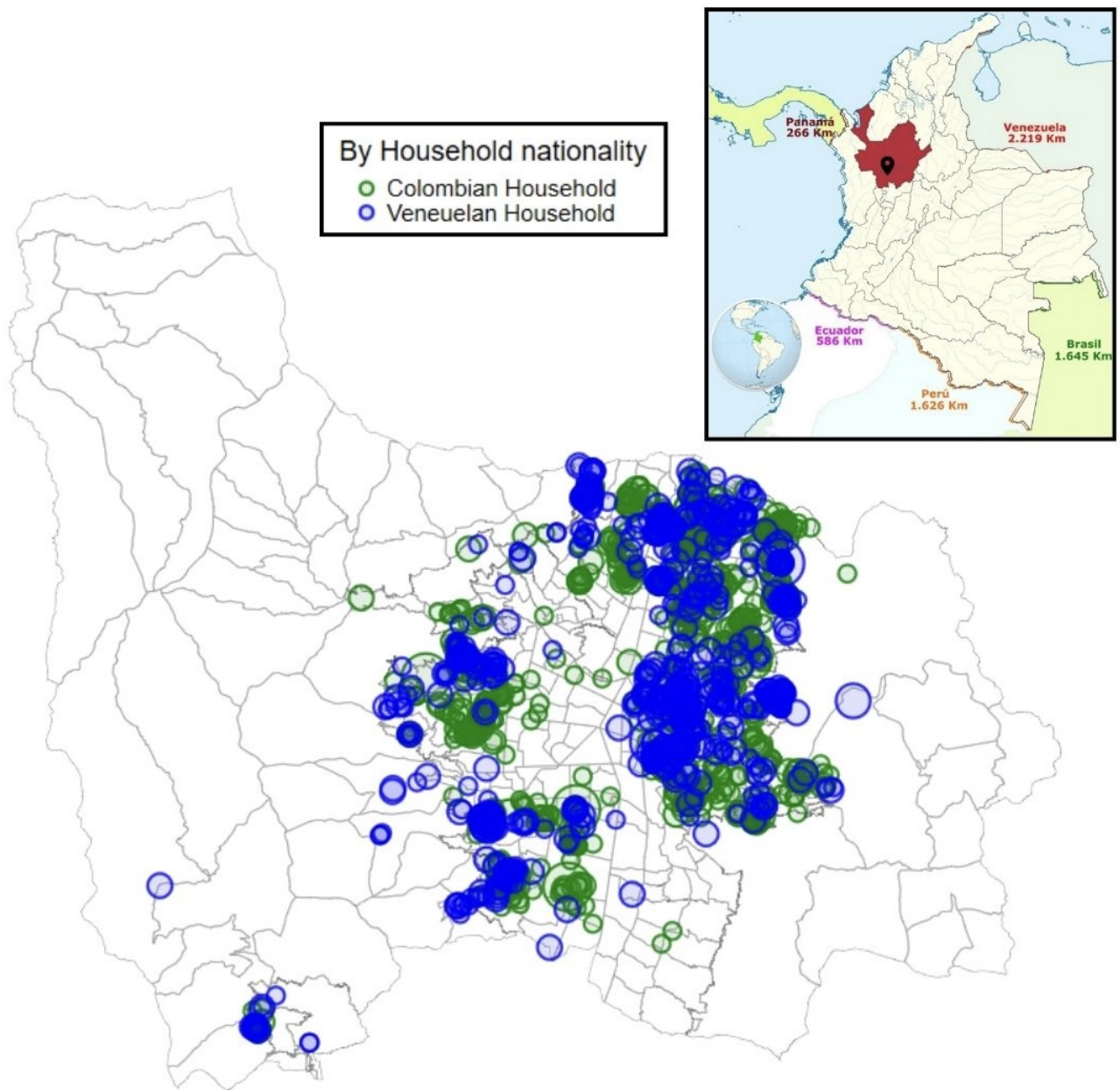
In this section, we offer a detailed overview of the VenRePs-kids Study, covering its design, implementation, the questionnaire utilized, and the primary outcomes that will be employed to evaluate the human development disparities between forcibly displaced children and adolescents and their peers in host communities.

III.A Design

Location. Our study is conducted in Medellín, Colombia’s second-largest city, following Bogotá. Medellín was chosen for this study because it hosts the third-largest Venezuelan migrant population in the country, trailing only Bogotá and Cúcuta, as indicated by the 2018 population census data. Additionally, previous research has demonstrated that survey response rates among migrants in Medellín are notably high. For instance, a nationally representative survey of Venezuelan migrants conducted in 2018—which was representative across Colombia—revealed that Medellín had the highest response rates among migrants, whereas Bogotá recorded the lowest (Ibáñez et al. 2022). This finding supports the decision to focus our study exclusively on Medellín, also considering the challenges and high costs associated with tracking a highly mobile population longitudinally in previous research efforts. A map highlighting Medellín’s geographic position and the locations of the households interviewed for this study is provided in Figure 2, offering visual context to our research setting.

Representativeness and stratification. VenRepS-Kids is designed to be representative of two groups of youth. The first group consists of Colombian children and adolescents, aged 5 to 17, born to Colombian parents. The second group encompasses Venezuelan migrant children and adolescents of the same age range, born to Venezuelan parents, who migrated to Colombia between 2016 and 2020. The sample was further stratified by gender and socioeconomic levels, using Colombia’s neighborhood income-based classification system that ranges from 1 to 6, where six indicates the wealthiest neighborhoods. Our

Figure 2. Location of Households in the VenReP-Kids Sample



Notes: The figure depicts the exact geographic location of all the households in the VenRePs-Kids study. Green and blue dots depict the location of Colombian and Venezuelan households, respectively. The map in the upper right corner illustrates the location of Medellín (blue pin) with the department of Antioquia (highlighted in red).

survey focuses on strata 1 through 4, intentionally omitting strata 5 and 6 to avoid bias toward higher-income groups which are less likely to include migrants in need of support.

Children under five were not included in our study. This decision was made because the migration crisis intensified between 2016 and 2019, meaning most Venezuelan children under five in 2022 were born in Colombia, thereby acquiring Colombian nationality.⁷

Eligibility. Survey eligibility was determined by the nationality of all household members. Colombian children and adolescents were considered eligible if they were between the ages of 5 and 17, and both the child and their parents were Colombian nationals. Venezuelan children and adolescents were eligible under similar age criteria, provided that both the child and their parents were identified as Venezuelan migrants (not naturalized in Colombia) and had migrated to Colombia between 2016 and 2020, aligning with the period of the migratory crisis.

We specifically excluded children from binational households, which include those with one foreign parent and one native parent, or those who have obtained Colombian citizenship through recent naturalization policies. This approach was taken to focus the study on the integration process of immigrant children without the potential confounding effects of the services and advantages available to those with dual citizenship.

Within each selected household, interviews were conducted with up to two children. In households with more than two children, one child from each age group was chosen through a random selection process to participate, ensuring a broad representation of experiences within the study's scope.

Sampling frame. We use the 2018 population census data as a sampling frame for the Colombian sample. It allowed the identification of residential blocks and households with children in the desired age range. With this source of information, it was possible to identify the number of households and residential blocks with children and adoles-

⁷Although Colombia only grants nationality to children of Colombian nationals, it follows a *jus sanguinis* principle, the Colombian government has introduced reforms, such as the the program *Primero la Niñez* to give Colombian nationality to children of Venezuelan parents born at times when diplomatic relations between Colombia and Venezuela were cut and hence, it was not possible to apply for a Venezuelan nationality for this minors in Colombia.

cents. The universe of blocks (“manzanas”) was stratified by socioeconomic strata and a representative sample of blocks was selected at random without replacement. To ensure a sample representative of Colombian children by age group, stratum, and sex, we followed a multi-stage random sampling process.⁸

As mentioned earlier, one of the biggest constraints in characterizing the role of forced migration in children’s human development within developing countries is the difficulty of finding a representative sample of those migrants. This is specially true in contexts where migrants are not hosted in refugee camps, but are integrated in local communities, which account for 80% of refugees worldwide (Climate Center 2022). We address these difficulties, leveraging all available information on Venezuelan settlements across the country to construct the largest possible comprehensive listing. The listing included data on Venezuelan settlements from all available sources, such as the 2018 population census, migrant organizations, and settlements identified by iMMAP, a non-profit organization. iMMAP uses multiple sources, including OIM, United Nations, local migrant organizations, and satellite images, to identify Venezuelan settlements geographically.⁹ Hence, to create our sampling frame, our field team verified the geographic location of all the Venezuelan settlements in-person and implemented a snowball sampling procedure in all the settlements found. This process led to the compilation of a list containing approximately 7,000 Venezuelan families with children and adolescents in Medellín. From this sampling frame, families were randomly chosen to participate in our study, ensuring representation across different age, gender, and socioeconomic strata.

Sample size. The study covered 2,556 households, gathering information from a total of 3,169 children and adolescents, with 44% being Venezuelan migrants. The sample comprised 834 Colombian children between the ages of 5 and 10, and 944 adolescents aged 11

⁸After identifying the sampling blocks, the field team followed a protocol that (i) randomly identified the first house which they should go. Then they would roll a dice to identify the next house to go. Once a block was finished, the team started sampling the next block at the house across the last house they interviewed.

⁹For more information see: <https://immap.org>.

to 17. Additionally, it included 745 Venezuelan children and 637 Venezuelan adolescents. The survey also gathered information from the parents of these minors, involving data from 3,614 adults, 40% of whom were Venezuelan migrants.

III.B Implementation

The first round of the survey was conducted face-to-face from October to December 2022, while the second round took place during the same months in 2023. This paper analyzes data from the initial wave. Each survey session spanned approximately two hours. To encourage participation, households were compensated with a grocery voucher valued at 30,000 Colombian pesos (about USD \$8) for each round. The questionnaire was predominantly completed by the child's main caregiver, usually the mother, given their central role in the child's daily life and the decision-making processes affecting their welfare. In instances where the primary caregiver was unavailable, a partner or the head of the household was permitted to respond to questions concerning the adults' labor market characteristics. The survey team consisted of 35 enumerators, including 12 social workers and 23 psychologists, all of whom possessed significant experience working with vulnerable populations. Additionally, all enumerators underwent comprehensive training on administering child scales and conducting anthropometric measurements.

Survey modules. The survey instrument consisted of seven main modules aimed to gather comprehensive information on various aspects of the well-being and development of children and adolescents in the context of forced displacement. This comprehensive questionnaire was divided into seven sections and was administered by enumerator pairs, where one interviewed the main respondent, typically the primary caregiver of the child, while the other engaged directly with the child or children. The choice of the primary caregiver as the main respondent was deliberate, given their extensive knowledge about the child's daily life and needs. Enumerators identified the principal caregiver by inquiring who fulfilled this role, using a specific definition: "The primary caregiver is considered the

person who spends the most time with [name of the child] and makes decisions concerning [name of the child]. This individual should be the one who possesses comprehensive information about the child, such as their typical whereabouts, dietary habits throughout the day, and behavioral patterns.” This approach ensured that the person most acquainted with the child’s circumstances answered the modules pertaining to the child’s immediate family members and the bulk of the queries related to the children, segmented by age group. A detailed breakdown of who responded to each survey module is outlined in Table [A.2](#).

The survey instrument was meticulously structured into seven core modules, each aimed at collecting comprehensive data on the varied aspects influencing the well-being and development of children and adolescents in forcibly displacement contexts.

1. Dwelling characteristics and asset ownership: The first module captured information on housing conditions, asset possession, and access to public utilities and services.
2. Sociodemographics: The second module focused on collecting sociodemographic information about the children, adolescents, and their parents within the household. It also included questions regarding the migratory status of Venezuelan family members.
3. Education and Discrimination: The third module delved into the minors’ access to educational services, reasons for any school absenteeism, experiences of discrimination, and participation in extracurricular activities.
4. Health and Nutrition: The fourth module was dedicated to collecting data on minors’ health, including recent illnesses, hospital admissions, adolescent pregnancy, dietary habits, and access to health insurance and preventative care. It also incorporated physical measurements like weight and height for anthropometric analysis.

5. Time Use and Child Labor: The fifth module examined how children spend their leisure time, their involvement in child labor, and interactions with peers.
6. Pro-social Preferences and Migration Outlook: The sixth module concentrated on adolescents' pro-social behaviors, such as altruism and trust, and explored their expectations and intentions regarding migration.
7. Socio-emotional and Mental Health: The final module involved the administration of various scales to assess socio-emotional well-being and mental health, including trauma, behavioral problems, anxiety, and depression. The scales include the Trauma Symptom Checklist for Young Children (TSCYC), Strengths and Difficulties Questionnaire (SDQ), General Anxiety Disorder Scale (GAD-7), and Patient Health Questionnaire (PHQ-9). All these scales and the corresponding outcomes that we evaluated are described in the next subsection.

The survey also employed the Peabody vocabulary test to evaluate the cognitive development of all participating children and adolescents. A summary of the survey modules is depicted in Table [A.1](#).

III.C Sample comparability

While Medellín ranks as the third city with the highest migration in Colombia, it is crucial to recognize the degree to which migrants arriving in the city differ from those migrating to other regions in Colombia. Ideally, we would conduct a comparative analysis of the characteristics of migrants residing in Medellín versus those in other parts of the country to discern the extent of these differences. However, the lack of comprehensive data regarding the living conditions of this population makes such analysis unfeasible.

