Neighborhood Effects on Educational Outcomes: A Multilevel Analysis of Swedish-Born Children of Refugees in Sweden

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Introduction

Sweden has a long history of receiving refugees. Scholars have generally found disparities in socioeconomic outcomes for refugees, in Sweden and elsewhere, relative to the native-born population[1–3]. However, much less is known about the socioeconomic outcomes of native-born children of refugees (the second generation, G2). While scholars have explored the extent of adaptive patterns that exist among the second generation in general[1], there is much less research on the second-generation children of refugees, despite the additional obstacles faced by their parents, as compared with other groups of non-refugee immigrants. In addition to increased risks of poorer health, one of these obstacles is the fact that refugees typically have fewer opportunities to determine where they live and raise their children[4]. In this study we assess whether educational outcomes of the second-generation children of refugees (i.e. children of parents who obtained a refugee permit) in Sweden are affected by their residential location. Looking at educational outcomes offers insights that can inform the under-researched patterns of adaptation for the second-generation children of refugees. It also adds perspective to the research on systematic inequality and the linkages between inequality and segregation.

Theories of segregation suggest that it may have both positive and negative effects[5]. Living in ethnic enclaves can be beneficial as they may provide immigrants and their descendants with resources to help navigate institutions in the destination country[5,6]. On the other hand, this form of segregation may act as barrier to the integration process because the development of certain country-specific skills, such as language acquisition, may be hindered. Well educated peers can also act as role models, but where residential communities have an marked poor socioeconomic status, this may have negative effects[7–9].

Here, we analyze high-quality longitudinal register data of the entire Swedish population between 1968 and 2020. We examine how the educational outcomes of the second-generation children of refugees are affected by their residence in refugee-dense areas. We also assess the impact of the area-level education (general educational level of people living in an area) as well as the effect of migrant/refugee compositions on educational outcomes. Specifically, we aim to answer three questions*; (1) Does living in an area with a high proportion of refugees have an effect on the educational outcomes of second-generation children of refugees? (2) How is the average educational attainment in an area associated with the educational performance of the second-generation children of refugees living in that area? (3) How do the area-level associations vary for the children of refugee as compared with other population groups?*

To answer the final question, we make comparisons between the second generation (G2) children of refugees and the Swedish-born children of Swedish-born parents, as well as with foreign-born children of refugees. In the final paper, we will also examine variation by country of origin. Using these results, we not only show how patterns of inequality vary, but also discuss their possible consequences and propose some recommendations for further research.

Data and method

We use register-based data obtained from Statistics Sweden. These data afford us access to whole-population longitudinal microdata on population change, linked to individual-level data on: migration background (e.g. country of birth and year of arrival), residence permits, integration outcomes, and other sociodemographic variables. For each individual we can also link to microdata on nuclear family members (parents, partners and children) who have ever lived in Sweden, and register data (i.e. all of the aforementioned variables) for each of these family members.

