

# How neighborhood context determines inequality later in life: Quasi-experimental evidence for the children of Iranian refugees

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## Introduction

More than 2.5 million refugees have been granted residence in Europe over the last ten years and their long-run adaptation is a fundamental societal challenge. Adaptation can be defined in different ways, but most theories agree that a key indicator is whether or not refugees' children experience inequalities, disparities or social disadvantage.<sup>1-3</sup> Yet much less is known about refugees' children as compared with the children of other immigrants, in part because most countries lack both significant numbers of children of refugees and the data that is required to study their lives. Prior studies focus on isolated domains of life, lack a longitudinal perspective, and are limited by small-samples and methodological weaknesses. As a result, there is a significant gap in knowledge, in particular quantitative evidence concerning the factors that determine adult outcomes—across multiple domains of life—for the children of immigrants who arrive as refugees.

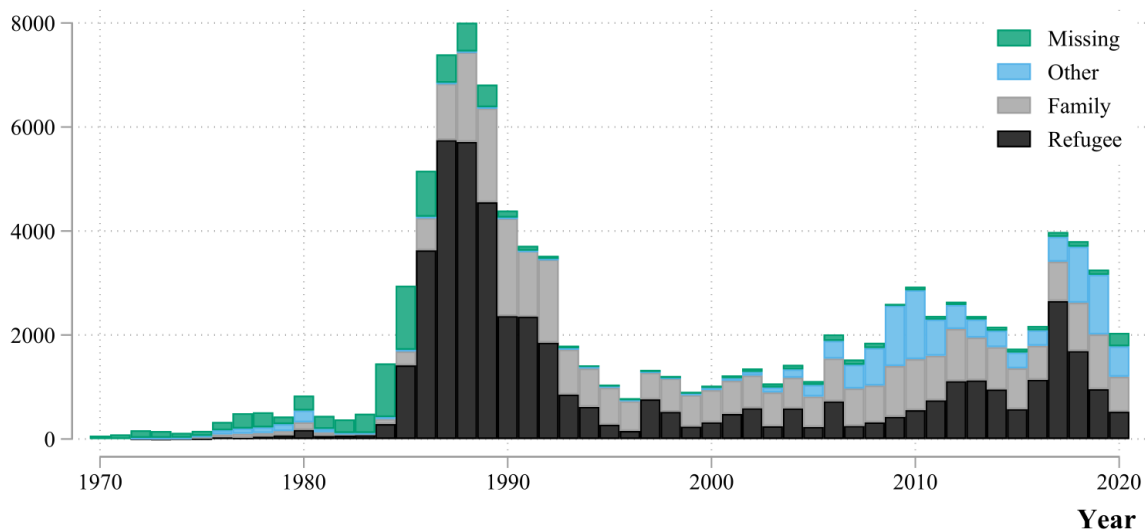
Here we respond to this gap by carrying out a case study of the Swedish-born children of Iranians, whose parents arrived as refugees to Sweden in the late 1980s and early 1990s. We use whole-population data and a quasi-experimental research design to examine their experiences of inequality during adulthood and to determine how this is impacted by the neighborhood context in which they grow up. There are several benefits of doing this, not only to gain a greater understanding about the lives of refugees and their children, but also to gain a greater understanding of neighborhood effects by identifying the impact of growing up in a segregated area (net of selective migration and other sources of confounding).

Iranian refugees stand out in the Swedish context and are often used as an example of successful adaptation, in part because they tend to have better labor market outcomes than other refugees.<sup>4,5</sup> Swedish-born children of Iranian refugees have better socio-economic outcomes at the age of 30, as compared with descendants of other refugees (and with children of Swedish-born individuals).<sup>6</sup> Yet there is considerable heterogeneity in life course trajectories for this group and the causes of this within-population heterogeneity remain largely unexplored.<sup>7-9</sup> Here we focus on the role of neighborhood context during (and prior to) childhood. To do this we take advantage of the fact that the arrival of the largest wave of Iranian refugees (see *Figure 1*) also coincided with the implementation of the Sweden-wide policy from 1985-94, a government initiative meant to disperse refugees across Sweden by quasi-randomly allocating their initial municipality of settlement.