To explore how this population compares with other migrant groups in the country, we turn to the only two available data sources on migrants. First, we use the Venezuelan Refugees Panel Survey (VenRePS), conducted by [Ibáñez et al. \(2022\)](#), which captures a

representative sample of undocumented migrants in Colombia's major cities as of 2020.¹⁰ This survey encompasses information on the socioeconomic status, health, well-being, access to services, and labor market outcomes of adult undocumented migrants. Second, we compare our sample with the Administrative Venezuelan Migrant Registry (RAMV), a nationwide census of undocumented Venezuelan migrants conducted by the Colombian government in 2018.¹¹ This census surveyed Venezuelan households regarding their socioeconomic conditions and the labor market characteristics of the household head.

We compare the household characteristics and the labor market outcomes of the household heads in our sample with those in VenRePS and RAMV surveys in Table A.3.¹² We observe that households in the VenRePS-Kids survey are smaller on average and have a greater number of children living in the household. The latter is anticipated since one of the eligibility criteria to participate in our survey is the presence of at least one child in the household. Furthermore, the household heads in our sample are disproportionately female and more likely to be married, aligning with the family structure targeted in our sampling frame. Regarding labor outcomes, household heads in our sample are more likely to be employed and engaged in the informal sector compared to those surveyed in VenRePS and the RAMV census.

Despite notable disparities in the characteristics of our sample compared to the VenRePS and RAMV samples, understanding the interaction of these attributes within a framework of self-selection among migrants into Medellin is challenging. Moreover, it is crucial to note two primary distinctions between our survey and the VenRePS and RAMV surveys. Firstly, the inherent differences in the sampling frames of each survey stem from their distinct measurement objectives. Second, both surveys were conducted at different times compared to our survey. The RAMV survey was undertaken in 2018 in response

¹⁰See Ibáñez et al. (2022) for specific survey and sampling details.

¹¹Refer to Ibáñez et al. (2022) for further details.

¹²Since the VenRePS and RAMV surveys lack information regarding children and adolescents within households, our analysis concentrates only on the household and household head characteristics that are available in all three surveys.

to the Venezuelan migratory crisis, whereas the VenRepPS survey was conducted during the pandemic in 2020. These temporal inconsistencies result in varying sample compositions across surveys, diverging from the landscape we observe in 2022. Notably, forced migrants in the VenReps Kids survey migrated during the crisis but have since remained in the country for several years, potentially leading to disparities in household integration outcomes.

IV GENERAL DESCRIPTIVE STATISTICS

IV.A Key characteristics of adults

Table 2 provides descriptive statistics for the adults in our study, encompassing the primary caregiver, mother and father (if residing with the child), and the individual financially responsible for the child (should they be different from the aforementioned persons). Typically, the roles of primary caregiver and financial provider are fulfilled by either the mother or the father. The table is organized into three panels for clarity: Panel A details key individual characteristics, Panel B outlines adults' access to services, and Panel C focuses on labor market characteristics. Within the table, columns (1) and (2) present average values for adults from Colombia and Venezuela, respectively, while the final column displays the results of mean difference tests between these two groups, with standard errors noted in brackets.

Panel A indicates that around 30% of the adults in our sample are male, aligning with the common scenario where mothers predominantly serve as the primary caregivers for children. The average age of adults in the Venezuelan group is about 35, with Colombian nationals being approximately 3.5 years older. This observation is consistent with findings from previous surveys, which often show that migrants tend to be younger. Furthermore, adults from both groups possess around 10 years of education, with no statistically significant differences observed between them in terms of educational attainment. Additionally, a higher percentage of Colombian nationals (24%) are married compared

to Venezuelan forced migrants (17%), reflecting anticipated outcomes of forced migration on family structures.

Panel B reveals disparities in service access between Colombian nationals and Venezuelan individuals. Colombian adults show significantly higher enrollment rates in health insurance and *sisbén* (the proxy means tested score used to target social programs) that are roughly twice as high—close to a 40 percentage point difference—compared to their Venezuelan counterparts. Additionally, consistent with the average age of the adults in our sample being over 35 years old, virtually none of the adults are enrolled as students in any academic program.

Related to the labor market characteristics illustrated in Panel C, Venezuelan migrants face informality rates nearly twice as high as Colombian adults, with a significant difference of about 46 percentage points. Additionally, Venezuelans are more inclined towards self-employment and are less likely to have formal work contracts. These findings corroborate earlier research indicating that forcibly displaced migrants typically work in the informal sector in developing countries ([Altındağ, Bakış and Rozo 2020](#), [Ibáñez et al. 2022](#)). Despite these differences, the likelihood of unemployment among both Colombian and Venezuelan adults stands at approximately 10 percentage points.

IV.B Household's characteristics

Table 2 illustrates the descriptive statistics for the households in our study. The average household consists of four members, typically comprising two adults and two children. However, Colombian households tend to include more adults and fewer children, aligning with broader data indicating that forcibly displaced populations are often disproportionately made up of children and adolescents ([UNICEF 2023](#)). On average, Colombian households possess ten assets, while Venezuelan households have six. The likelihood of home ownership significantly differs between the two groups, with a 36 percentage point probability for Colombian households compared to just one percentage point for

Table 2. Descriptive Statistics for Adults

	Colombian (1)	Venezuelan (2)	Diff. (1)-(2)
<i>Panel A: Individual characteristics</i>			
Male [=1]	0.32 [0.47]	0.37 [0.48]	-0.05** (0.02)
Age (Years)	38.58 [9.33]	35.08 [7.82]	3.50*** (0.32)
Years of Education	10.12 [3.68]	10.12 [3.44]	0.00 (0.13)
Married [=1]	0.63 [0.48]	0.73 [0.44]	-0.10*** (0.02)
<i>Panel B: Access to services</i>			
Sisbén Enrollment [=1]	0.73 [0.45]	0.36 [0.48]	0.37*** (0.02)
Student [=1]	0.01 [0.11]	0.00 [0.00]	0.01*** (0.00)
Health Insurance [=1]	0.88 [0.33]	0.45 [0.50]	0.42*** (0.02)
<i>Panel C: Labor market characteristics</i>			
Unemployed [=1]	0.10 [0.30]	0.11 [0.31]	-0.01 (0.01)
Self-employed [=1]	0.33 [0.47]	0.44 [0.50]	-0.10*** (0.02)
Informal [=1]	0.42 [0.49]	0.88 [0.33]	-0.46*** (0.02)
Work contract [=1]	0.29 [0.45]	0.09 [0.28]	0.20*** (0.01)
Observations (All panels)	2,157	1,460	3,617

Notes: Columns (1) and (2) describe the mean values for the adults born in Colombia and Venezuelan, respectively. The last column illustrates a mean difference test between both groups. Standard errors are reported in brackets. Male is a dichotomous variable [=1] if the individual is male, Age is measured in years, and the years of education are determined by identifying the highest educational level attained by each individual and associating it with the corresponding number of years, which were standardized using the guidelines provided by the Ministry of Education. Married [=1] if the respondent indicates being married or declares a consensual union couple in the survey. Sisbén Enrollment [=1] indicates whether the adult is registered in the proxy mean test, used to target social programs in Colombia. Student [=1] if the respondent declares that they currently attend an educational establishment. Health Insurance [=1] if the adult declares being enrolled or registered to the Health Security System. Unemployed [=1] if the respondent was looking for work the week before the survey, self-employed [=1] if the adult works at their own business or as an independent contractor or freelancer, informal [=1] if the adult does not contribute to pensions or health insurance through her job. Work Contract [=1] if the respondent declares to hold a written contract.

Venezuelan households.

Table 3. Household Descriptive Statistics

	Colombian (1)	Venezuelan (2)	Diff. (1)-(2)
Household size	4.05 [1.41]	4.33 [1.47]	-0.28*** (0.06)
# Adults (3,617)	2.38 [1.11]	2.14 [0.92]	0.25*** (0.04)
# Children (3,169)	1.48 [0.74]	1.81 [0.95]	-0.32*** (0.04)
Assets (Max=15)	9.86 [4.34]	5.92 [2.93]	3.94*** (0.16)
Own dwelling [=1]	0.36 [0.48]	0.01 [0.10]	0.35*** (0.02)
Observations	1,338	918	2,256

Notes: Columns (1) and (2) describe the mean values for the households with members born in Colombia and Venezuelan, respectively. The last column illustrates a mean difference test between both groups. Standard errors are reported in brackets. Household size is the number of family members. Total assets is the number of assets owned by the households which can take a maximum number of 15, and own dwelling is a dichotomous variable [=1] if the household owns the place where they live.

We also explore the distribution of wealth for the Venezuelan and Colombian households of our sample. For this purpose, we constructed an index measure of the household's cumulative living standard constructed following the Demographic and Health Surveys (DHS) methodology. The index combines information on adequate dwelling materials (for floors and walls), asset ownership for 15 items (including telephones, cell-phones, TVs, computers, tablets, microwave, washing machine, fridge, blenders, water heater, radio/recorder, cars/taxis, motorcycles, bikes and trailers), and access to 10 services (encompassing energy, gas, garbage, aqueduct, sewage, sewerage, sanitary, kitchen, internet, TV, telephone), using a principal component analysis.

Uniquely, by collecting both current and retrospective information from Venezuelan households about their circumstances while they were in Venezuela, we can examine the wealth distribution before and after displacement episode for this group. This comparative analysis offers valuable insights into the wealth dynamics affecting the displaced population,

shedding light on how displacement has influenced their economic standing.

Panel (a) of Figure 3 depicts the wealth distribution for the households in our sample desegregating them in three groups: i) Colombian households (in black), ii) Venezuelan households before migrating (in blue), and iii) Venezuelan households after migrating (in red). Panel (b), (c), and (d) illustrate the proportion of adequate materials for shelter, total number of assets, and proportion of access services that the household has as a percentage of the maximum possible.

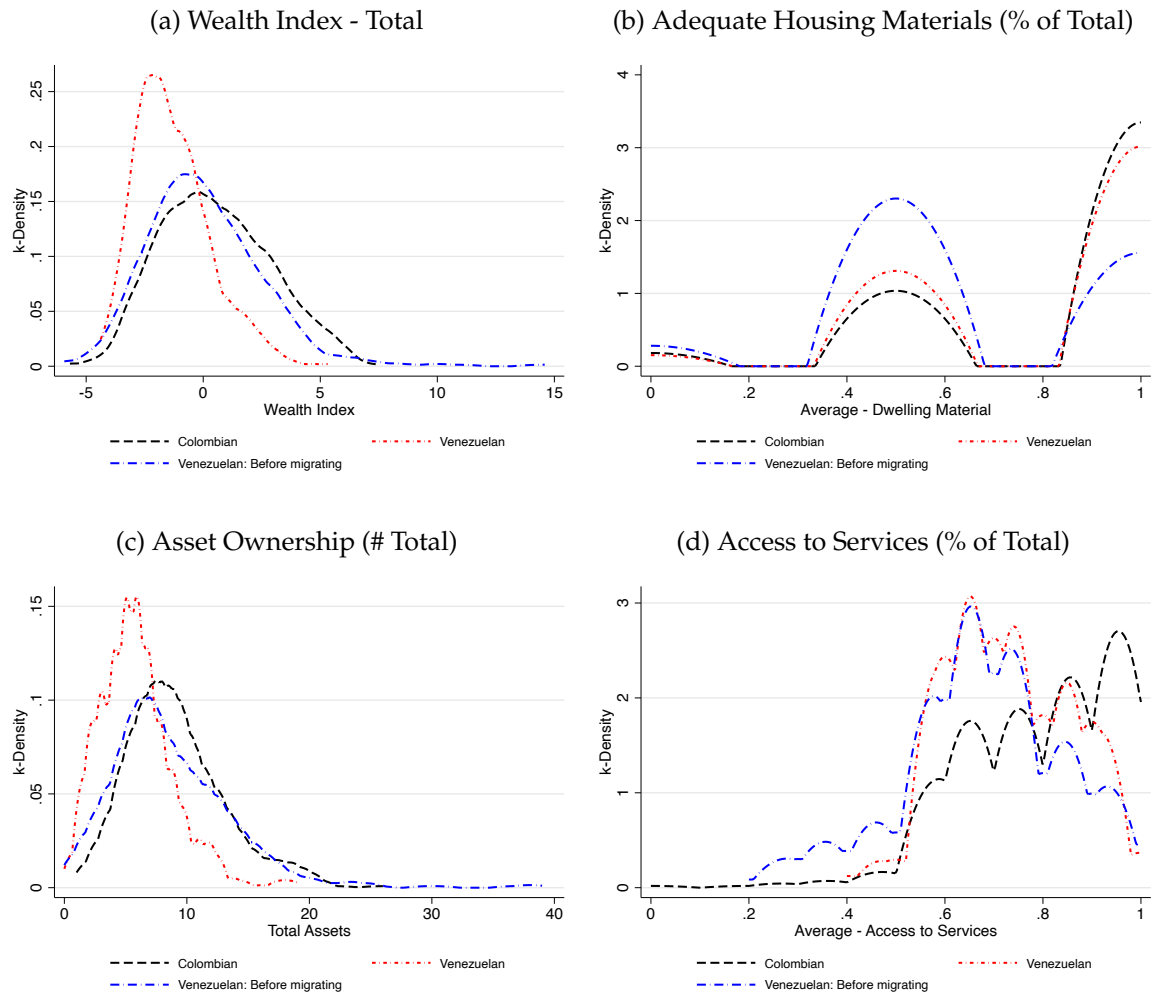
The graphical representation reveals that before migration, the wealth distribution of Colombian and Venezuelan households was relatively similar, with Venezuelan households' wealth slightly leaning towards lower values (as seen in Panel (a)). However, post-migration, the wealth distribution for Venezuelan households exhibits a significant skew towards the lower end. This shift is primarily attributed to a drastic reduction in asset ownership among Venezuelan households after migrating, as highlighted in Panel (c). This observation aligns with the notion that forced migrants often leave behind their possessions, suggesting a potentially prolonged period of economic recovery for these individuals.

