

# Evolution of widowhood expectancy in Finland and its inequalities

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## Introduction

Over the past decades, societies have witnessed profound demographic changes worldwide, such as remarkable increases in life expectancy<sup>1</sup> and evolving trends in marriage and partnership dynamics<sup>2</sup>. Women and men can enjoy today longer lives than in the past<sup>3</sup>, including survival through older ages<sup>4,5</sup>, and, together with a stark decrease in fertility, populations' age structures have been affected by a rapid process of population ageing<sup>6</sup>. The demographic stretch<sup>7,8</sup> and the second demographic transition<sup>2</sup> have had extensive impacts on the timing and experience of life-course events, among others, on the age at which individuals eventually choose to marry and enter cohabiting unions. Additionally, it has become increasingly prevalent for marriages to end in divorce, and further accompanied by a surge in re-partnering and cohabitation outside the bounds of traditional marriage<sup>2,9–12</sup>. Importantly, these patterns extend into older ages<sup>13–15</sup>. Nevertheless, in older ages, most partnerships end with the death of the partner, exposing many older individuals to widowhood.

Recent demographic changes have fundamentally altered the likelihood of specific partnership transitions and how time is spent within different partnership statuses. Population ageing has increased not only the number and share of older individuals<sup>16</sup>, but also the number of those who experience widowhood, despite of the increase in separations<sup>17</sup>. However, despite this expansion and the striking relevance of widowhood over a wide range of domains (such as individual health and mortality and economic conditions<sup>18,19</sup>) the current body of literature still lacks a comprehensive understanding of the demography of widowhood, including the risks and duration of this life stage, its time trends and differential risks between population subgroups. In the demographic literature it is well-known that women live longer than men<sup>20,21</sup> and are thus more exposed to widowhood during their lifetime, and that there are stark differences by socioeconomic status in mortality<sup>22</sup> and partnership dynamics<sup>23</sup>, which imply important gender and social differences also in the risk and duration of widowhood.

Multiple factors contribute to changes in the experience of widowhood, both over time and among population subgroups. For example, larger declines in men's mortality relative to that of women may contribute to a postponement and thereby shorter duration of widowhood for women. However, it is less clear how mortality trends affected the risk and duration of widowhood for men. Furthermore, the growing number of unions ending in divorce or separation may reduce the likelihood of ever experiencing the death of a partner. Changes in re-partnering patterns may also have affected the experience of widowhood since re-partnering might either expose individuals to new events of widowhood or decrease the time individuals spend in widowhood once having lost a partner. Finally, changes in the age gap between partners<sup>24</sup> can either increase or decrease the probability of becoming widowed, and an eventual change in the age gap must be considered. In terms of gender differences, women are likely to live more years in widowhood than men. This is mainly driven by lower mortality among women than men. Men have, instead, a higher probability of separation from a partnership and

of re-partnering after widowhood, while women partner younger than men, increasing their risk and duration of widowhood.

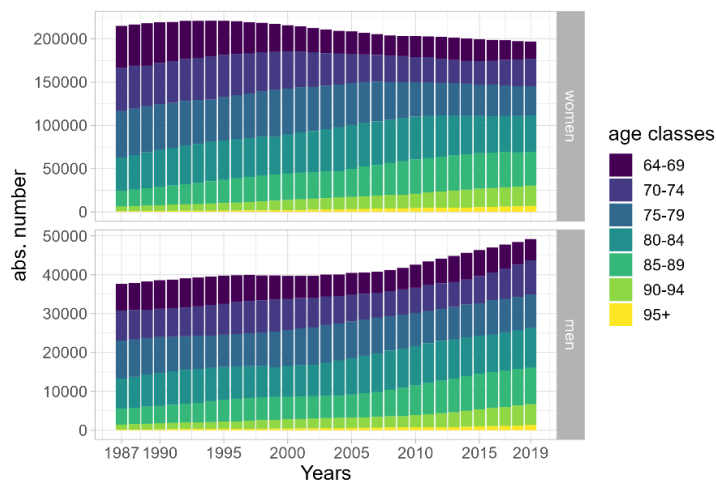
### **Objectives, data, and methods**

We analyse trends in widowhood lifespan at older ages over the last decades and its gender and educational differences. We analyse all individuals aged 65 and older residing in Finland in the last 30 years (1987 to 2019), using data drawn from the Statistics Finland population register. We classify individuals by their partnership status at each age and year. Individuals can be identified as: partnered (married, in a registered partnership, or in a cohabiting union), unpartnered (divorced, separated and never married individuals who did not live with a partner), widowed (individuals whose previous spouse/partner had died during marriage, registered partnership, or cohabiting partnership), or dead. Because cohabiting unions have become increasingly common, the term “widowhood” here refers to the death of a spouse/partner in all kinds of unions, that is marriage, registered partnership, and cohabiting union. We treat widowhood as a transient state, so that we consider widowhood to end at re-partnering. Using discrete-time event history models, we estimate transition probabilities among the states and use them to compute period incidence-based multistate lifetables. We use multistate models to compute several metrics of interest, including: the average number of years spent in widowhood (widowhood expectancy), lifetime risk, and mean age at first entry in widowhood. We further plan to use multistate decomposition techniques to identify the extent to which the observed changes in widowhood expectancy (over time and among genders) are attributable to different forces, including: the probability of becoming widowed (partner’s mortality), own mortality while being widowed, probability of separation, probability of re-partnering after widowhood, and the age difference between partners.