This policy allows us to study the role of neighborhood context before and after the birth of refugee's children on the outcomes of these children later in life. Neighborhood effects are hard to study because residential choices are often influenced by unobserved characteristics that also affect the outcomes being studied. However, the Sweden-wide policy provides exogenous variation that enables us to address this challenge. We focus in particular on ethnic networks within neighborhoods. Theories suggests these networks may be beneficial and detrimental. For example, it has been theorized that they can provide valuable information and support, or they can hinder language acquisition and contact with the wider society.<sup>1,5,10</sup>

## Data

We use collections of register data provided by Statistics Sweden. These data include annual information on major demographic events such as births, deaths, migration events, and labor market activity. All members of the population have a unique person number, available to us in an anonymized format, which enables us to link individuals across registers, as well as to link children with their parents. For this analysis, we use information from various registers to measure three outcomes at age 25: (1) highest level of education, (2) likelihood of unemployment and (3) disposable income. Our study population (N=2,458) is individuals born in Sweden between 1988 and 1995 (hence age 25+ by 2020, the last year of our data) to one or two Iranian-born parents who arrived in Sweden as a refugee between 1987 and 1993. Iranians were the largest group of non-European immigrants arriving in this period (21% of all, 27% of refugees), and the majority who arrived in this period were refugees (see *Figure 1*).



*Figure 1. Number of Iranian-born immigrants to Sweden, by year of arrival and type of first residence permit*

The study emphasizes the importance of exogenous variations in neighborhood characteristics, which is provided by the "Sweden-wide" refugee dispersal policy (1985-1994). The strictest implementation of the policy did not begin until 1987.<sup>10</sup> The introduction of the "own housing" option in 1994 resulted in more than 50% of refugees choosing this option, and thus the end of the programme.<sup>11</sup> For these reasons, we restrict the parental arrival year to the period 1987-1993. *Table 1* below provides evidence of the randomness of the residential assignment (sometimes called a 'balance test'), in respect to the main independent variable of interest: the percentage of co-ethnics in the municipality.

	Assigned to a municipality with a <b>high</b> % Iranian-born residents			Assigned to municipality with a <b>low</b> % Iranian-born residents		
	<b>Mean</b>	<b>Median</b>	<b>s.d.</b>	<b>mean</b>	<b>median</b>	<b>s.d.</b>
Age	25.3	26	13.6	24.3	26	12.6
Sex	1.4	Male	0.5	1.4	Male	0.5
Civil status	1.9	Unmarried	1.0	1.8	Unmarried	1.0
Number of children	0.6	0	1.1	0.7	0	1.1
Age youngest child	5.4	4	5.0	4.6	4	4.1
Age oldest child	8.7	8	6.4	7.8	7	5.9
Highest education	298.3	U-secondary	117.6	294.2	U-secondary	112.7
<b>N</b>		<b>11,842</b>			<b>11,462</b>	

*Table 1. Balance test, observable characteristics at parental allocation*

## Methods

We employ an instrumental variable approach to study the effect of the size of co-ethnics in the municipality at the birth of the child on their outcomes 25 years later. We instrument the neighborhood characteristics at birth ( $t_0$ ) using the percentage of co-ethnics in the municipality at the parental allocation time. Our two-stage least squares (2SLS) specification is as follows:

$$\%Iranian - born_{m,t0} = \alpha_{1m} + \partial_{1y} + \beta Z_{m,parent\ allocated(1987-93)} + \gamma_1 C_{p,m} + \epsilon_{1m} \quad (1)$$