IV.C Descriptive statistics for children and adolescents

Table 4 illustrates the main descriptive statistics for the children and adolescents in our sample. By design, the average age across the sample is 10 years, reflecting our methodical approach to sample construction. Additionally, our survey's stratification by gender accounts for the balanced gender distribution observed in both the Colombian and Venezuelan groups.

The table also illustrates that Venezuelan minors have lower years of education, measured as the standardized value of the years of education according to months of life. Positive values of these variables indicate that the individual has more years of education than what is expected for his age, and vice versa. Particularly, Colombian children have on

Figure 3. Wealth Index Distribution



Notes: Panel (a) presents the distribution of the wealth index for Colombian and Venezuelan households in our sample in 2022 and pre-migration. Wealth Index is an index measure of the household's cumulative living standard constructed following The Demographic and Health Surveys (DHS) methodology. It includes the following variables: i) dwelling materials is the average of dichotomous variables that take the value of one if the materials of the floors and walls are of adequate quality (including block, brick, stone, polished wood, and cement); ii) asset ownership is a set of count variables for 15 consumer items (telephones, cellphones, TVs, computers, tablets, microwave, washing machine, fridge, blenders, water heater, radio/recorder, cars/taxis, motorcycles, bikes and trailers); and iii) access to services characterizing access to energy, gas, garbage, aqueduct, sewage, sewerage, sanitary, kitchen, internet, TV, telephone. The index is constructed using a principal component analysis. Panel (b), (c), and (d) illustrate the proportion of adequate materials, total number of assets, and proportion of services that the household has as a percentage of the maximum possible ownership, materials, and access, respectively. For each case it is constructed as the average of the dichotomous variable equal to one if the materials are adequate, the assets are owned, or the household has access to the service.

average 0.3 higher standardized value on the years of education, this corresponds to a lag of approximately 1 year of education (considering 1 SD= 3.06 years).

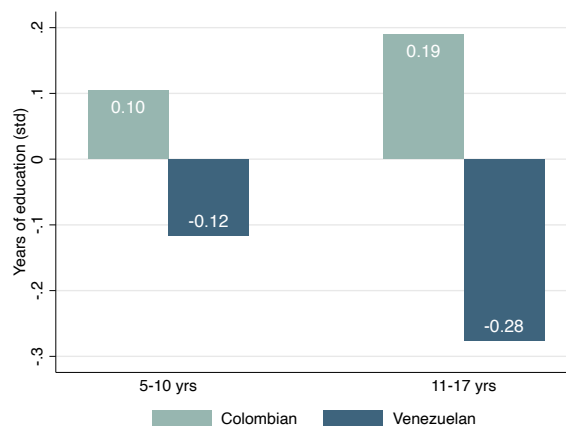
Notably, as depicted in Figure 4, the educational gap varies by age group: it stands at 0.19 standard deviations for children aged 5-10 years but expands to more than twice that size (0.46 standard deviations) for adolescents aged 11-17 years. This disparity could suggest that adolescents are more likely to be involved in income-generating activities, which may impact their educational progression.

Table 4. Descriptive Statistics for Children and Adolescents

	Colombian (1)	Venezuelan (2)	Diff. (1)-(2)
Age (Years)	10.80 [3.55]	10.18 [3.54]	0.61*** (0.13)
Male [=1]	0.51 [0.50]	0.53 [0.50]	-0.02 (0.02)
Years Education (standarized)	0.15 [0.85]	-0.19 [1.12]	0.34*** (0.04)
Total children	1,777	1,382	3,159

Notes: Columns (1) and (2) describe the mean values for children and adolescents born in Colombia and Venezuela, respectively. The last column illustrates a mean difference test between both groups. Standard errors are reported in brackets. Age is measured in years and ranges from 5 to 17. Male is a dichotomous variable [=1] if the individual is a male. The Years of Education are determined by identifying the highest educational level attained by each individual. The variable is standardized by the age of the minors. A value of zero implies that the child has the mean level of years of education of children of the same age. A negative/positive value implies that the child is below/above the average years of education of children of the same age.

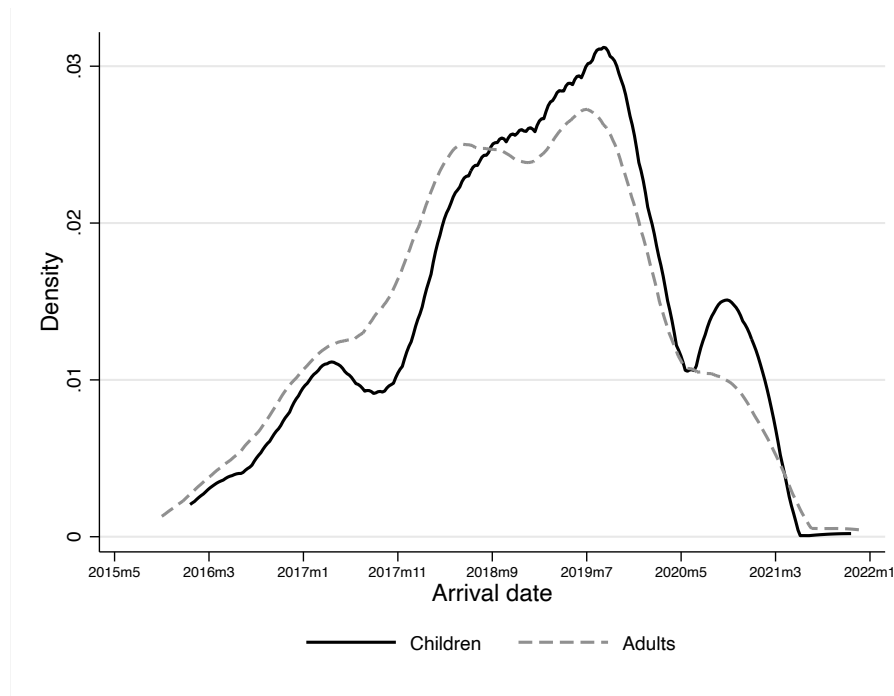
Figure 4. Years of Education (Standardized Values)



Notes: Years of education are standardized by the age of the minors. A value of zero implies that the child has the mean level of years of education of children of the same age. A negative/positive value implies that the child is below/above the average years of education of children of the same age.

Our findings on the arrival dates of adults and children within our sample indicate that, on average, adults arrived in Colombia 102 days prior to the children and adolescents. The distribution of arrival dates, as shown in Figure 5, corroborates the observation that adults tend to arrive earlier than their younger counterparts. This pattern aligns with the commonly held notion that adults initially migrate to secure accommodation or employment opportunities before arranging for their children to join them. This phased migration strategy reflects a practical approach to establishing stability and security in a new country before bringing over family members.

Figure 5. Arrival Date Distribution



Notes: The figure depicts the distribution of the arrival date to Colombia of adults and children in the VenRePs-Kids study. The arrival date measures the year and the letter “m”, beside it, indicates the month when the individual arrived in Colombia. Therefore, January is symbolized by m1, February by m2, and so on, alongside the respective year. The average difference in the arrival date between adults and children is 102 days.

IV.D Service access for children and adolescents

Figure 6 examines the access to services among the minors in our sample, showcasing enrollment rates in school (Panel (a)), sisbén (Panel (b)), health insurance (Panel (c)), and regularization (Panel (d)) for children aged 5-10 and adolescents aged 11-17. The figure

uses light green bars to represent Colombian nationals, while navy and gray bars indicate Venezuelan nationals' enrollment rates pre- and post-migration, respectively. It's important to note that for *sisbén* enrollment, pre-migration data for the Venezuelan population is absent, as *sisbén* is a scoring system exclusive to Colombia. Overall, the enrollment probabilities for school, *sisbén*, and health insurance appear comparable across both children and adolescents. Therefore, we will refer to these enrollment rates collectively for the two age groups of minors, without differentiating between them.

School enrollment. Venezuelan youth residing in Colombia exhibit a relatively high school enrollment rate of 74% (see Panel (a)). However, there remains a significant opportunity for improvement, as this rate is at least 20 percentage points lower than the enrollment rate for Colombian children and adolescents, which stands at approximately 95%.

Sisbén enrollment. Regarding *sisbén* enrollment, as depicted in Panel (b), Venezuelan children and adolescents exhibit a low enrollment likelihood of around 30 p.p. This rate is at least 40 p.p. below the enrollment likelihood for Colombian minors in the *sisbén* system. Enhancing *sisbén* enrollment for Venezuelan youth is crucial, as it serves as a gateway for their participation in other social programs and represents a significant area for intervention to improve access to services.

Health insurance enrollment. A similar trend is observed for the case of health insurance enrollment (see Panel (c)), where the likelihood of being enrolled for Venezuelan minors is close to 40 p.p. and that of Colombian minors is closer to 90p.p. As such there is a 50 p.p. difference in health insurance enrollment between Venezuelan and Colombian minors. Intriguingly, the rates of health insurance enrollment are higher than those for *sisbén*, suggesting that minors may be accessing health services through the insurance status of their parents or main caregivers, rather than through their own direct enrollment.

Moreover, enrollment rates to health services for Venezuelan minors in Colombia are lower than in Venezuela prior to the migration episode. This does not imply migrants

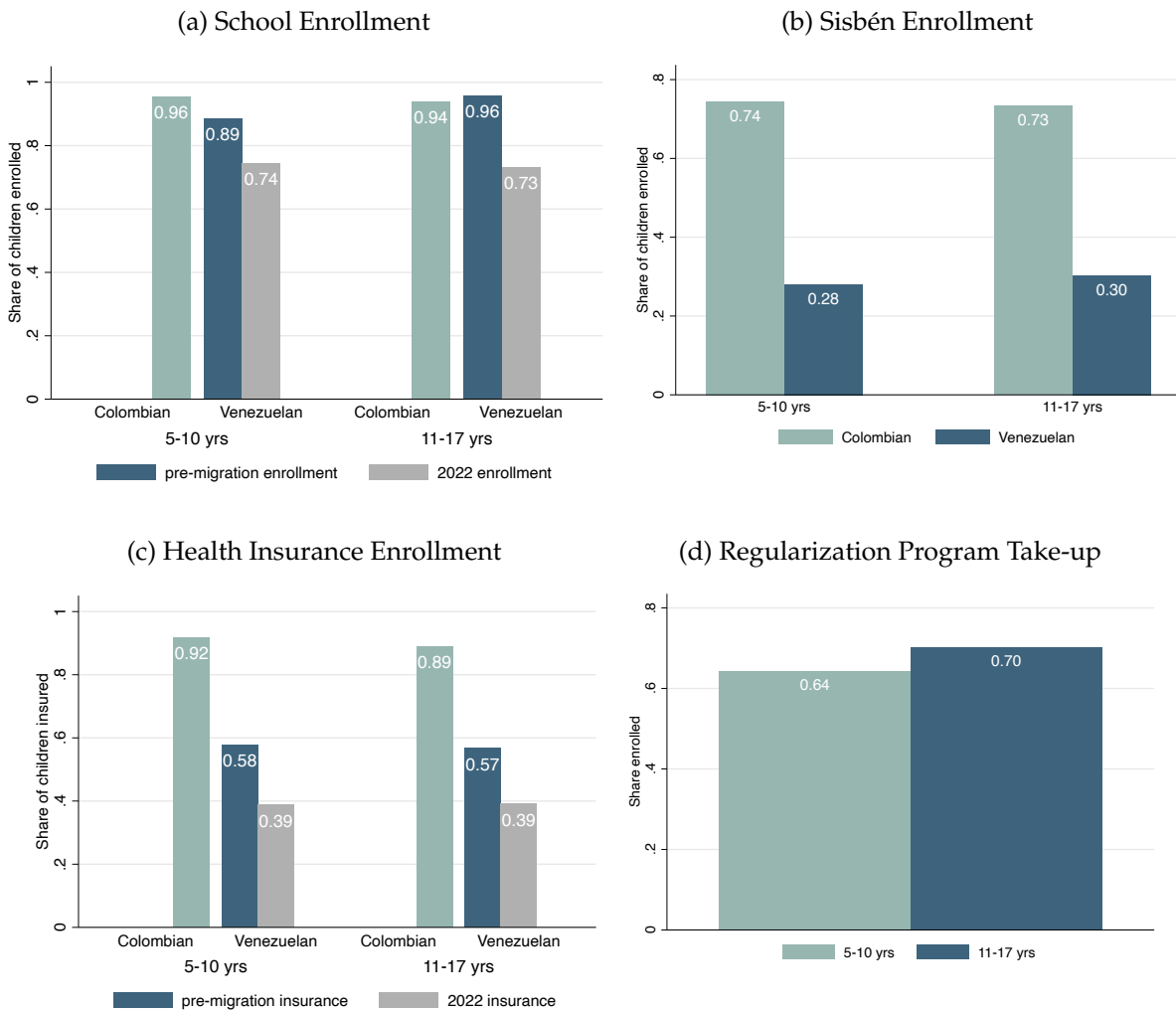
had *de facto* health service access in Venezuela as it is well documented that one of the predominant reasons for Venezuelan forced migration is the complete collapse of health services in Venezuela as documented in [Ibáñez, Rozo and Urbina \(2021\)](#). It only implies that they were registered in a health system that had collapsed before migrating to Colombia.

Regularization status. Panel (d) depicts the likelihood of being enrolled in the Colombian regularization program. The figures suggest that regularization rates are close to 64% for children and 70% for adolescents. This represents an incredible example of integration of forcibly displaced populations in a developing country, but at the same time it is also surprising that take-up is not higher considering that all the individuals in our study are eligible for the program (they arrived before January of 2021 to Colombia) and that the program grants full working permits and access to social programs which has been shown to induce large improvements in migrant's welfare including consumption, income, and health status ([Ibáñez et al. 2022](#)).