### **Preliminary results**

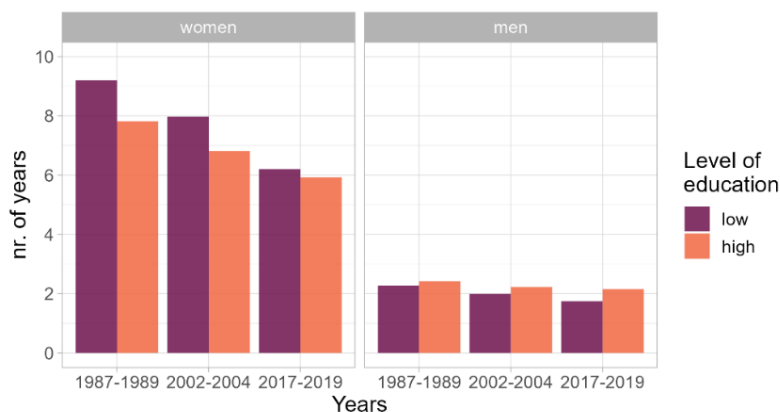
Over the past three decades (1987-2019), changes in mortality, partnership dynamics, and age structure have been mirrored in the changing number of widowed individuals. As illustrated in Figure 1, there has been a decrease in the absolute number of widowed women, particularly in younger age groups (64-79 years), alongside an increase for older women (80+ years). There is an overall upward trend in the number of widowed men, primarily among older ages, while younger age groups display a relatively stable or slightly declining trend. In 2019, the overall number of widowed women was approximately four times higher than that of men.

Figure 2 shows the average number of years spent in widowhood at age 65 for Finnish women and men, by level of education. Throughout the study period, women can expect to live more years in widowhood as compared to men. In fact, in 1988, women at age 65 had a life expectancy of around 17 years of which around 8 years were spent widowhood. In contrast, men, with a life expectancy of 13.5 years, lived around 2 years in widowhood. Over time, there has been a decline in widowhood expectancy for women, reaching around 6 years in 2018, while the value remained around 2 years for men. When examining educational inequalities, less-educated women spent more years in widowhood than highly educated, whereas the pattern was the opposite for men. The educational gap for men was smaller than that of women, but increasing over time, reaching around half a year in 2018. The gap by



**Figure 1.** Absolute numbers of widows by gender and age classes in Finland from 1987 to 2019, tabulated from the Finnish Population Register.

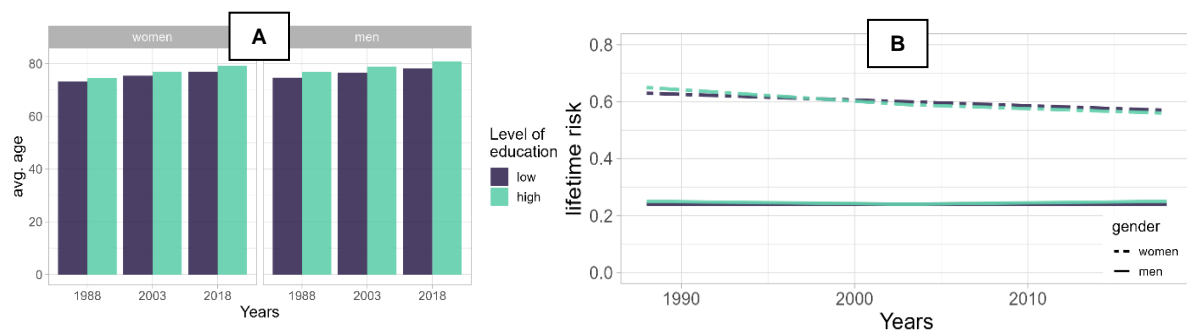
level of education for women is wider but decreasing over time from over one year in 1988 to less than half a year in 2018. This gap was similar to that observed for men in 2018 but with the opposite sign. The wider educational gap for women (whereby the better educated have fewer years of widowhood) compared to that of men in the earlier years can be explained by the substantial socioeconomic gradient in men's mortality, exposing low-educated women, in particular, to widowhood. Additionally, the gender gap in mortality is larger for lower than for higher educated<sup>25</sup>. Further results then include the decomposition of widowhood expectancy changes over time by gender and level of education.



**Figure 2** Life expectancy at age 65 in the state of widowhood for Finnish women and men, by level of education, and its evolution over time (respectively, the expectancy for three period years is shown to depict the overall trend of the last three decades).

Figure 3 illustrates the mean age of entry into widowhood (Panel A) and lifetime risk (Panel B) for women and men, conditional on being partnered at age 65. From 1988 to 2018, Finnish women experienced a rise in the mean age at widowhood, increasing from age 74.6 to 79.2 (approximately 4.5 years) for highly educated women and from age 73.2 to 77 (almost 4 years) for low-educated women. Concurrently, the lifetime risk of widowhood decreased from 65% to 56% among highly educated women and from 63% to 57% for low-educated women. In contrast, partnered men experienced a lower lifetime risk compared to women and a higher average onset age of widowhood. Men's lifetime risk remained stable at around 24% and 25% for low and highly educated groups, respectively, during the

study period. Regarding the mean age of becoming widowed, men exhibited a slightly slower increase than women, from age 76.9 to 80.8 (approximately a 4-year increase) for highly educated and from age 74.7 to 78.2 (nearly 3.5 years) for low-educated. The gender gap in the average age of becoming widowed was greater for highly educated but decreased over the years for both educational groups. Within the highly educated group, the gender difference reduced from 2.3 years in 1988 to 1.6 years in 2018, while for the low-educated group it decreased from 1.5 years to 1.2, respectively. The gender gap in the lifetime risk of widowhood for partnered men and women was similar across the two educational groups and declined over time from approximately a 40%-point difference in 1988 to a 32%-point difference in 2018.



**Figure 3.** Average age at onset of widowhood (A) and lifetime risk (B) and for partnered women and men at age 65 and over, by level of education.

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