

Inequalities in intentional self-harm for children of refugees in early adulthood

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Introduction

While refugees are at greater risk of certain psychiatric disorders (e.g. PTSD), they tend to be at lower risk of other psychiatric outcomes including suicide and suicidal behaviours, such as intentional self-harm or suicide attempts. This observation is consistent with the “healthy migrant” hypothesis, which posits that migrants have a health advantage as compared to the native-born population, and is well supported across several contexts with regards to mortality and many morbidity outcomes in migrants. However, as evidenced for many of the health outcomes, this health advantage tends to shift to loss of the advantage, and sometimes even to a disadvantage by the second generation of migrants. What remains unclear is to what extent these shifts also apply to refugees and their children with regards to mental health, and suicide related outcomes more specifically.

In Sweden, refugees initially have a lower risk of suicide, but the risk increases and converges to the Swedish population with increased length of stay. However, it is unclear what the risk of suicide related outcomes are for their children. While the theories of adaptation would predict that convergence would take place over time and the course of generations, it is also plausible that intergenerational inequalities in suicidal behaviours emerge in the children of refugees. Adversities faced by the children of refugees and intergenerational loss of protective factors of their parents, may predict that the children of refugees indeed have a higher risk than the native-born population, resulting in *reverse* adaptation. Such intergenerational trends have been observed for other health outcomes for migrants in other contexts.

Suicide related outcomes, including intentional self-harm is important to study in the children of refugees for several reasons. First, it exists at the severe end of a spectrum of mental illness and given that these are reliably captured in register data, they may serve as indicators of mental health more broadly. Given that the potentially stressful experiences associated with the migration and adaptation process for their parents, it is important to understand how these experiences impact on the mental health of their children of refugees may. Second, intentional self-harm is a broad term which includes suicide attempts which is the strongest risk factor for completed suicide. Given that suicide is the most common cause of mortality in young adults, understanding its determinants in the children of refugees not only presents an important opportunity to identify inequalities, but also an opportunity to identify relevant subgroups for intervention and prevention.

This study uses linked data from demographic registers and hospital registers, available for the whole population of Sweden, to address the following research questions:

1. How does the risk of intentional self-harm for Swedish-born children of refugees (G2 refugees) compare to a) children of Swedish-born parents, b) Swedish-born children of non-refugee immigrants (G2 non-refugees), and c) refugees who arrived as children (G1.5 refugees)?
2. Do patterns vary by parental country of birth?
3. Are there gender differences observed for any observed inequalities?

Data

We use a collection of register data provided by Statistics Sweden, which have been linked to health registers from inpatient and outpatient hospital data provided by the National Board of Health and Welfare, Sweden. These data include information on major demographic events such as births, deaths, migration events, and reasons for hospital visits. All members of the population have a unique person number, available to us in an anonymised format, which enables us to link individuals across registers, as well as to link children with their parents. These linkages have a high degree of accuracy, and all the data are of a

high quality. For this analysis, we use information from the inpatient and outpatient registers to capture intentional self-harm (ICD-10 codes X60-X84), migration information including refugee permits and years of immigration from the STATIV register, as well as intergenerational information and education. To allow us to examine intentional self-harm in early adulthood, we focus on individuals born from 1986-1990, and capture any intentional self-harm from 2007-2020, therefore examining self-harm over the ages 21-30.

Methods

Our analysis is focused on children of refugees at age 30 who were born in Sweden, and include several comparison groups, summarised in Table 1. We define G2 refugees as Swedish-born children of refugees, where either one or both parents are foreign-born and had a first residence permit indicating that they were a refugee. We use Swedish-born children of Swedish-born parents as the main comparison group. We also include a further two groups of comparison: G2 non-refugees – Swedish-born children with foreign-born parents, where neither parent is a refugee; and G1.5 refugees – foreign-born refugees who arrived under the age of 18. For G2 refugees, we examine variation by parental countries of birth, focusing on the three most common countries of origin for refugee parents. We exclude from all groups those who died or emigrated prior to the age of 30, and a small number of individuals who have missing data. Our analysis uses logistic regression models, where the outcome is a binary measure of any hospital admissions or outpatient hospital visits for intentional self-harm in the past 10 years, adjusting for birth cohort, sex and education.