All in all, we document that the Colombian government's progressive policies offer a remarkable model for the integration of forcibly displaced populations in developing nations. In fact, the likelihood of school enrollment is around 75p.p and of having a regularization status nears 70p.p. However, it remains surprising that these take-up rates are not higher, especially given the significant advantages associated with service enrollment ([Ibáñez et al. 2022](#)). Furthermore, there is considerable scope for enhancing service enrollment rates for Venezuelan minors, particularly regarding sisbén and health insurance. This is noteworthy given that all migrants in our study arrived in Colombia before January 2021, making them eligible for regular status and access to these services within the country. Specifically, we found that Venezuelan minors have a 20 p.p. lower probability of being enrolled in school, a 40 p.p. lower likelihood of sisbén enrollment, and a 50 p.p. lower chance of being enrolled in health services compared to their Colombian

counterparts.

Figure 6. Service Access of Children and Adolescents



Notes: Panel (a) depicts the likelihood of school enrollment for children in each nationality-age-group enrolled in school, Panel (b) depicts the likelihood of Sisbén enrollment in each nationality-age-group (the proxy means test used to target social programs in Colombia), Panel (c) depicts the likelihood of health insurance in each nationality-age-group, and Panel (d) depicts the take-up rates of the Colombian regularization program, the Estatuto Temporal de Pertenencia (ETPV), to which all the individuals in our sample were eligible.

To gain a deeper understanding of the reasons behind the low take-up rates of services, we identify significant disparities in the attributes of children and adolescents who utilize health and educational services and those who do not. Both Colombian and Venezuelan households with children enrolled in school are wealthier relative to households where children are not enrolled. Parents of enrolled children tend to have higher levels of educa-

tion, are more likely to be married, and employed (see Table B.1). Additionally, Venezuelan children enrolled in school arrived some months earlier to Colombia relative to those not enrolled¹³. To gain deeper insights into the factors contributing to the low adoption rates of these services, we inquire on the primary reasons for non-utilization in the second wave of the survey.

V CHARACTERIZING GAPS BETWEEN FORCED MIGRANTS AND HOSTS

In this section, we explore the human development gaps between Colombian children and adolescents and their Venezuelan counterparts. Our focus is to document and describe the gaps that exist between forcibly displaced minors and those from host communities. While our approach is descriptive, aiming to outline key patterns and facts, it is important to note that this study does not aim to estimate causal effects. However, given the limited availability of data and evidence surrounding the challenges encountered by forcibly displaced minors globally, this exploratory exercise offers valuable insights and contributes significantly to our understanding of the issues at hand.

We begin our analysis with a detailed examination of four critical dimensions of human development: (i) physical, (ii) cognitive, and (iii) socioemotional and mental health development of the study participants. In each case, we examine the distribution between groups and also characterize the development gaps between Venezuelan and Colombian children and adolescents using the following specification:

$$y_{ij} = \beta_0 + \beta_1 \text{Forced Migrant}_{ij} + \Omega' X_{ij} + \epsilon_{ij} \quad (1)$$

where y_{ij} are the outcomes of interest of each children or adolescent i in household j , Forced Migrant_i equals one if the minor is a Venezuelan forced migrant and zero otherwise, and X_{ij} stand for individual and household characteristics that were not affected

¹³Descriptive statistics of the characteristics of children enrolled and not enrolled to high school are shown in Table B.1. Similar results are found when analyzing access to health insurance and *sisbén*

by the migration episode. These include the minors age and sex, the parent's and grandparent's education pre-migration, and a wealth index constructed with retrospective information on the household conditions pre-migration.¹⁴ Grandparent's education is used a proxy for living standards that is unaffected by the migration episode from Venezuela to Colombia and the Venezuelan crisis, which intensified in 2016. ϵ_{ij} depict the standard errors clustered at the household level to correct for intra-household correlation. For robustness, we will present the estimates of equation 1 with and without controls. As further robustness, we use propensity-score weights (Hirano and Imbens 2001, Hirano, Imbens and Ridder 2003).¹⁵

V.A Physical development: Body Mass Index and health status

In our study, we examine disparities in nutritional and health status among Colombian and Venezuelan children aged 5 to 10 years, focusing on standardized body mass index (BMI), instances of overweight and underweight, and overall health status. The BMI serves as an indicator of nutritional status for both adults and children, calculated as an individual's weight in kilograms divided by their height in meters squared, according to World Health Organization (WHO) guidelines. Due to the variations in weight and height ratios among children and adolescents according to gender and age, the benchmarks for determining nutritional status are specifically tailored to these factors.

We adhere to WHO guidelines to calculate the standardized BMI values for minors. A BMI exceeding one standard deviation (SD) from the mean suggests overweight, while a BMI less than minus one SD indicates underweight.¹⁶ Health status is assessed through a binary variable, assigned a value of one if the caregiver has reported any health issues such as disease or chronic pain, accidents, dental pain, surgical interventions, or preg-

¹⁴For the Colombian households the wealth index is measured with contemporaneous data.

¹⁵This procedure restricts the sample to the common support of the propensity score for being a forced migrant and weights observations for Colombian kids by a non-parametric function of the propensity score. This procedure has been shown to increase the estimate's efficiency.

¹⁶Furthermore, a BMI greater than 2SD is indicative of obesity risk, and less than -2SD signals a risk of severe thinness.

nancy complications (applicable to females over 11 years old) within the last 30 days.

Figure B.2 depicts the BMI distribution for Venezuelan and Colombian children aged 5 to 10 years, highlighting noticeable differences between the two groups. The data reveals a skewness towards lower BMI values, or underweight status, among Venezuelan children when compared to their Colombian counterparts. Following the World Health Organization (WHO) guidelines for assessing nutritional status, it is observed that on average, Colombian children's BMI stands at 0.17 standard deviations (SD) above the mean for their specific age and gender category. Conversely, Venezuelan children exhibit an average BMI that is 0.19 SD below the mean of the WHO reference for their respective age and gender group. This contrast underlines significant nutritional disparities between Venezuelan and Colombian children within the study's age range.

We measure the average gaps in BMI between Venezuelan and Colombian children in Table 5 columns (1) through (3). Column (1) reports the results from the estimates of equation 1 without controls, column (2) reports the results including all controls, and column (3) reports the estimates of a propensity score matching to test the robustness of the results.¹⁷ The point coefficients suggest that Venezuelan minors have a BMI that is 0.35 standard deviations lower than Colombian minors.¹⁸ The results are robust to the inclusion of controls or using a propensity matching score (albeit the coefficient drops to -0.32 for that case). We also examine the gaps on the probability of being underweight (columns (4) through (6)) and overweight (columns (7) through (9)). The results are consistent suggesting that Venezuelan children have a likelihood of being underweight that is 6 p.p. higher than Colombian children, and a probability of being overweight that is 15 p.p. lower than Colombian children. Moreover, we do not find any statistical significant differences in the probability of being sick in the last 30 days between Venezuelan and

¹⁷The same variables used as controls are used to predict the probability of being a forced migrant and used to match Venezuelan and Colombian children and adolescents.

¹⁸These are meaningful effects that according to a back of the envelope calculation will imply that a child that 6 years old will have an average weight that is 5% lower than a Colombian child of the same age.

Colombian children.

Table 5. Assessing Physical Development Gaps (children 5-10 years old)

	<i>Body Mass Index (Std)</i>			<i>Underweight (BMI < 1 SD)</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
Forced Migrant	-0.35*** (0.05)	-0.35*** (0.05)	-0.38*** (0.07)	0.06*** (0.02)	0.06*** (0.02)	0.07** (0.03)
R-squared	0.03	0.03		0.01	0.01	
Observations	1445	1445	1445	1445	1445	1445
Mean Dep. Variable (Colombian sample)	0.17	0.17	0.17	0.15	0.15	0.15
	<i>Overweight (BMI > 1 SD)</i>			<i>Health Status (Sick=1)</i>		
	(7)	(8)	(9)	(10)	(11)	(12)
Forced Migrant	-0.15*** (0.02)	-0.15*** (0.02)	-0.16*** (0.03)	0.03 (0.02)	0.03 (0.02)	0.04 (0.03)
R-squared	0.03	0.03		0.00	0.01	
Observations	1445	1445	1445	1445	1445	1445
Mean Dep. Variable (Colombian sample)	0.29	0.29	0.29	0.22	0.22	0.22
Control variables		✓	✓		✓	✓
Propensity Score Matching			✓			✓

Notes: The table presents the estimates of equation 1. BMI is a measure that indicates nutritional status. It is defined by the World Health Organization (WHO) as an individual's weight in kilograms over the squared height in centimeters. The standardized value of the body mass index following the WHO guidelines. A BMI over one standard deviation (SD) implies that the individual is overweight and a value below one SD indicates that the individual is underweight. Control variables include children's sex and age, the maximum level of education completed by the most educated parent and grandparent, and the wealth index is the pre-migration wealth index for the Venezuelan sample and the current wealth index for the Colombian sample. Health status is measured as a dichotomous variable equal to one if the caregiver reports that in the last 30 days there was a health complication related to disease or chronic pain, accident, tooth pain, surgeries, or pregnancy complications (for females older than 11 y.o.a). Standard errors are clustered at the household level *** p<0.01, ** p<0.05, * p<0.1.

V.B Cognitive development: Peabody vocabulary assessment

Cognitive development is measured using the Peabody Vocabulary Test Score (PVTs) for children and adolescents 5 to 17 years of age in our sample. This is an untimed test of receptive vocabulary for standard Spanish and is intended to provide a quick estimate of the test taker's receptive vocabulary verbal ability. It includes 125 questions, each containing four picture options with only one correct answer. Items are organized in order

of difficulty, ranging from those suitable for children as young as 2 and a half years old to more complex items for individuals over 18 years old.¹⁹ The Peabody Vocabulary Test is calibrated with a mean standard score of 100 and a standard deviation of 15, placing scores between 85 and 115 within the average range. This test, in its Spanish edition, has been validated for use in Colombia. Additionally, to ensure relevance and accuracy for Venezuelan nationals, we conducted a preliminary validation by administering the test to a sample of Venezuelan mothers in our study. This step confirmed that the words used in the test held consistent meanings for participants from Venezuela.

Figure B.1 depicts the distribution of PVTs scores for Venezuelan and Colombian children and adolescents in our sample. This visualization indicates that Venezuelan minors consistently score lower on the PVTs compared to their Colombian peers across the entire score distribution. In Table 6, we present the average disparities in percentile rank on the Peabody scale, revealing that Venezuelan children and adolescents, who are forcibly displaced, score approximately 12 p.p. lower than their Colombian counterparts. The difference is meaningful and in turn translated into Venezuelan minors falling into the a higher likelihood of having extremely low, moderately low, and low score categories. Additionally, these findings remain consistent even when adjusting for a range of control variables pertaining to the individual, their parents, and grandparents, underlining the robustness of these observations.

V.C Socioemotional and mental health development

To explore the differences in mental health and socioemotional development across Colombian and Venezuelan minors we use multiple scales. For children aged 5-10 years, the Trauma Symptoms Checklist for Young Children is employed. This 90-item question-

¹⁹Children only respond to items within their “critical range”, determined by a lower limit called the “base item” and an upper limit called the “ceiling item”. The base item, marking the starting point, is determined by the individual’s chronological age in years (date of test administration - date of birth). Once the child correctly answers 8 consecutive questions, they reach the “Base”. Subsequently, upon making 6 mistakes within 8 consecutive questions, the ceiling is established. The direct score is calculated as the item number where the test ends (ceiling item) minus the number of errors from the highest base to the end of the ceiling.

Table 6. Assessing Cognitive Development Gaps (5-17 years old)

	<i>Peabody Vocabulary Percentile Rank (PVPR)</i>			<i>Extremely Low (PVPR <2)</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
Forced Migrant	-11.50*** (1.32)	-11.62*** (1.26)	-12.54*** (1.35)	0.04*** (0.01)	0.04*** (0.01)	0.05*** (0.01)
R-squared	0.03	0.16		0.01	0.05	
Observations	2686	2686	2686	2686	2686	2686
Mean Dep. Variable (Colombian sample)	67.77	67.77	67.77	0.02	0.02	0.02
	<i>Moderately Low (PVPR <15)</i>			<i>Low (PVPR <50)</i>		
	(7)	(8)	(9)	(10)	(11)	(12)
Forced Migrant	0.06*** (0.01)	0.06*** (0.01)	0.06*** (0.01)	0.05*** (0.02)	0.04** (0.02)	0.05*** (0.02)
R-squared	0.01	0.03		0.00	0.02	
Observations	2686	2686	2686	2686	2686	2686
Mean Dep. Variable (Colombian Sample)	0.04	0.04	0.04	0.20	0.20	0.20
Control Variables		✓	✓		✓	✓
Propensity Score Matching			✓			✓

Notes: The table presents the estimates of equation (1) using the percentile distribution of the Peabody Vocabulary Test Score as a dependent variable. The Peabody Vocabulary Test is an untimed test of receptive vocabulary for standard Spanish and is intended to provide a quick estimate of the test taker's receptive vocabulary verbal ability. It includes 125 questions, each containing four picture options with only one correct answer. Items are organized in order of difficulty, ranging from those suitable for children as young as 2 and a half years old to more complex items for individuals over 18 years old. Control variables include children's sex and age, the maximum level of education completed by the most educated parent and grandparent, and the wealth index is the pre-migration wealth index for the Venezuelan sample and the current wealth index for the Colombian sample. Standard errors are clustered at the household level *** p<0.01, ** p<0.05, * p<0.1.

naire, completed by caregivers, is designed to identify acute and chronic posttraumatic symptoms.