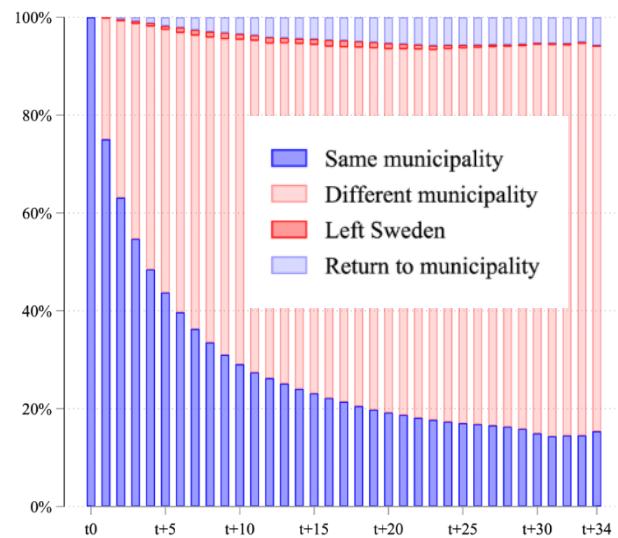
$$SES_{2013-2020} = \alpha_{2m} + \partial_{2y} + \rho 2SLS \%Iranian - born_{m,t0} + \gamma_2 C_{p,m} + \epsilon_{2m} \quad (2)$$

where  $\beta$  in equation 1 captures the first-stage effect of our instrumental variable  $Z$ , reflecting the role of the % of Iranian-born individuals in municipality  $m$  in the parental arrival year on the percentage of Iranian-born individuals in the municipality in the year of birth of the child, while accounting for covariates  $C$ , at the parental-level (number of children at allocation, mother's and father's country of birth) and municipality-level (% Swedish-born in municipality at allocation), municipality fixed effects  $\alpha_m$  and year fixed effects  $\partial_y$ . To show the significance of neighborhood sorting, **Figure 2** (below) shows how mobility changes over time after the initial allocation. Over 87% of individuals who arrived during the Sweden-wide policy eventually move to another municipality. The average refugee(-parent) stays in their allocated municipality for 6.6 years.

## Results

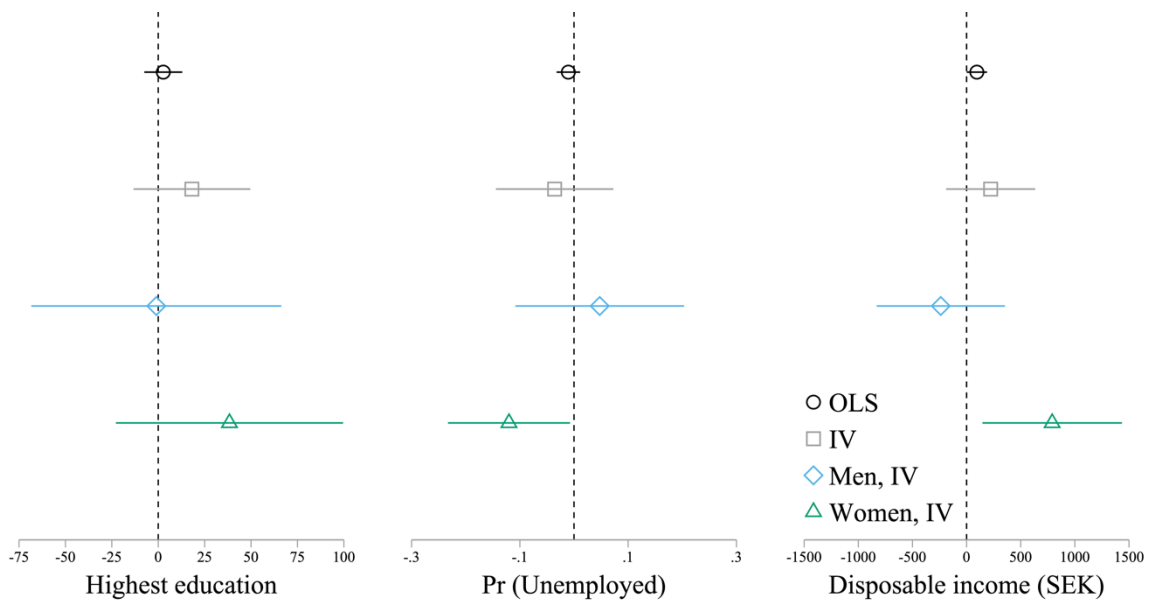
The first-stage F-test on the omitted instrument comfortably exceeds the conventional cut-off value of 10 in both the direct effect model, as well as in the gender mechanism models, indicating that the instrument provides sufficient exogenous variation. Overall, we find that the size of the co-ethnic network has no average effect on the socio-economic outcomes of descendants of refugees (**Figure 3**). This goes against most of the existing literature, which suggests either a positive or a negative effect. Even the marginally significant positive association of neighborhood characteristics on disposable income detected in the OLS model disappears once the instrumental variable is employed.

