Intermarriage and migrant health: Mortality among Finnish migrants in Sweden by spouse's country of birth

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Background

The health of migrants is an increasingly important public health concern in many industrialised societies. The processes that shape migrant health are not, however, well understood, in part because of the theoretical and methodological challenges that are inherent to studying a group that moves between contexts. Several factors nevertheless affect the health of migrants, including conditions in the country of origin, the circumstances surrounding the migration event and integration in the country of destination. As migrants integrate into the country of destination, their living conditions, social relations and behavioural patterns may change. One indicator that has been considered to signal an advanced stage of integration is intermarriage between migrants and natives (Alba & Nee, 1997). Marriage entails close contact between spouses that is sustained over long periods of time and spouses may make decisions together, support each other and take mutual responsibility for each other's health and well-being (Monden et al., 2003; Umberson, 1987). Selection into marriage, and into intermarriage, may also contribute to differences in health by marital status. Marrying a native is likely more common among migrants who have already adopted the social norms and practices of the country of destination. Conjugal ties between migrants and natives may then lead to a convergence of health behaviours and thus affect the health of migrants. Whether the converge of health behaviours leads to an improvement or deterioration of health, depends on the specific contexts both in the country of origin and at the destination. For example, intermarriage has been observed to relate to an increased or decreased prevalence of smoking during pregnancy in Sweden depending on the level in the country of origin relative to that in Sweden (Urquia et al., 2021).

Here, we study Finnish migrants in Sweden. In contrast to the commonly observed migrant mortality advantage, Finnish migrants in Sweden experience a mortality disadvantage relative to the native population. This difference is in part due to poor health behaviours. Previous research has indicated that mortality patterns by behavioural causes of death among Finnish migrants in Sweden lie in between those of the native populations of the origin and destination, but also that the patterns tend to approach those of the Swedish population over time spent in Sweden, especially for men (Östergren et al., 2023). We aim to assess whether spouse's country of birth is related to a health convergence among Finnish migrants in Sweden.

Data and methods

The data used for this study comprise linked administrative registers in both Sweden and Finland with information on age, sex, country of birth, income, education, civil status and cause of death. The registers also provide links to spouses and children which allows us to identify the spouse's country of birth and children not living in the household. We identify all married Finnish-born individuals residing in Sweden in 1999. We restricted the age span to 40–64 years when individuals are likely to have formed a family and be active in the labour market. We divided the sample into (1) Finnish-born migrants who were married to another Finnish migrant (n=29,445) and (2) Finnish migrants who were married to a Swedish-born individual (n=25,094). We also identified (3) Swedish-born individuals who

resided in Sweden and were married to a native Swede and (4) Finnish-born individuals who resided in Finland and were married to a native Finn, using the same age- and period restrictions.

We obtained information on education in 1999 (compulsory, intermediate or tertiary) and income in 1994–1999 (quintiles of average household disposable income adjusted for household composition by dividing the income by the square root of the total household size) for all four groups. For the migrants, we obtained additional information on whether they had at least one child in Sweden, and whether there was at least one child living in the household. We also collected information on the years of marriage and migration to determine whether the couple was married already before migrating to Sweden.

We followed the groups for mortality from 2000 through 2017, right censoring at emigration. Because of the long follow-up period, we treated age as a time varying covariate with deaths being allocated to the age in which they happened, as opposed to age at baseline. Besides deaths from any cause, we identified alcohol-related deaths, smoking-related deaths and deaths from cardiovascular diseases (CVD) using data from the cause of death register.

Adjusting for socioeconomic characteristics using direct matching and inverse probability weighting

In the first step, we compared Finnish migrants with Finnish spouses and Swedish spouses to native Finns with Finnish spouses living in Finland and native Swedes with Swedish spouses living in Sweden. We used direct matching to adjust for differences in socioeconomic position of the different groups. For each migrant, we identified two controls in Finland and two controls in Sweden that shared their exact combination of age, sex, education and income. Although we are unable to share individual-level data across borders, we were able to identify the controls without sharing individual-level data.

We used inverse probability weighting to adjust for differences by spouse's country of birth among the migrants. Direct matching was not suitable because the groups were of similar size, which prevented us from drawing a sufficient number of controls. The inverse probability weights were based on education, income, and age. After identifying the controls and applying the weights, the distribution of income and education assumed the average distribution of all married migrants, allowing for direct comparison of mortality rates between all four groups.