Table 1: Study population by generation type

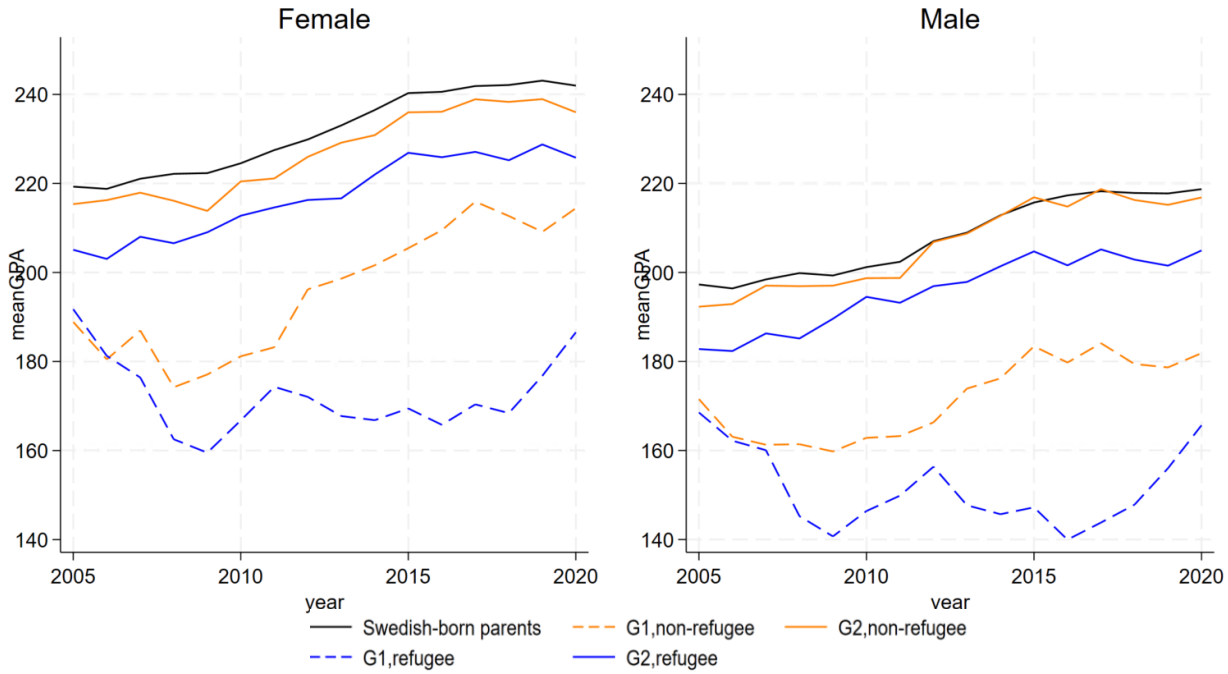
Generation	Male	Female	Total
	Frequency (n)	Frequency (n)	Frequency (n)
Ancestral native	678,608	645,807	1,324,415
G1; non-refugee	29,403	30,491	59,894
G2; non-refugee	53,192	50,451	103,643
G1; refugee	52,735	44,114	96,849
G2; refugee	57,420	55,409	112,829
Total	**871,358**	**826,272**	**1,697,630**

In this study we analyse student grades at the end of compulsory schooling for children born between 1990 and 2005. We examine how the residential density of refugees and area-level education (proportion of persons living within established demographic areas) in the year before final examinations (t-1) are associated final exam grade (end of compulsory schooling). Our study population includes a total of 1,697,630 children of whom approximately 7% are second generation children of refugees (**Table 1**).

Results

When we compare second-generation children of refugees with other population groups, they have lower school grades (range 0 to 320) than children of Swedish-born parents, but higher grades than first-generation immigrants: both refugees and non-refugees (**Figure 1**). Compared with other second-generation immigrants, the second-generation children of refugees have lower grades.

Figure 1. Mean Grades by sex and generation type



Disaggregated by sex we see similar patterns (**Figure 1**). The second-generation children of refugees (solid blue line) have lower grades than Swedish-born children with Swedish born parents. However, females have better grades across all groups. Interestingly the Swedish-born female children of refugees (and children of non-refugees) seem to outperform males from all generation groups including males who are Swedish-born with Swedish born parents.

When we examine the variation in grades by neighborhood characteristics, more favorable outcomes are observed in areas with higher proportions of persons with higher-level education. Children with both Swedish-born parents seem to outperform children of the G2 children of refugees even when

living in the low-level education category (**Figure 2**). We see unfavorable outcomes for children living in heavily refugee-dense areas (**Figure 3**). This disadvantage is consistent over time (as much as approximately 50 pts and 100 pts lower grades on average between low and high refugee dense areas respectively across the two groups. In **Figure 4,** we observe interesting variations in children's grades when we extend the foregoing observation to include the immigrant background of children's parents. In areas with higher area-level education, G2 children of refugees (both male and female) with parents from all observed migrant backgrounds receive grades above the mean grades of their native counterparts. Generally, second generation children of refugees having a parent combination of a Foreign(non-refugee) and Refugee seem to have better grades (exceeding the average of their native counterparts). Also, boys seem to have relatively larger positive differences in grades when living in areas of low refugee density.