For children and adolescents, we use the Strengths and Difficulties Questionnaire, a 25-item behavioral screening tool filled out by caregivers. It evaluates a range of areas including emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship issues, and prosocial behavior.

Adolescents between 11-17 years old are assessed for anxiety using the General Anxiety Disorder Scale, a 7-item questionnaire that categorizes anxiety levels from minimal

to severe based on the score. Moreover, depression is screened with the Patient Health Questionnaire, a 9-item tool administered directly to adolescents.

These instruments collectively gauge a broad spectrum of psychological and emotional states, including post-traumatic stress, emotional disturbances, behavioral issues, inattention, peer relationships, prosocial behavior, anxiety, and depression, offering a comprehensive view of the mental health and socioemotional development of the minors in our study.

Figures [B.3](#) and [B.4](#) depict the distribution of the raw scores for Venezuelan and Colombian minors for each of the four scales. Surprisingly, we do not observe any striking differences on the distribution of any of these scores across groups. We are also not able to distinguish statistical differences between Colombian and Venezuelan children in any of the scales, when we estimate the specification highlighted in equation (1) as illustrated in [Table 7](#). This is an unexpected result considering that typically, forcibly displaced populations have a high prevalence of socioemotional and mental health issues, but might be related to the fact that Venezuelan migrants have not faced war (as many forced migrants have in other contexts) directly and as such, these issues are less prevalent. Another explanation of these results could be the vulnerability of the Colombian population who in many cases has also a long history of internal forced displacement and violence.

V.D Social Cohesion

We also delve into the differences in secondary outcomes among Colombian and Venezuelan adolescents concerning social cohesion. We focus on assessing altruism, trust, identity towards specific domains, networks, and experiences of discrimination. To measure altruism and trust, we employ the questions from the Global Preference Survey, a tool developed by [Falk et al. \(2022\)](#) to elicit risk, time, and social preferences. Specifically, to measure altruism we ask the adolescents how much of a fictional endowment would they be willing to donate to a good cause. To measure trust, we include the 7-item ques-

Table 7. Assessing Socioemotional and Mental Development Gaps (5-17 years old)

	<i>TSCYC score (5-10y.o.)</i>			<i>At-risk TSCYC</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
Forced Migrant	0.11 (0.38)	-0.16 (0.37)	0.05 (0.44)	0.01 (0.01)	0.00 (0.01)	0.00 (0.01)
R-squared	0.00	0.06		0.00	0.03	
Observations	1576	1465	1465	3160	2914	2914
Mean Dep. Variable (Colombian sample)	49.18	49.18	49.18	0.02	0.02	0.02
	<i>SDQ score (5-17 y.o.)</i>			<i>Abnormal - SDQ</i>		
	(7)	(8)	(9)	(10)	(11)	(12)
Forced Migrant	-0.00 (0.24)	-0.17 (0.26)	-0.19 (0.30)	-0.01 (0.02)	-0.02 (0.02)	-0.02 (0.02)
R-squared	0.00	0.02		0.00	0.01	
Observations	3160	2914	2914	3160	2914	2914
Mean Dep. Variable (Colombian sample)	11.80	11.80	11.80	0.22	0.22	0.22
	<i>GAD7 (11-17 y.o.)</i>			<i>PHQ (11-17 y.o.)</i>		
	(13)	(14)	(15)	(16)	(17)	(18)
Forced Migrant	-0.46* (0.25)	-0.25 (0.26)	-0.15 (0.26)	-0.45* (0.24)	-0.33 (0.25)	-0.23 (0.31)
R-squared	0.00	0.04		0.00	0.03	
Observations	1558	1425	1425	1558	1425	1425
Mean Dep. Variable (Colombian sample)	5.44	5.44	5.44	5.79	5.79	5.79
Control Variables		✓	✓		✓	✓
Propensity Score Matching			✓			✓

Notes: The table presents the estimates of equation (1) using a set of measures for socioemotional and mental health conditions. The Trauma Symptoms Checklist for Young Children (TSCYC) is a comprehensive 90-item questionnaire administered to caregivers of children aged 3 to 12 years. It is specifically crafted to assess both acute and chronic posttraumatic symptoms in this age group. In our study, the TSCYC is employed with children aged 5 to 10 years. Each query within the checklist offers four potential response options, with scoring determined accordingly. Scores between 65 and 70 are indicative of potential concerns, while scores surpassing 70 suggest clinically significant elevations. The Strengths and Difficulties Questionnaire (SDQ) is a comprehensive 25-item behavioral screening tool administered to caregivers. It is tailored to evaluate emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behaviors among minors aged 2 to 17 years (in our sample, 5 to 17 years). Following the characteristics of the regional population, the SDQ has delineated cutoff points for interpreting scores as "normal" (0-13), "borderline" (14-16), and "abnormal" (17-40). The General Anxiety Disorder Scale (GAD-7) is a brief 7-item assessment tool utilized for screening generalized anxiety disorder. Scores on this scale, spanning from 0 to 4, signify minimal levels of anxiety, whereas scores ranging between 5 and 9 indicate mild anxiety. The Patient Health Questionnaire (PHQ-9) is a self-report instrument comprising nine items, administered to adolescents aged 11 to 17 years. Its primary purpose is to gauge the severity of depression symptoms and assess treatment response. Control variables include children's sex and age, the maximum level of education completed by the most educated parent and grandparent, and the wealth index is the pre-migration wealth index for the Venezuelan sample and the current wealth index for the Colombian sample. Standard errors are clustered at the household level *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

tionnaire from [Falk et al. \(2022\)](#), along with a question on how much do the subjects in our sample trust the Colombian government. Additionally, we inquired about the adolescents' social networks by asking about their number of friends of each nationality and whether they have felt discriminated in school. While these outcomes were not the primary focus of the VenReps Kids survey, they collectively provide a general assessment of social cohesion, a crucial aspect in understanding the overall well-being of children and adolescents.

We measure the average differences in altruism between Venezuelan and Colombian adolescents following the estimation of equation 1. Table 8 presents the results for altruism, trust, discrimination and social ties in panels A, B and C respectively. As in the previous tables, the first column for each outcome reports the results of the estimates of equation 1 without controls, and the second and third columns report the results of the estimation with all controls and the propensity score matching respectively. As for altruism, we see that Venezuelan adolescents are on average willing to donate 17% more of their imaginary money endowment to a good cause relative to Colombian adolescents. As for trust, the results are mixed when analyzing the trust items separately. On average, Venezuelan adolescents tend to be more benevolent towards an injustice, are more likely to think that people have good intentions and have higher trust in the Colombian government. However, they are less willing to return a favor (although not significantly more) and trust less in Colombian unknown people. Moreover, Venezuelan adolescents have felt more discriminated in school and tend to have less friends. The findings suggest that forced migration may have negative impacts on the accumulation of social capital due to barriers in social norms that hinder social integration. Adolescent migrants face challenges in building connections with the host community given their weakened social ties and the presence of exclusionary attitudes.

All in all, our analysis suggests that there are meaningful physical and cognitive devel-

opment gaps between Venezuelan and Colombian children and adolescents, while we were not able to identify any gaps in the socioemotional and mental health between these groups. Moreover, we also examined whether the identified gaps were heterogeneous based on gender and age strata (5-10 and 11-17 years) but were not able to distinguish statistical differences between groups. We also identify large differences in the secondary social cohesion measures as Venezuelan adolescents being more altruistic and having felt more discriminated. ²⁰

VI UNPACKING THE HUMAN DEVELOPMENT GAPS

In this section, we focus on the most substantial and statistically significant developmental disparities highlighted in the previous analysis, specifically targeting the differences in body mass index (BMI) and Peabody rank scale scores. We aim to explore how these gaps evolve over time and examine their correlation with service program enrollment and the uptake rates of regularization programs.

VI.A Tracking the evolution of developmental gaps over time

It is important to understand how the development gaps that we identified between Colombian and Venezuelan children and adolescents are evolving in time because if, for example, the gaps are closing on their own, it might not be necessary to intervene to support this population. Displaced minors will catch up to the local population averages on their own. In contrast, if these gaps are stable or widening in time this would justify intervention actions from a policy perspective. We explore the gap time evolution using the following specification:

$$y_{ij} = \beta_0 + \beta_1 \mathbf{1}(time_{1-3,ij}) + \beta_2 \mathbf{1}(time_{3-4,ij}) + \beta_3 \mathbf{1}(time_{4+,ij}) + \Omega' X_{ij} + \epsilon_{ij} \quad (2)$$

where all the symbols represent the same variables as in equation (1), and $\mathbf{1}(time_{1-3})$,

²⁰We did this by repeating the analysis of equation (1) and adding interactions for gender (male vs female) and age-strata (children vs. adolescent). The results are available upon request.

$\mathbf{1}(time_{3-4})$, and $\mathbf{1}(time_{4+})$ are dichotomous variables that take the value of one if the Venezuelan migrant arrived to Colombia 1 to 3, 3 to 4, and 4 or more years ago (at the time of the survey collection: 2022). As before, the omitted category are the Colombian children and adolescents which implies that β_1 , β_2 , and β_3 measure the gap between the Colombian and Venezuelan minors that arrived at different times to Colombia.

The results of this exercise are illustrated in Figure 7. Panel (a) presents the estimates for the body mass index and Panel (b) for the Peabody Vocabulary Test score percentiles. The circles in the figures are illustrating the point estimates and the bars depict the confidence intervals. Both figures suggest that the cognitive and physical development gaps between Venezuelan and Colombian minors are closing with time. Particularly, the estimated gap between groups for the BMI is reduced from 0.42SD to 0.29SD for Venezuelan migrants that arrived 1-3 and 4+ years ago to Colombia. This represents a reduction of 0.13 SD or 30%. Similarly, the gap for the percentiles of the Peabody Vocabulary Test Score shrinks from 15.15 p.p. to 9.12 p.p. for Venezuelan migrants that arrived 1-3 and 4+ years ago to Colombia. A reduction of 6.03 p.p. or 40%. As such, the evidence suggests that gaps are closing in time. Next survey rounds will enable us to assess whether this trend is continuous.

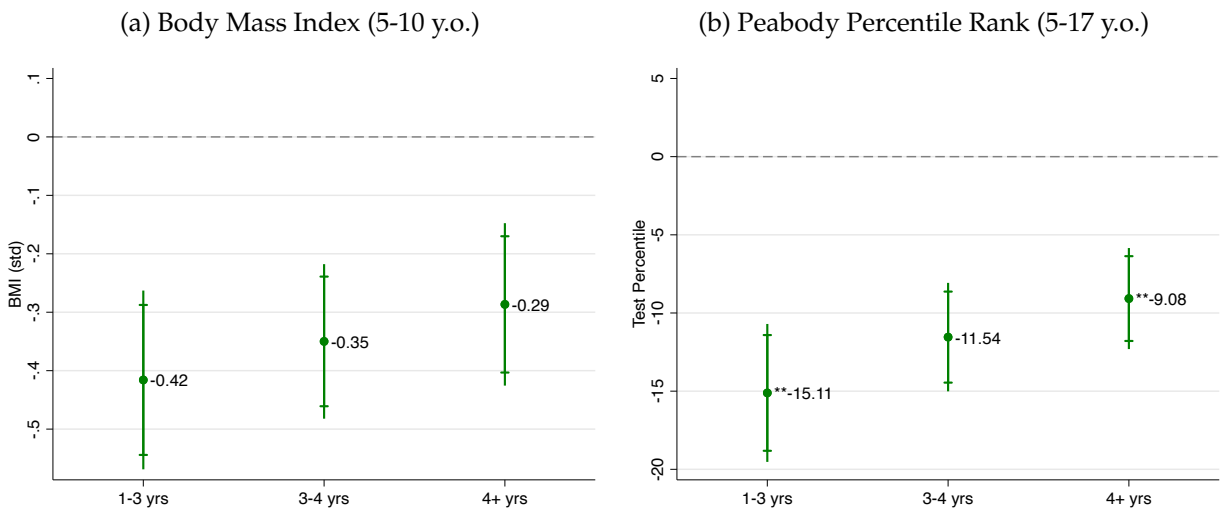
VI.B What is the role of service access and regularization programs?