Table 1. Definitions and sub-population sizes (N=459,902)

Subsample	Total		Men		Women	
	n	%	n	%	n	%
Children of Swedish-born parents	416,278	89.7	214,579	89.5	201,699	89.9
G2 refugee ^a	7500	1.6	3844	1.6	3656	1.6
G2 non-refugee ^b	10,369	2.2	5361	2.2	5008	2.2
G1.5 refugee ^a	29,755	6.4	15,877	6.6	13,898	6.2
G2 refugee's parental country of birth ^c						
Iran	1538	20.5	785	20.4	753	20.6
Chile	1259	16.8	628	16.3	631	37.9
Lebanon	914	12.2	445	11.6	469	50.7
Other ^d	3789	50.5	1986	51.7	1803	49.3

^a Where one or both parents are refugees

^b Where both parents are migrants, but neither parent is a refugee

^c Where one or both parents are refugees from the given country, and all other parents are foreign-born

^d Includes refugee-parents who do not share the same country of origin

Results

The results indicate that children of refugees are not at increased risk of intentional self-harm compared to the Swedish-born children of Swedish-born parents, but that indeed their risk of self-harm might be slightly lower (Figure 1). However, comparisons to the other migrant groups indicate an interesting pattern whereby, at age 30, the children of refugees (G2 refugees) are at *higher* risk of intentional self-harm, as compared to the G1.5 group, but at *lower* risk as compared to children of other migrants (G2 non-refugees). The observation that the G1.5 refugee group has the lowest risk of self-harm is indicative that some protective mental health advantage is lost over the course of generations, and is supportive of the idea that adaptation is taking place. Examining these patterns further by gender indicates that this interpretation also applies to men who are even more similar in their risk of self-harm to the children of Swedish-born parents, while female G2 refugees are more similar to the G1.5 group. This suggests that female G2 refugees may retain some of their health advantage, while this is not the case for men (Figure 1). Overall however, women had a substantially higher risk of intentional self-harm compared to men (OR=1.92, 95% CI: 1.82-2.01; analysis not shown).

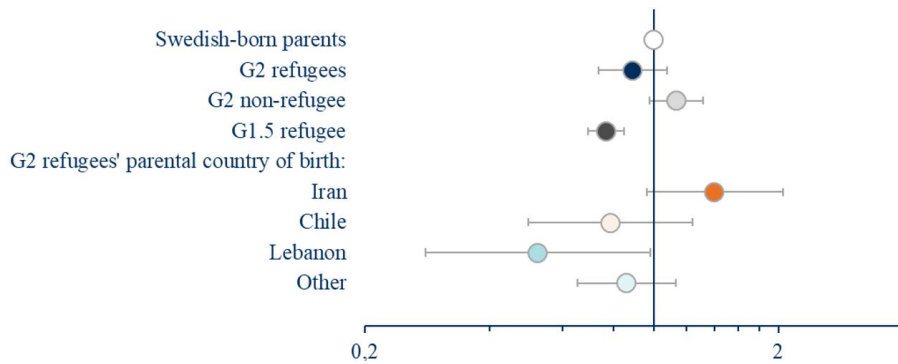


Figure 1 Intentional self-harm (OR, 95% CI) for the children of refugees (G2 refugees) and comparison groups, and by parental country of origin

Further examining these results for the G2 refugee group by country of origin for their parents nevertheless reveals an interesting pattern, which shows that substantial heterogeneity in risk of intentional self-harm exists by country of origin. Specifically, it is the children of Iranian refugees that demonstrate a markedly increased risk of self-harm compared to the Swedish-born children of Swedish born parents, while the children of refugees from Chile and Lebanon have substantially lower risks of self-harm compared to both these groups. The gender stratified results presented in Figure 2 indicate clearly that the elevated risk for the Iranian group is driven by men being at a near two-fold increased risk of intentional self-harm compared to the Swedish-born men of Swedish-born parents. Female children of Iranian refugees only had a slightly raised risk compared to Swedish-born women of Swedish-born parents. In contrast, both men and women who had refugee parents from other countries of origin had a substantially lower risk of self-harm relative to the male and female children Swedish-born parents, respectively.