However, the overall result appears to mask an important gender difference. Theories that discuss the intersection between gender and migration often suggest that female children of immigrants will face greater barriers toward adaptation.<sup>1</sup> Here, we show that gender is a key factor in determining the role of childhood neighborhoods. Female descendants of Iranian refugees benefit from larger co-ethnic networks, while male descendants display effects in the opposite direction, albeit non-significant (**Figure 3**). This finding may indicate different socialization processes for male and female children of refugees.



**Figure 2.** Duration in assigned municipality

[Note: The final paper will include additional analysis to explore the gender difference further, to examine additional outcomes, and to examine how the impact of neighborhoods changes over time.]



**Figure 3.** The role of local area co-ethnic network size on the education, unemployment status and income of native-born descendants of refugees (OLS vs 2SLS). We control for number of children at allocation, mother's and father's country of birth and % Swedish-born in municipality at allocation. Models include municipality and year fixed effects, and municipality-clustered standard errors. 1st stage F-test for strength of instrument: 29.3 (18.24 male model; 26.27 female model). Highest education level ranges from 100 (pre-secondary) to 640 (PhD)

## Discussion

This study highlights the importance of neighborhood context in understanding the adaptation outcomes of the children of refugees. The findings suggest that co-ethnic networks do not always have a significant impact on their socio-economic outcomes, at least for children of Iranian refugees living in Sweden. However, the study also identifies gender differences, with sizeable effects of co-ethnic networks for female children of refugees. This finding contradicts much of the existing literature, which suggests that the specific context of Iranian refugees in Sweden may be different from other refugee groups, and that other factors may be more influential in shaping their adaptation outcomes. Overall, this study contributes to the existing literature on refugee adaptation and provides valuable insights for policymakers and practitioners working to support successful integration of refugees and their descendants. Further research is needed to explore the underlying mechanisms.

## References

- Alba R, Nee V. *Remaking the American Mainstream*. Harvard University Press; 2005.
- Drouhot LG, Nee V. Assimilation and the Second Generation in Europe and America: Blending and Segregating Social Dynamics Between Immigrants and Natives. *Annual Review of Sociology*. 2019;45(1):177-199.
- Zhou M, Gonzales RG. Divergent Destinies. *Annu Rev Sociol*. 2019;45(1):383-399.
- Bevelander P, Pendakur R. The labour market integration of refugee and family reunion immigrants: a comparison of outcomes in Canada and Sweden. *Journal of Ethnic and Migration Studies*. 2014;40(5):689-709.
- Andersson R, Musterd S, Galster G. Port-of-Entry Neighborhood and Its Effects on the Economic Success of Refugees in Sweden. *International Migration Review*. 2019;53(3):671-705.
- Harber-Aschan L, Pupaza E, Wilson B. The legacy of exile for children of refugees: Inequality and disparity across multiple domains of life. Published online December 16, 2022.
- Aradhya S, Hedefalk F, Helgertz J, Scott K. Region of Origin: Settlement Decisions of Turkish and Iranian Immigrants in Sweden, 1968–2001. *Population, Space and Place*. 2017;23(4):e2031.
- Hällsten M, Edling C, Rydgren J. The acculturation in Sweden of adolescents of Iranian and Yugoslavian origin. *Acta Sociologica*. Published online June 29, 2017:000169931771451.
- Ghazinoor M, Richter J, Eisemann M. Quality of Life Among Iranian Refugees Resettled in Sweden. *Journal of Immigrant Health*. 2004;6(2):71-81.
- Åslund O, Edin PA, Fredriksson P, Grönqvist H. Peers, Neighborhoods, and Immigrant Student Achievement: Evidence from a Placement Policy. *American Economic Journal: Applied Economics*. 2011;3(2):67-95.
- Andersson R, Solid D. Dispersal policies in Sweden. In: Robinson V, Andersson R, Musterd S, eds. *Spreading the "Burden"?: A Review of Policies to Disperse Asylum Seekers and Refugees*. Policy Press; 2003:0.