In this subsection we also explore how service access and regularization programs relate with the cognitive and development gaps between Colombian and native minors. We assess this question using the following specification

$$y_{ij} = \alpha_0 + \alpha_1 \mathbf{1}(Enrolled_{ij}) + \alpha_2 \mathbf{1}(\text{Not Enrolled}_{ij}) + \Omega' X_{ij} + \epsilon_{ij} \quad (3)$$

where all the symbols represent the same variables as in equation (1), and $\mathbf{1}(Enrolled_{ij})$ and $\mathbf{1}(\text{Not Enrolled}_{ij})$ are dichotomous variables that take the value of one if the Venezue-

Figure 7. Developmental Disparities Based on Duration of Residency in Colombia



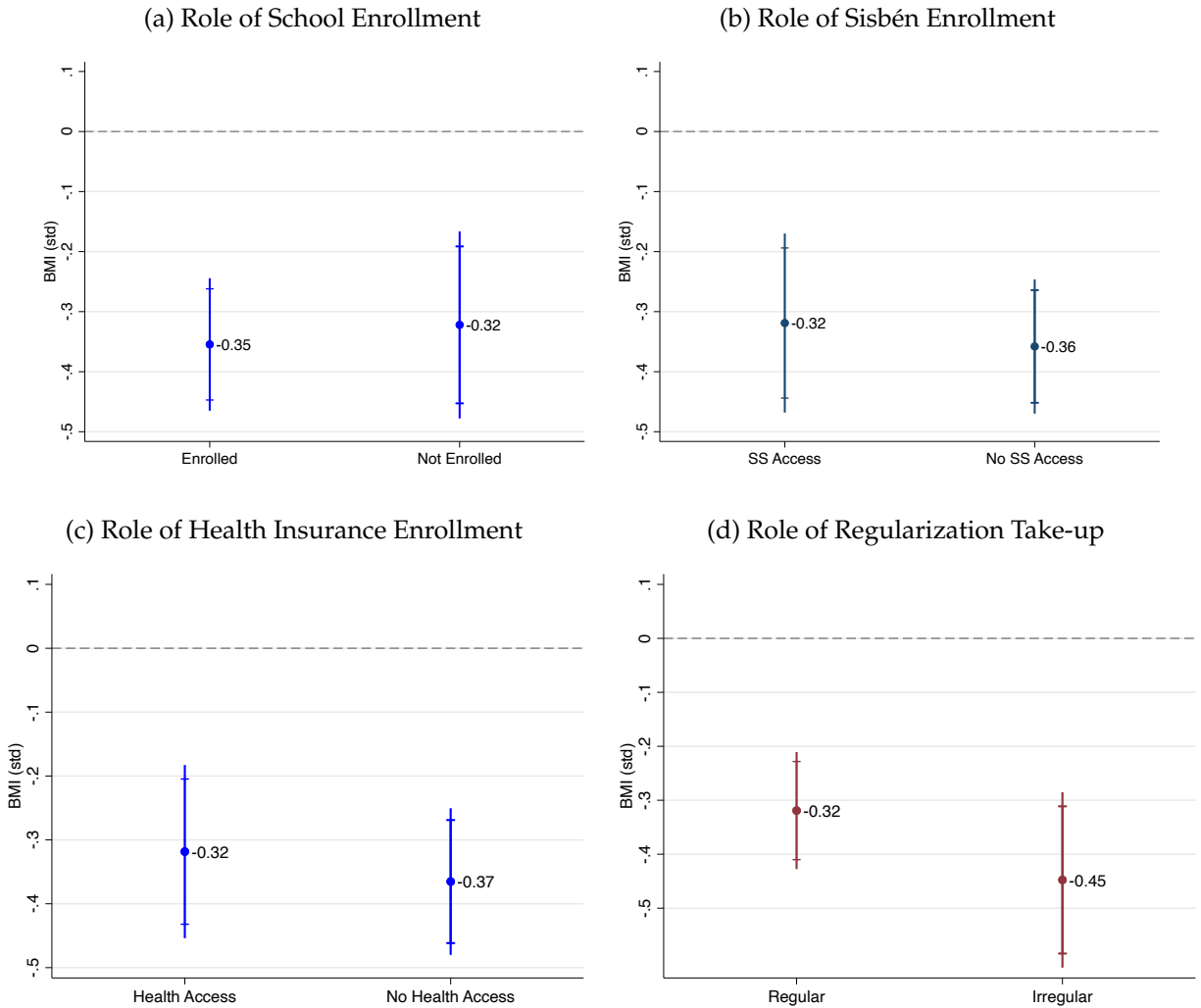
Notes: The figure illustrates the point estimates for the coefficients β_1 , β_2 , and β_3 as described in equation (2). The dots depict the point estimate and the bars depict the confidence intervals at 5% (in between the bar division) and 10% (complete bar) significance level. The X-axis indicates the number of years migrant children and adolescents have lived in Colombia. Panel (a) illustrates the deviation of Venezuelan children from their Colombian counterparts in terms of Body Mass Index (BMI), measured in standard deviations. Panel (b) presents the difference in percentile ranks between Venezuelan and Colombian minors on the Peabody Vocabulary assessment, quantified in percentile points. Control variables include children's sex and age, the maximum level of education completed by the most educated parent and grandparent, and the wealth index is the pre-migration wealth index for the Venezuelan sample and the current wealth index for the Colombian sample. Standard errors are clustered at the household level.

lan displaced migrant is enrolled or not in school, *sibén*, the health insurance system, or the regularization program. As before, the omitted category are the Colombian minors which implies that α_1 , and α_2 , measure the gap between the Colombian and Venezuelan children and adolescents that have different access to services (or the regularization program).

The results of this exercise are illustrated in Figures 8 and 9. As in the previous section, the circles in the figures are illustrating the point estimates and the bars depict the confidence intervals. Figure 8 shows the gaps using the body mass index as dependent variable and Figure 9 the gaps using the percentiles of the vocabulary test score rank as dependent variable. Each figure has four panels illustrating the role of school enrollment (panel (a)), *sibén* enrollment (panel (b)), health insurance enrollment (panel (c)), and regularization

take-up (panel (d)).

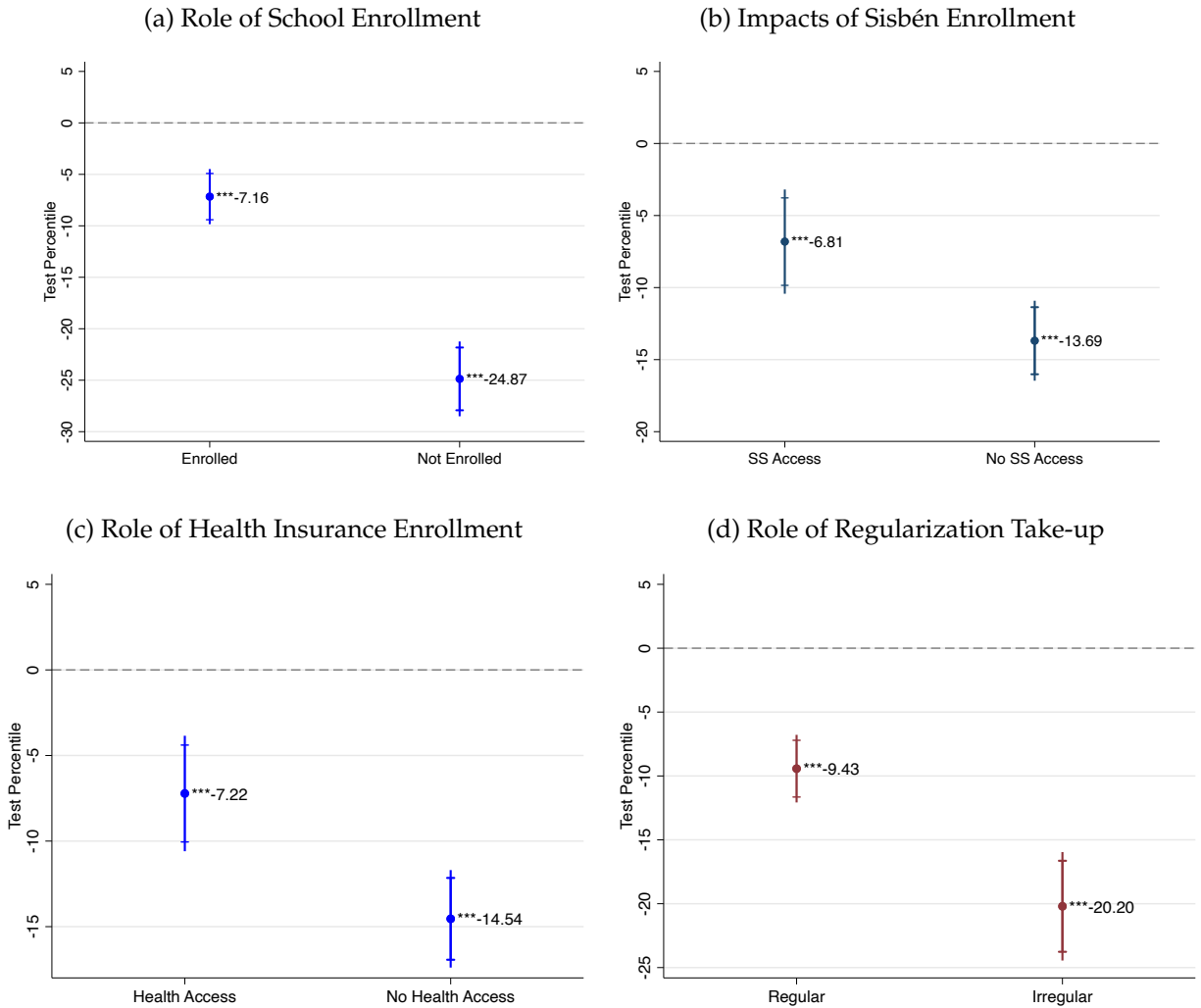
Figure 8. Body Mass Index Gaps, Service Access, and Regularization Take-up



Notes: The figure illustrates the point estimates for the coefficients β_1 , and β_2 as described in each corresponding equation (3). The dots depict the point estimate and the bars depict the confidence intervals at 5% (in between the bar division) and 10% (complete bar) significance level. The omitted category are Colombian children and adolescents. Control variables include children's sex and age, the maximum level of education completed by the most educated parent and grandparent, and the wealth index is the pre-migration wealth index for the Venezuelan sample and the current wealth index for the Colombian sample. Standard errors are clustered at the household level.

The results suggest that service and regularization access have a crucial role on the cognitive gap size between Colombian and Venezuelan minors, but that they are not as relevant for the gaps measuring differences on the body mass index (with the exception of the regularization program), which are more related to the nutritional status of children

Figure 9. Cognitive Development Gaps, Service Access, and Regularization Take-up



Notes: The figure illustrates the point estimates for the coefficients β_1 , and β_2 as described in each corresponding equation (3). The dots depict the point estimate and the bars illustrate the the bars depict the confidence intervals at 5% (in between the bar division) and 10% (complete bar) significance level. The omitted category are Colombian children and adolescents. Control variables include children’s sex and age, the maximum level of education completed by the most educated parent and grandparent, and the wealth index is the pre-migration wealth index for the Venezuelan sample and the current wealth index for the Colombian sample. Standard errors are clustered at the household level.

and adolescents. Particularly, access to school enrollment has the most important role in reducing the cognitive gap for these children and adolescents, but generally, access to any service or regularization program shrinks the cognitive gap between Colombian and Venezuelan minors in at least half. These last results suggest that school enrollment is of paramount importance if the policy objective is to reduce the cognitive gap between

Colombian and Venezuelan migrant children and adolescents.

VII Discussion

In this study, we analyze novel and unique data on forcibly displaced migrants and hosts, focusing on children and adolescents, to highlight the disparities in human development between them. The structure of our analysis is in two parts. In the first part, we characterize the main trends in the data. We show that forcibly displaced households have a wealth distribution skewed towards lower values relative to Colombian households. This is likely explained by the assets ownership loss that forcibly displaced households experienced after the migration episode. We also identify meaningful lags in human capital accumulation between Colombian and Venezuelan children and adolescents of approximately 1 year. We further note that the Colombian government's supportive policies for Venezuelan forced migrants are evident through high levels of service access and program participation for migrants. Nevertheless, it remains surprising that participation is not higher, suggesting significant potential for improvement in increasing *sisbén* and health insurance enrollments.

In a second part of our analysis, we document sizeable lags in physical and cognitive development of Venezuelan children and adolescents, relative to their Colombian counterparts. However, we were not able to identify any gaps in the socioemotional and mental health between the two groups. Over time, the gaps in cognitive and physical development are narrowing, with access to services and regularization playing a key role in bridging the cognitive differences between Colombian and Venezuelan youths. However, these factors seem less influential on disparities in body mass index, which are more closely tied to the nutritional status of the children and adolescents.

Our research serves as a foundational exploration of the developmental disparities between forcibly displaced children and adolescents and their peers in host communities. While our current analysis is descriptive in nature, future directions should focus on eval-

uating the effectiveness of interventions aimed at narrowing these gaps. Additionally, efforts should be made to enhance access to services and improve the uptake of regularization programs. This field presents promising prospects for generating valuable insights and informing policy development, offering a rich terrain for further investigation and action.

