

# Partnership Status and Mortality across Migration Generations: Evidence from Sweden

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## Abstract

Partnered (i.e., married and cohabitant) individuals live longer than their unpartnered (never married, separated, and widowed) counterparts. This mortality advantage depends on selection and protection mechanisms and has been shown to vary across population subgroups – by age, sex, socioeconomic status, living arrangements. In this study, we investigate whether and how the mortality advantage of being partnered differs across migration generation – i.e., natives, first-generation (G1), and second-generation (G2) migrants – and area of origin. We do so by drawing on Swedish population register data for the years 2012-2022 and applying Gompertz hazard regression models to model all-cause mortality between ages 18-79. Our findings confirm a mortality advantage of partnered – particularly married – individuals relative to never-married, separated, and widowed individuals, across natives and migrant groups. For G1 migrants, the advantage against unpartnered groups is broadly lower, except for widowed G1 men, who face a greater mortality disadvantage relative to native widowers. Concerning G2 migrants, we find a larger mortality advantage against never married and separated men, while no differences in the extent of the advantage for women. Patterns are consistent when disaggregating groups by area of origin, with some notable exceptions for G1 migrants from Finland. We suggest that the heterogeneity in the magnitude of the mortality advantage stems from differences in the extent to which selection and protection mechanisms apply across migrant generations, as well as compositional differences by area of origin.

**Keywords:** partnership status; mortality; migration; second generations, Sweden.

## **Background**

Social relationships, and particularly intimate partnerships, are widely recognized as determinants of health and longevity (House et al., 1988). Married individuals exhibit higher life expectancy and better health compared to their unmarried counterparts (Hu & Goldman, 1990; Manzoli et al., 2007). This pattern depends on both selection mechanisms, which sort the healthiest individuals into marriage, and protection mechanisms, which directly benefit married individuals by improving their socioeconomic conditions, encouraging the regulation of health behaviors and lifestyles, and providing a reserve of emotional support and stress buffering (Kulu et al., 2024). Changes in family dynamics linked to Second Demographic Transition (Lesthaeghe, 2014) urge scholars to consider a wider range of partnership statuses when exploring heterogeneity in health and mortality outcomes. Recent studies have reported that partnered individuals (both married and cohabitants) tend to have lower mortality than their unpartnered peers (singles, divorced, and widowed) (Kulu et al., 2024).

The partnership status-mortality association varies across population subgroups (e.g., Lillard & Waite, 1995; Drefahl, 2012; Franke & Kulu, 2018). Unpacking this heterogeneity reveals how partnership patterns contribute to shaping overall mortality dynamics under evolving population composition and raises awareness towards groups whose health is particularly affected by the lack or loss of a partner. Despite being widely studied on the overall population, migration background remains understudied as a potential moderator of this relationship. Migrants often constitute a vulnerable population subgroup because they are disproportionately exposed to socioeconomic disadvantages, adverse life events, and discrimination. When it comes to mortality, however, G1 migrants live longer than natives, while the opposite holds for G2 migrants (Wallace & Wilson, 2019; Wallace, 2022). Migrants also display diverse patterns in partnership formation, which depend largely on the country of origin, destination, migration generation, and their level of integration (Hannemann et al., 2020).

## **Aim of the study**

This study investigates how partnership status and migration generation interplay to shape population mortality patterns in Sweden, a European country with an increasingly diverse population, large shares of first-generation (G1) and second generation (G2) migrants, and one of the forerunner countries of the Second Demographic Transition. Specifically, we explore whether and how the mortality advantage of living with a partner – married or cohabitant –

compared to being unpartnered – never married, separated, and widowed – changes across natives, G1, and G2 migrants.

## **Data, Research Design, and Methods**

We use a collection of Swedish administrative register data (*Ageing Well* project), which provide information on the entire population with legal residence in Sweden. Individuals are linked across multiple registers using administrative person numbers, pseudo-anonymized for research purposes. The study population comprises 4,468,523 men and 4,329,271 women.

Our study includes all individuals aged 18-79 who have ever lived in Sweden between 1 January 2012 and 31 December 2022. Individuals enter the study on 1 January 2012, on their eighteenth birthday, or the date of first immigration, whichever comes first. They are then followed up until death and right-censored either on 31 December 2022, their eightieth birthday, or the date of first emigration, whichever comes first. We restrict the analysis to the age range 18-79 because left-truncation in parental country of birth does not allow to properly distinguish natives and G2 migrants in older cohorts. The study outcome is *all-cause mortality* between ages 18-79, with information on the date of death retrieved from the Cause of Death Register. The main explanatory variables are partnership status (married, cohabitant, never-married, separated, widowed) and migration generation (natives, G1 migrants, G2 migrants). We include parenthood status, personal disposable income quartiles, and period as time-varying control variables. In a second step, we also investigate this interplay by disaggregating migrant groups by are of origin (not shown in this abstract).