Mortality analyses

First, we calculated incidence rate ratio (IRR) for all-cause, alcohol, smoking and CVD mortality in the four groups using Poisson regression, adjusting for age, education and income in the weighted sample of married migrants and matched controls in Sweden and Finland. Second, we restricted the sample to Finnish migrants married to either a fellow Finn or a native Swede and fit a series of Poisson regressions using individual-level data. We divided the group with Finnish spouses into those who were married before migration and those who married after migration to Sweden and analysed them for mortality, adjusting for age, income, education, having a child in Sweden, and the duration of the marriage (in tertiles).

Preliminary results

Finnish migrants in Sweden who had married a native Swede had higher education, were more likely to have children living in the household and had shorter duration of marriage compared to migrants married to a fellow Finn. Migrant women married to a native Swede also had higher household incomes compared to women married to a Finn.

For both migrant men and women, country of residence was a stronger determinant of mortality than spouse's country of birth, with migrants having mortality patterns in between those of native Swedes and Finns regardless of spouse's country of birth (Figure 1). However, Finnish migrant men who were married to a Swede had lower all-cause and CVD mortality, resembling more closely the Swedes than the Finns living in Finland. Finnish migrant women with Swedish husbands had higher smoking-related mortality, closer to that of native Swedish women.

Figure 2 shows results from an individual-level regression on Finnish migrants where we additionally adjusted for children in Sweden and duration of marriage. When adjusting for duration of marriage, we observed lower alcohol-related mortality among migrant men married to a native Swede. Longer marriage was associated with lower mortality, and marriages between two Finns were on average longer than those between a migrant and a native. We also observed a tendency that marriages between Finns that were formed before migration to Sweden were associated with mortality patterns that more closely resembled those in Finland (compare Figures 1 and 2), as compared to marriages that were formed after the migrants had moved to Sweden.

Conclusions

Intermarriage with a native can be associated with migrant mortality patterns that are closer to those of the native population in the country of destination. The findings indicate that behavioural patterns may be influenced by a partner early in the relationship and maintained thereafter, which may lead to migrants married to another migrant of the same origin having mortality patterns that resemble those of the population at the origin. The patterns of convergence, nevertheless, vary by gender and risk factor, and can be either beneficial for health – as was observed for Finnish migrant men in Sweden – or detrimental to health – as was seen for smoking-related mortality among women.

Figure 1. Incidence rate ratio for mortality by country of residence and spouse's country of birth among Swedes, Finns and Finnish migrants in Sweden in 2000—2017, adjusted for age, income and education.