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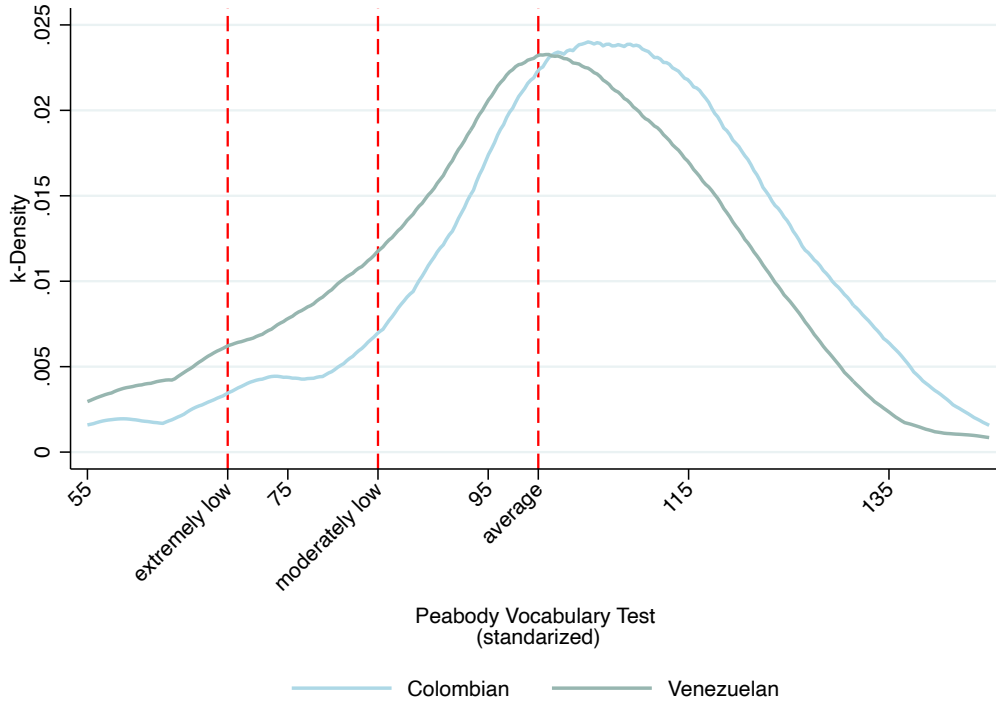
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VIII Appendix A: VenRePs Kids Survey

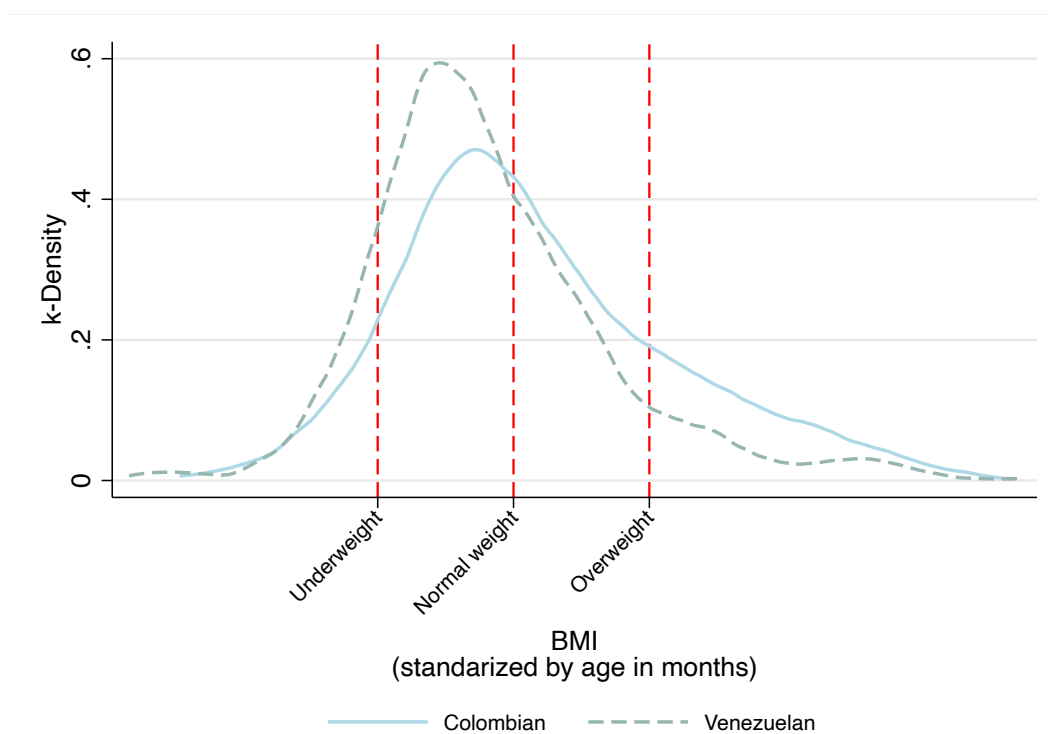
IX Appendix B: Outcome Distributions

Figure B.1. Peabody Vocabulary Test Score Distribution (5-17 years old)



Notes: The Peabody Vocabulary Test is an untimed test of receptive vocabulary for standard Spanish and is intended to provide a quick estimate of the test taker's receptive vocabulary verbal ability. It includes 125 questions, each containing four picture options with only one correct answer. Items are organized in order of difficulty, ranging from those suitable for children as young as 2 and a half years old to more complex items for individuals over 18 years old. The raw score is standardized according to the children's age, using a mean standard score of 100 and a standard deviation of 15. This score indicates the extent to which an individual's score falls above or below the average score for the group of the same age with whom the test was standardized. Performances between 85 and 115 standard scores are within the average range. The figure illustrates the average (100), moderately low (85), and extremely low score (70) using the red dashed lines.

Figure B.2. Body Mass Index Distribution (5-10 year olds)



Notes: BMI is a measure that indicates nutritional status in adults and children. It is defined by the World Health Organization (WHO) as an individual's weight in kilograms over the squared height in centimeters. The standardized value of the body mass index follows the WHO guidelines. A BMI over one standard deviation (SD) implies that the individual is overweight and a value below one SD indicates that the individual is underweight. Both thresholds are depicted with red dashed lines in the distributions.

Table 8. Assessing Social Cohesion (11-17 years old)

<i>Panel A: Altruism and Trust</i>						
	<i>Altruism</i>			<i>Trust 1</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
Forced Migrant	0.16*** (0.06)	0.17*** (0.06)	0.18*** (0.06)	-0.03 (0.05)	-0.08 (0.06)	-0.12* (0.07)
R-squared	0.00	0.02		0.00	0.00	
Observations	1492	1365	1365	1558	1425	1425
Mean Dep. Variable (Colombian sample)	11.56	11.56	11.56	-0.00	-0.00	-0.00
<i>Panel B: Trust</i>						
	<i>Trust 2</i>			<i>Trust 3</i>		
	(7)	(8)	(9)	(10)	(11)	(12)
Forced Migrant	0.18*** (0.05)	0.17*** (0.05)	0.15*** (0.05)	-1.76*** (0.08)	-1.79*** (0.09)	-1.68*** (0.09)
R-squared	0.01	0.02		0.27	0.28	
Observations	1558	1425	1425	1558	1425	1425
Mean Dep. Variable (Colombian sample)	0.00	0.00	0.00	0.00	0.00	0.00
	<i>Trust 4</i>			<i>Trust in government</i>		
	(13)	(14)	(15)	(16)	(17)	(18)
Forced Migrant	0.09* (0.05)	0.07 (0.05)	0.09 (0.06)	0.36*** (0.05)	0.33*** (0.05)	0.34*** (0.05)
R-squared	0.00	0.02		0.04	0.06	
Observations	1558	1425	1425	1558	1425	1425.00
Mean Dep. Variable (Colombian sample)	0.00	0.00	0.00	-0.00	-0.00	-0.00
<i>Panel C: Discrimination and networks</i>						
	<i>Discrimination</i>			<i>Friends</i>		
	(19)	(20)	(21)	(22)	(23)	(24)
Forced Migrant	0.07*** (0.02)	0.07*** (0.02)	0.07*** (0.02)	-0.10** (0.05)	-0.08 (0.05)	-0.07 (0.07)
R-squared	0.01	0.02		0.00	0.01	
Observations	2716	2503	2503	2717	2504	2504.00
Mean Dep. Variable (Colombian sample)	0.12	0.12	0.12	3.63	3.63	3.63
Control Variables		✓	✓		✓	✓
Propensity Score Matching			✓			✓

Notes: The table presents the estimates of equation (1) using a set of measures for altruism, trust, discrimination and networks. In the case of Panel A, altruism is based on the following question: *Imagine the following situation: Today, unexpectedly, you receive 280,000 COP. How much of this amount would you donate to a good cause?.* Trust 1 respond for next question: *When someone does me a favor, I am willing to return it.* Panel B presents four variables associated with dimensions of trust: 1) Trust 2, quantified the reciprocal attitudes with the subsequent statement *If I am treated very unfairly, I will take revenge at the first opportunity, even if I have to pay a cost for it.*; 2) Trust 3 is derived from the question *"You can count on Colombians, even if you don't know them well."* 3) Trust 4 constitutes a measure for the following statement. *I suppose that people have only the best intentions.* 4) It assesses trust in the Colombian government on a four-level scale. Trust variables were assessed on a scale from 0 to 10, and the data were standardized relative to the data of Colombians. In Panel C, a measure of discrimination is presented, derived from responses to inquiries regarding encounters with instances of discrimination within the school setting. Additionally, a variable concerning the quantity of friends reported by children and adolescents is included. Control variables include children's sex and age, the maximum level of education completed by the most educated parent and grandparent, and the wealth index is the pre-migration wealth index for the Venezuelan sample and the current wealth index for the Colombian sample. Standard errors are clustered at the household level *** * p<0.01, ** p<0.05, * p<0.1.

Table A.1. Summary of Survey Modules, VenRePs-Kids Study

1. Dwelling	Dwelling's characteristics
2. Sociodemographics	Years of education of household members, labor market outcomes of parents, migratory status of children and parents
3. Education	Access to and quality of education, extracurricular services, discrimination, interaction with native counterparts
4. Health	(i) Basic screening of size, weight and nutrition patterns. (ii) Services usage: illness, hospitalization and treatments. Access to health insurance. (iii) Preventive care: vaccination and medical appointments
5. Time use	Child labor and free time activities (sports, reading etc...)
6. Pro-social preferences	Trust, altruism and reciprocity
7. Scales	Mental health scales: TSCYC-90 (trauma), SDQ (behavior), GAD-7 (anxiety), PHQ-9 (depression) Cognitive development: Peabody Vocabulary Test

Table A.2. Respondent per Survey Modules, VenRePs-Kids Survey

Module and Section	Subject	Respondent
I. Housing	Household	Caregiver
II. Socio demographics	Adults and 5-17 y.o.	Caregiver
III. Children Education		
a. School Attendance	5-17 y.o.	Caregiver
b. Discrimination and Difficulties	5-17 y.o.	Caregiver
c. Extracurricular Services	5-10 y.o.	Caregiver
d. Grandparents Education	5-17 y.o.	Caregiver
III. Health		
a. Weight and Height	5-17 y.o.	5-17 y.o.
b. Affiliation, Diseases and Pregnancy	5-17 y.o.	Caregiver
c. Health Prevention	5-17 y.o.	Caregiver
d. Vaccines	5-17 y.o.	Caregiver
e. Nutrition	5-17 y.o.	Caregiver
f. Adolescent Consumption	11-17 y.o.	11-17 y.o.
V. Time Use, Integration, and Aspirations		
a. Use of Time	5-17 y.o.	Caregiver
b. Child Labour	5-17 y.o.	Caregiver or 11-17 y.o.
c. Integration	11-17 y.o.	11-17 y.o.
d. Return to Venezuela	11-17 y.o.	11-17 y.o.
e. Aspirations	11-17 y.o.	11-17 y.o.
VI. Prosocial Preferences	11-17 y.o.	11-17 y.o.
VII. Scales		
a. Peabody	5-17 y.o.	5-17 y.o.
b. TSCYC	5-10 y.o.	Caregiver
c. PHQ-9	11-17 y.o.	11-17 y.o.
d. GAD-7	11-17 y.o.	11-17 y.o.
e. SDQ	5-17 y.o.	Caregiver

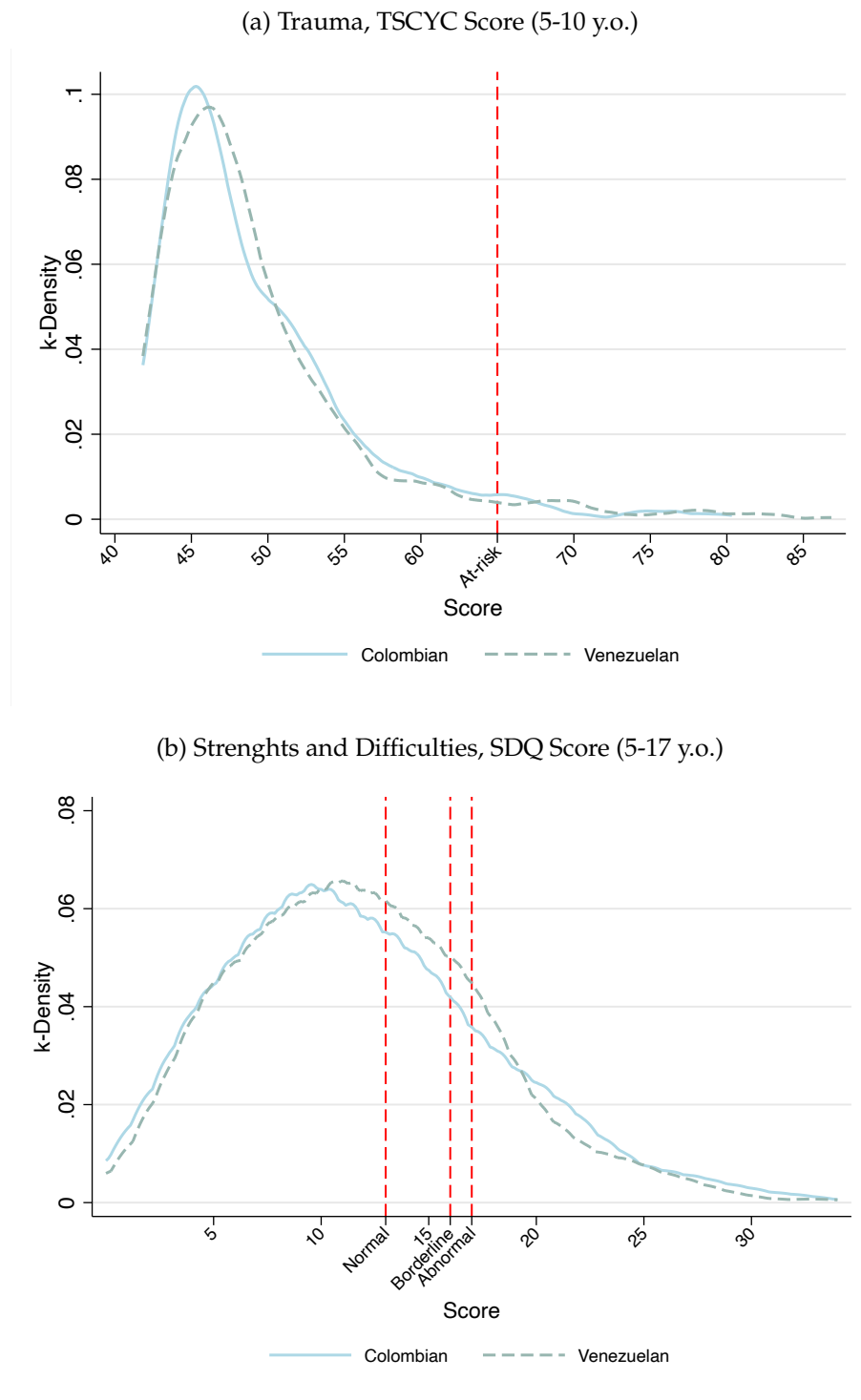
Notes: This table indicates who was responsible for answering each module of the survey and upon whom the questions of these modules are based. The questions regarding sociodemographic information were answered by the Children (5-17 y.o.), their father and their mother, and the caregiver and/or the economic responsible (if different from the parents). For the health module, children's weight and height were measured by the enumerators, who were social workers or professionals in psychology. For the time use, integration, and aspiration module, the questions regarding child labour were answered by the main caregiver for children aged 5-10, and by the adolescents themselves.