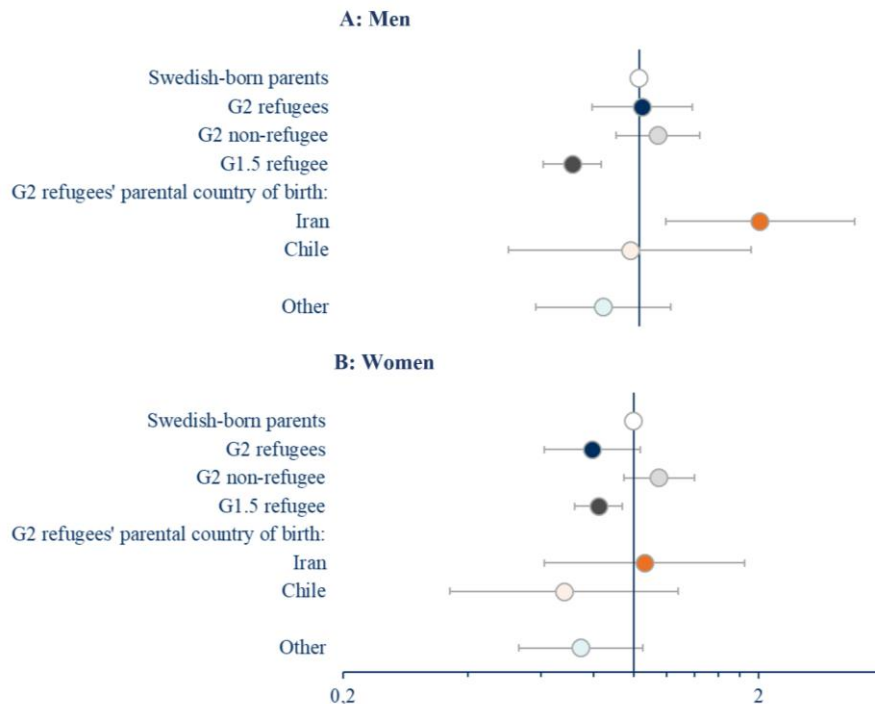


Figure 2 Intentional self-harm (OR, 95% CI) for male and female children of refugees (G2 refugees) and respective comparison groups, by parental country of origin

Discussion

We found that at age 30 – at the group level – there do not appear to be any inequalities in self-harm between children of refugees and the children of Swedish-born. However, by examining these differences closer by sex and parental country of origin, we found that there was evidence of inequalities and potential reversed adaptation, specifically for the male children of Iranian refugees, who were at substantially elevated risk of intentional self-harm in early adulthood. In contrast, there was very limited evidence for inequalities in intentional self-harm for female children of refugees, neither those with Iranian refugee parents nor for the “Other” origins category. If anything, our findings indicated that female children of refugees might have a lower risk of self-harm than the native-born population.

Given that inequalities exist for male Iranian G2 refugees, it is reasonable to ask whether this is evidence of “reversed adaptation”. In other words, was there an initial psychiatric morbidity advantage for the Iranian refugee parents that has been lost in the course of adaptation in the destination society? Observing an overall protective effect that seems to exist for the G1.5 refugee group would suggest so. This group arrived as children and has therefore had less exposure to Sweden (including its norms and institutions), and the lower risk of self-harm would suggest that there may have been a health advantage also for Iranian refugees arriving as children. To explore this further, the parental origins of the G1.5 and the G2 non-refugee group will be examined in future developments of this analysis. While comparisons between the G1.5 and G2 across parental origins allow some insight into the possibility of intergenerational shifts in the risk of intentional self-harm and mental illness more broadly, comparing the G1 and G2 refugee groups would provide the most direct test of such possible shifts. Direct comparisons between generations and within parental countries of birth will therefore be another line of analysis to pursue.

In previous work, we found evidence of substantial heterogeneity between groups with different parental countries of birth with regards to multiple life domains. Notably, we observed a socioeconomic and social advantages specifically for the for children of Iranian refugees at age 30, compared to the children of Swedish-born parent and G2 refugee groups with parents from other countries of origin. It is therefore a somewhat surprising finding that it is this group that is also experiencing the greatest disadvantage with respect to self-harm. The marked gender differences may point to some potential explanations. While both male and female children of Iranian refugees had substantially better education as compared to the children of Swedish-born parents and G2 refugee groups, we found that higher education did translate into higher earnings for women born to Iranian refugees, but not for men. Male Iranian children of refugees also experienced greater unemployment. This may suggest that challenges related to the labour market, including discrimination, may play some role in the elevated risk self-harm that we observed for this group. These socioeconomic explanations will also be examined in greater detail in further work.