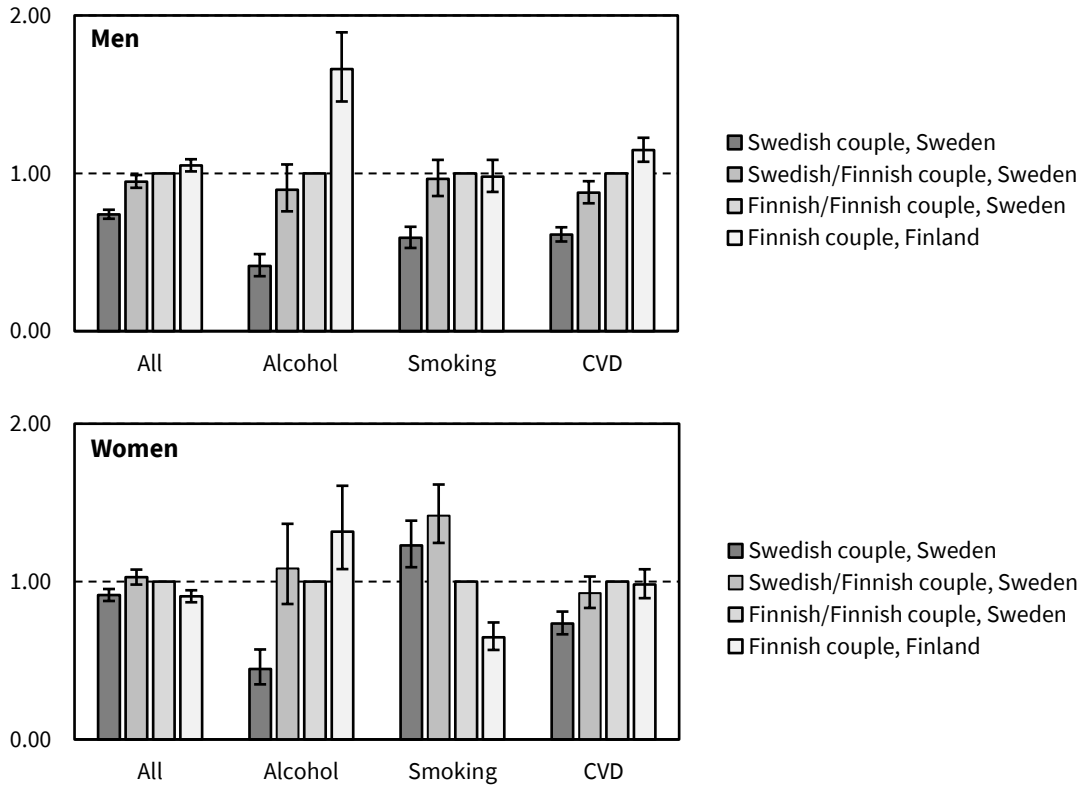
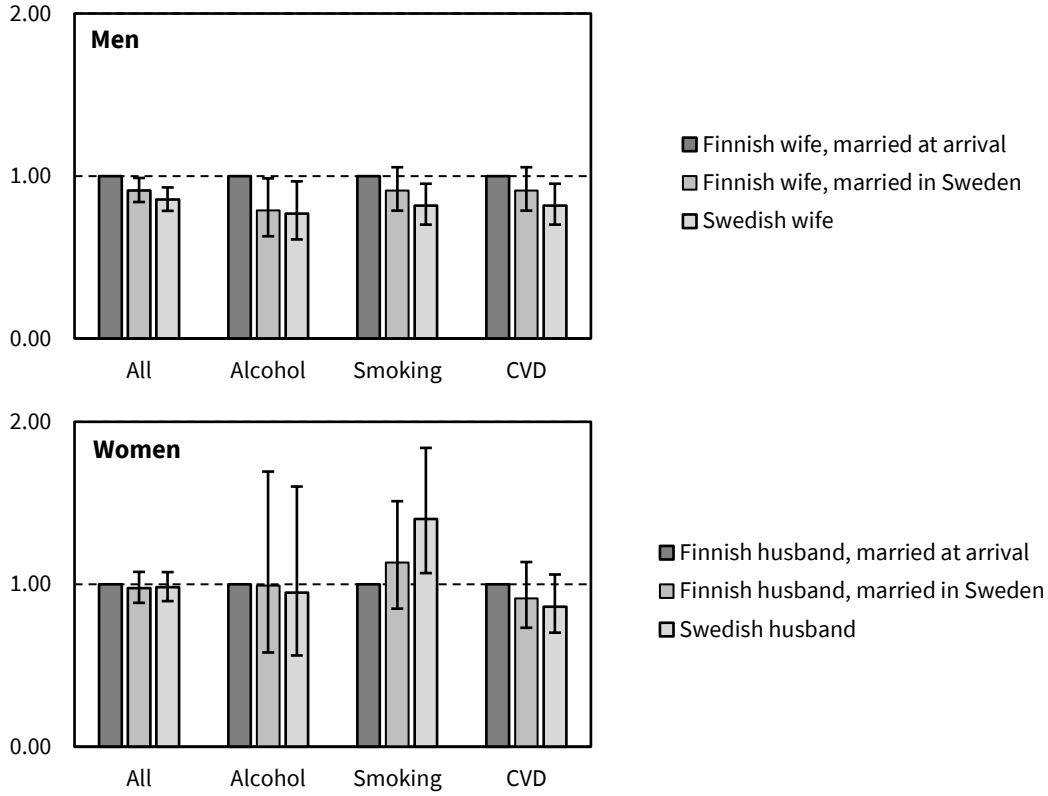


Figure 2. Incidence rate ratio for mortality by spouse's country of birth and if the couple was married at arrival, Finnish migrants in Sweden in 2000—2017, adjusted for age, income, education, children in Sweden and duration of marriage.



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