Table A.3. Sample Comparison between PEP National Migrant Survey and VenReps Kids

	(1)	(2)	(3)	(4)	(5)
	VenReps Kids	VenReps	RAMV	(1) - (2)	(1) - (3)
Household					
Household size	4.31 (1.45)	5.34 (3.12)	3.00 (2.06)	-1.03*** (0.08)	1.31*** (0.05)
Adults	1.61 (0.52)	3.85 (3.17)		-2.24*** (0.07)	
Children	1.71 (0.84)	1.49 (1.50)		0.21*** (0.04)	
Household Head					
Male [=1]	0.36 (0.48)	0.59 (0.49)	0.55 (0.50)	-0.23*** (0.02)	-0.19*** (0.02)
Age in years	35.87 (8.62)	33.66 (9.32)	33.14 (10.62)	2.21*** (0.35)	2.73*** (0.30)
Years of education	10.08 (3.41)	13.16 (2.91)	11.15 (3.24)	-3.08*** (0.13)	-1.07*** (0.12)
Married [=1]	0.62 (0.49)	0.50 (0.50)	0.45 (0.50)	0.11*** (0.02)	0.17*** (0.02)
Self-employed [=1]	0.43 (0.50)	0.40 (0.49)	0.31 (0.46)	0.03 (0.02)	0.12*** (0.02)
Unemployed [=1]	0.10 (0.31)	0.24 (0.43)	0.23 (0.42)	-0.13*** (0.02)	-0.13*** (0.01)
Informal [=1]	0.88 (0.33)	0.71 (0.46)	0.34 (0.47)	0.17*** (0.02)	0.54*** (0.01)
Observations	860	2398	227696	3258	228556

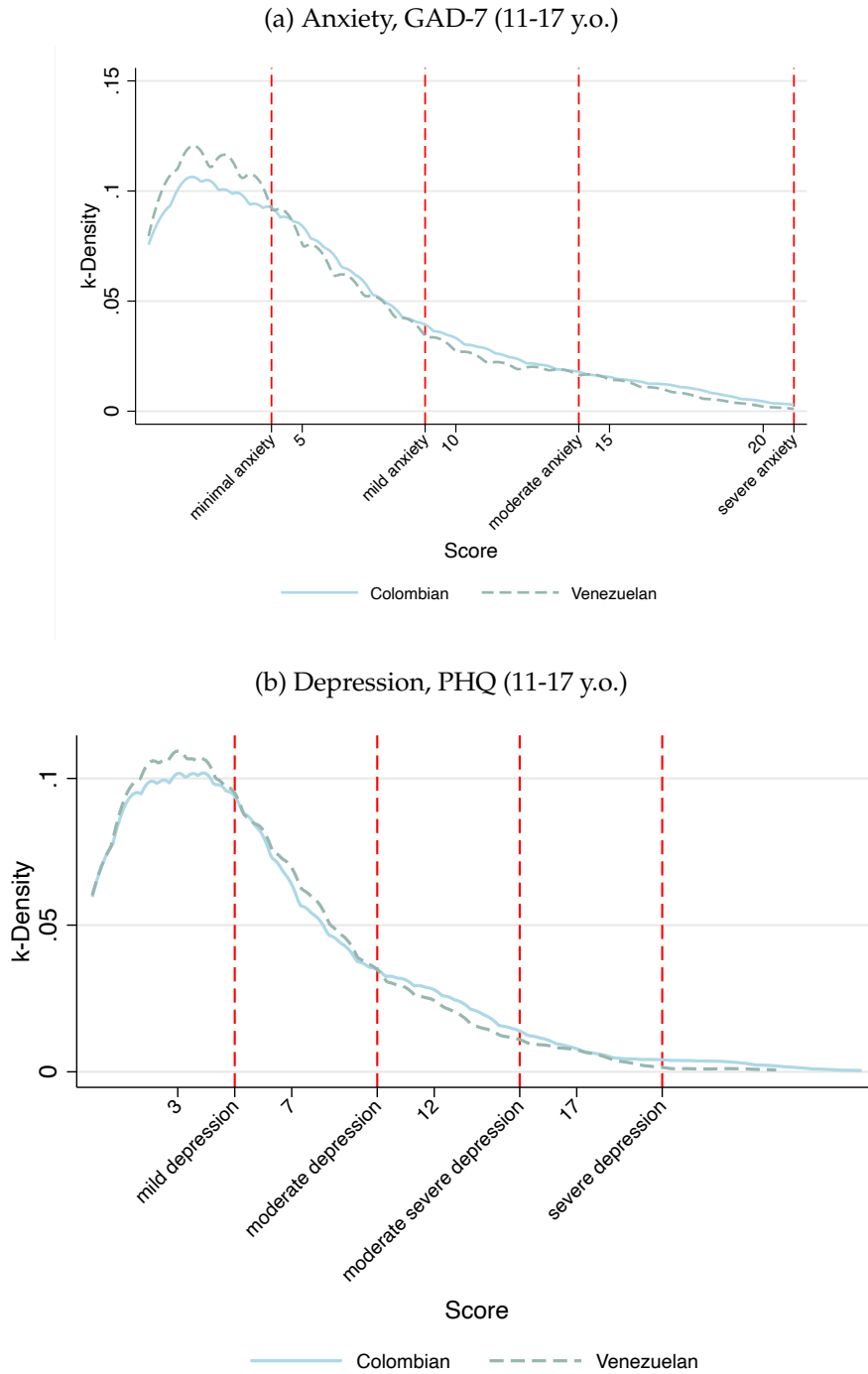
Notes: The table reports data on Venezuelan migrants' demographic variables. Column 1 reports data from the 2022 VenReps-Kids survey used in the current study. Column 2 reports data from the VenReps survey, representative of Venezuelans over 18 years of age (both registered and not registered in the RAMV—Administrative Registry of Venezuelan Migrants) of the four geographical regions that host the largest share of these migrants, according to the latest population census of 2018: Barranquilla, Bogotá, Medellín (and their metropolitan areas)—three of the largest cities in Colombia—and a fourth “region” of smaller cities (The fourth region includes Cúcuta, Villa del Rosario, Cali, Cartagena, Riohacha, Maicao, Uribia, Valledupar, Santa Marta, and Arauca). Column 3 reports data from the RAMV, a national migrant Census conducted for Venezuelans in 2018. The first three variables are at the household level, the rest are representative of the household head. Thus, the observations indicate the number of households in the sample. The total number of Venezuelan migrants in each sample are: 1,463 for VenReps-Kids, 4,490 for VenReps and 441,757 for the PEP Census. For all three samples, households that do not report a household head or that report more than one, are not considered in this table. Household size is the total of children and adults living in the same household. Children represents the number of children under 18 years old living in the household, and adults the number of adults over 18 living in the household. Married [=1] indicates that the household head is married or in a cohabitant consensual union couple. Self-employed [=1] indicates that the household head reports being self-employed, employer, unpaid family or firm worker. Informal [=1] indicates that the household head has no written or verbal contract in their job, and that they do not save in a pension fund. For columns (1), (2) and (3), standard deviations are in parenthesis. Columns (4) and (5) show the mean difference of the ttest for the difference between VenReps Kids and the other samples, and standard errors are in parenthesis.

Figure B.3. Trauma and Difficulties Scale Distribution, (TSCYC and SDQ Scales)



Notes: Panel (a) shows the distribution of the Trauma Symptoms Checklist for Young Children (TSCYC) a 90-item questionnaire applied to caregivers of children 3-12 years designed to evaluate acute and chronic posttraumatic symptoms in children. In the case of this study, it is applied to children 5-11 years. Each question has four possible answers which are scored based on the response. Scores 65-70 are considered problematic and above 70 are considered clinically elevated. Panel (b) shows the distribution of the Strengths and Difficulties Questionnaire (SDQ) is a 25-item behavioral screening administered to caregivers and designed to measure emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behaviors for minors ages 5-17 (for our sample 5-17). Based on the regional population the SDQ has been assigned cut points for "normal" (0-13), "borderline" (14-16), and "abnormal" scores (17-40).

Figure B.4. Anxiety and Depression Scales Distribution, (GAD-7 and PHQ Scales)



Notes: Panel (a) shows the distribution of the General Anxiety Disorder Scale (GAD-7) a 7-item screening tool for generalized anxiety disorder. A score ranging from 0 to 4 indicates minimal anxiety, while a score between 5 and 9 suggests mild anxiety. Moderate anxiety falls within the range of 10 to 14, while a score exceeding 15 indicates severe anxiety. Panel (b) shows the distribution of the Patient Health Questionnaire (PHQ-9) a 9 item self-report questionnaire applied to children from 11 to 17 years old. It is used to monitor the severity of depression and response to treatment.

Table B.1. Access to services - School Enrollment

	<i>Colombian</i>			<i>Venezuelan</i>		
	Enrolled (1)	Not Enrolled (2)	Diff. (1)-(2)	Enrolled (3)	Not Enrolled (4)	Diff. (3) - (4)
<i>Panel A: Household characteristics</i>						
Household size	4.22 [1.42]	4.29 [1.69]	0.08 (0.15)	4.58 [1.41]	4.42 [1.57]	-0.16 (0.09)
# Child	1.68 [0.79]	1.74 [0.86]	0.06 (0.09)	2.05 [0.95]	1.99 [0.98]	-0.07 (0.06)
Total Assets	9.82 [4.32]	7.92 [3.79]	-1.90*** (0.46)	6.55 [2.86]	4.40 [2.44]	-2.15*** (0.17)
Wealth Index (std)	0.02 [1.00]	-0.43 [0.86]	-0.45*** (0.11)	-0.25 [1.06]	-0.53 [0.95]	-0.28*** (0.06)
Observations	1285	51	-	696	221	-
<i>Panel B: Adults characteristics</i>						
Employed [=1]	0.92 [0.28]	0.67 [0.48]	-0.05* (0.03)	0.93 [0.26]	0.87 [0.33]	-0.25*** (0.06)
Years of education (std)	0.01 [1.00]	-0.26 [0.99]	-0.23** (0.07)	0.09 [0.86]	-0.15 [0.95]	-0.27 (0.16)
Married [=1]	0.54 [0.50]	0.24 [0.43]	-0.12** (0.04)	0.66 [0.47]	0.54 [0.50]	-0.30*** (0.08)
Observations	1137	42	-	664	203	-
<i>Panel C: Children and adolescents characteristics</i>						
Age	10.74 [3.48]	11.74 [4.55]	0.99** (0.38)	10.17 [3.36]	10.23 [4.02]	0.06 (0.22)
Male (%)	0.50 [0.50]	0.63 [0.49]	0.13* (0.05)	0.53 [0.50]	0.54 [0.50]	0.01 (0.03)
Years of Education	4.67 [3.03]	5.03 [4.41]	0.36 (0.34)	3.89 [2.80]	3.32 [3.16]	-0.57** (0.18)
Parents Main Careigver [=1]	0.77 [0.42]	0.75 [0.44]	-0.02 (0.05)	0.93 [0.26]	0.91 [0.29]	-0.02 (0.02)
Years in Colombia	- [-]	- [-]	- (-)	3.97 [1.16]	3.71 [1.17]	-0.26*** (0.07)
Observations	1186	92	-	1021	361	-

Notes: Columns (1) and (3) describe the mean values for Colombian and Venezuelan children and adolescents enroll in the school, respectively. Columns (2) and (4) describe the mean values for Colombian and Venezuelan children and adolescents absent in the school, respectively. The last column illustrates a mean difference test between both groups (enrolled or not) within each nationality. Standard errors are reported in brackets. Panel A displays a set the household characteristics. Household size is the number of family members. Total assets is the number of assets owned by the households which can take a maximum number of 15. Wealth Index is an index measure of the household's cumulative living standard constructed following The Demographic and Health Surveys (DHS) methodology standardized by Colombian households. Panel B presents a set of variables for the adult who has a role as the main caregiver. Employed [=1] if the respondent reported a work activity the week before the survey. Years of education are determined by identifying the highest educational level attained by each individual and associating it with the corresponding number of years, which were standardized using the guidelines provided by the Ministry of Education. Married [=1] if the respondent indicates being married or declares a consensual union couple in the survey. Panel C shows some variables for children and adolescents. Age is measured in years and ranges from 5 to 17. Male is a dichotomous variable [=1] if the individual is a male. The Years of Education are determined by identifying the highest educational level attained by each individual. The variable is standardized by the age of the minors. A value of zero implies that the child has the mean level of years of