Figure 2. Mean grades by area-level education for Swedes vs G2 children of refugees

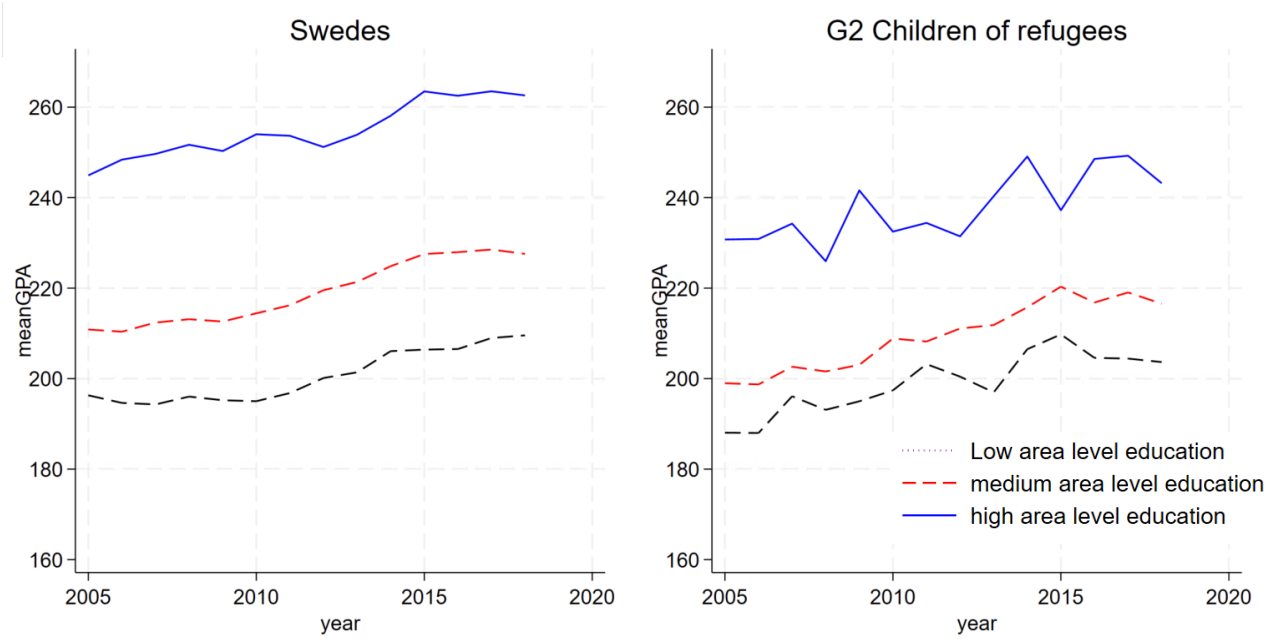


Figure 3. Mean grades by refugee density for Swedes vs G2 children of refugees

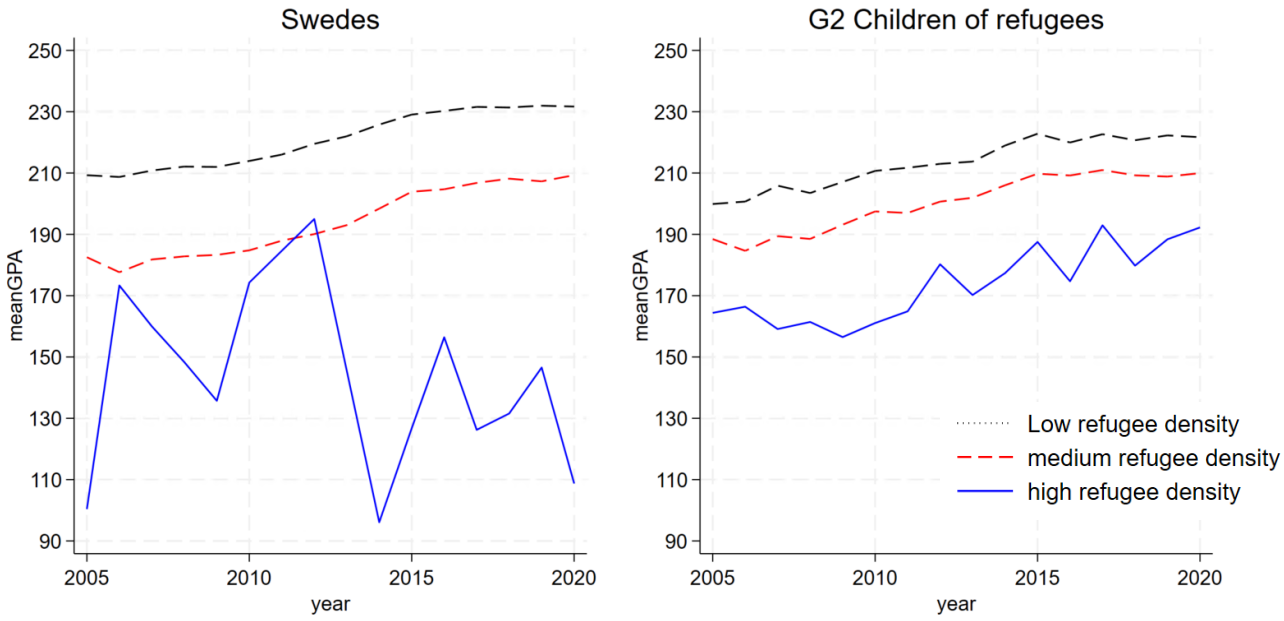
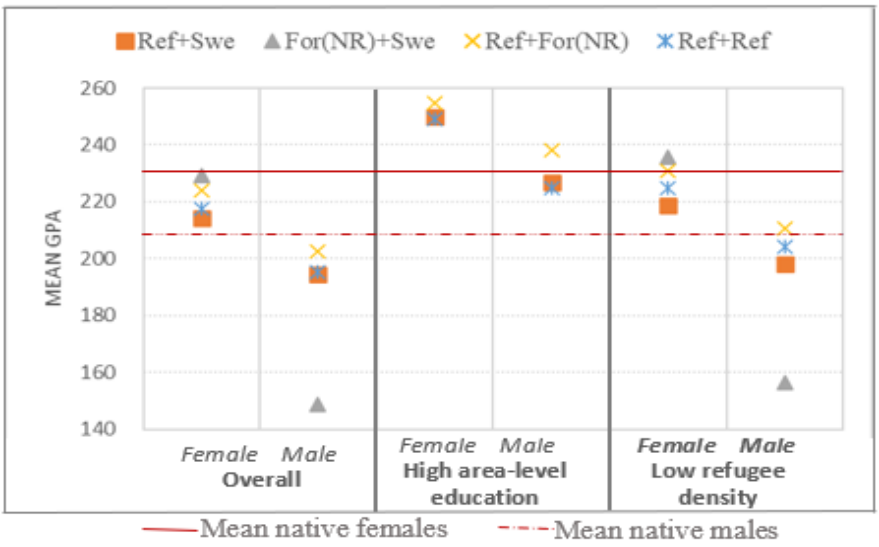


Figure 4. Mean grades by sex, neighborhood characteristics and parental background of G2 children of refugees compared to children of two Swedish-born parents (natives)



Note, parent groups:
Swe = Swede
Ref = Refugee
For(NR) = Foreign born (non-refugee)

In the next step of the analysis, we employ fixed effects models to estimate the effect of residential location on children's grades. We control for various socio-economic and demographic characteristics including sex, cohort, family socio-economic status to account for potential confounding factors. By utilizing subgroup analysis based on parental background we explore potential heterogeneity in the observed effects (and robustness of our findings is examined by conducting sensitivity analyses to include different specification of the models).

In the final paper, we will include all of the aforementioned analyses including analyses of heterogeneity by parent's country of birth and other family characteristics such as size, type, and age profiles of parents. We will also examine the effect of time, namely, the length of time residing in an area, time since migration (parent/s) as well as the effect of moves within the mandatory schooling years.

Discussion and next steps

Our preliminary results suggest that the grades of the second-generation children of refugees are higher if they live in an area with fewer other refugees. They also obtain higher grades when they reside in areas having higher proportions of people with higher-level education. We find that these relationships are not particular to the children of refugees, for example they are for Swedish-born children of Swedish-born parents. We also find peculiarities with parents' immigration background. In general, our findings conquer with previous research on other immigrant groups and suggest that the neighborhood is an important aspect of education that should be considered when designing policies and interventions. This analysis not only appends to the existing literature on refugee adaptation, segregation and inequality, but also provides new insight on the under-researched patterns of adaptation for the G2 children of refugees.

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