We use survival analysis to analyze mortality differences by partnership status and migration generation. We estimate proportional hazards regression models with age in days as the timescale and a baseline hazard assumed to follow a Gompertz distribution, a specification commonly used for modelling adult mortality. To explore heterogeneity in the mortality advantage, we estimate models with interactions between partnership status and migrant generation alongside control variables.

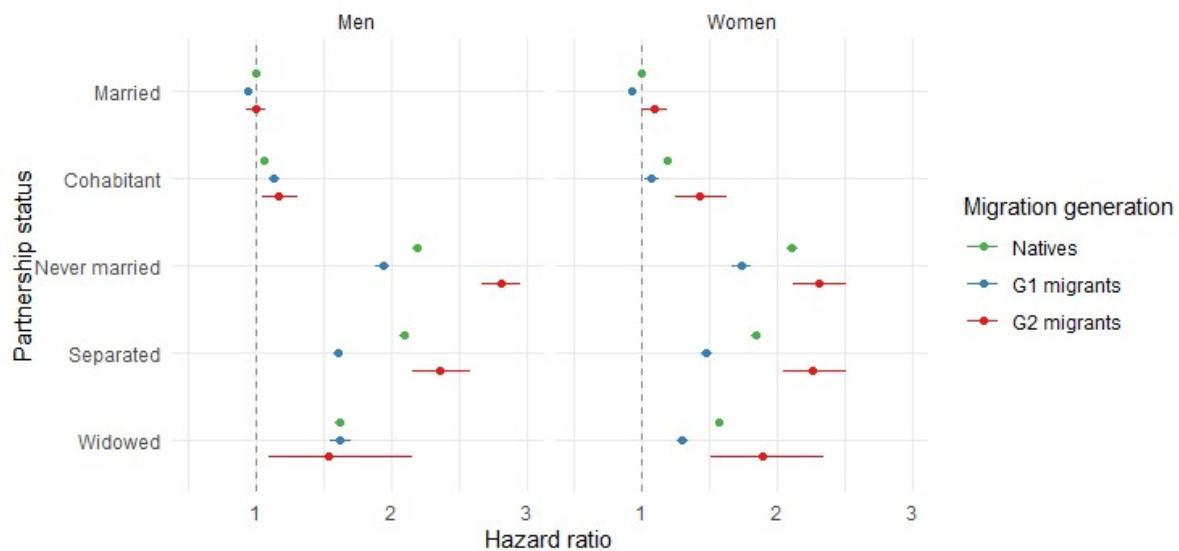
## **Results and Discussion**

Results on the differences in the intensities of the mortality advantage are summarized in Figure 1, showing the HRs for combination of partnership status and migration generation and married natives as reference category. Mortality differentials by partnership status are consistent across migration generations; never married, separated, and widowed experience higher mortality

compared to the married and, to a lesser extent, to cohabitants. Within the groups experiencing a large mortality disadvantage – never married, separated, and widowed – mortality for G1 migrant men and women is systematically lower than for natives, with widowed men representing the only exception. For G2 migrants, instead, never married and separated men show higher mortality than their native counterparts. Among women, we also find slightly higher mortality G2 migrant unpartnered groups, but also a higher mortality among married and cohabitants G2s.

These findings are compatible with multiple, potentially coexisting explanations. Two broad families of mechanisms can be at play. First, selection mechanisms – including the healthy migrant effect and selective return migration – plausibly explain the small marriage advantage for most G1 migrants. While the latter are, on average, positively selected on health, unpartnered G1s – especially never married – may be particularly health-selected (Trovato, 1998). For example, unpartnered migrants may value more personal health in migration decisions or may leave when health worsens. Second, protection mechanisms – such as economic pooling, behavioral regulation, and social/emotional support – likely amplify the benefits of partnership for groups whose baseline vulnerability is high. This may help explain the relatively larger marriage advantage among G2 men: G2 men experience higher mortality from external causes such as injuries, substance use, suicide (Wallace, 2022), outcomes that are plausibly sensitive to behavioral regulation and immediate social support provided by a partner (Umberson, 1992; Burgoa, 1998). The particularly large disadvantage of widowed G1 men, instead, suggests that partner loss may be especially costly in a migrant context, where weaker extended familial supports or social capital may foster feelings of isolation and behavioral deregulation.

**Figure 1.** Hazard ratios (HRs) for all-cause mortality between ages 18-79 in Sweden by partnership status, migration generation, and sex from Gompertz hazard regression models.



Note: Own elaborations. Models are adjusted by disposable income quartiles, parenthood status, and period.

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