

Experiencing death in the European family.

Antoine PIERRARD, Université Catholique de Louvain, Belgium

Abstract

Death has been studied by demographers mainly from a macro point of view, through rates, probabilities and life tables, depicting the mortality of a given period or cohort. As researchers pointed out, death may also be approached from the point of view of the survivors, and death of a family member be considered as an event in itself (Monnier & Pennec, 2004). Previous researches have shown that the rise of life expectancy has postponed the experience of death of family members from one survivor's point of view (Monnier & Pennec, 2004 ; Uhlenberg, 1980). As a result, individuals from younger cohorts spend more time with their surviving kin than did their ancestors, know more of their ascending kin, but will have to mourn more family members than before.

The present paper proposes to pursue this line of works by comparing how the experience of family members' death has evolved in cohorts born from 1850 to 2000 in European countries (France, Netherlands, Switzerland, England & Wales and Sweden). It focuses on the timing of deaths cohorts have been (or will be) confronted to and how it shapes the joint survival of individuals with their kin. Ages at family member's death are estimated for every type of kin (mother, father, children, etc.) or for kin sets as a whole (ascending, descending, lateral, nuclear family, etc.), as well as total number of deaths encountered during the life course. Our results show that the experience of death in younger cohorts is not always higher than in older ones, a finding that is not suggested by previous researches.

Data & Methods

The data comes from the microsimulation of individual biographies using a model built on *R*. Starting from a base population reproducing the one of 1850 and progressively submitting each individual to mortality and fertility risks, one can gradually simulate the biography of individuals. By keeping the information on kin ties, the microsimulation model allows to reconstruct entire kin networks and therefore analyze the deaths that occur inside of them.

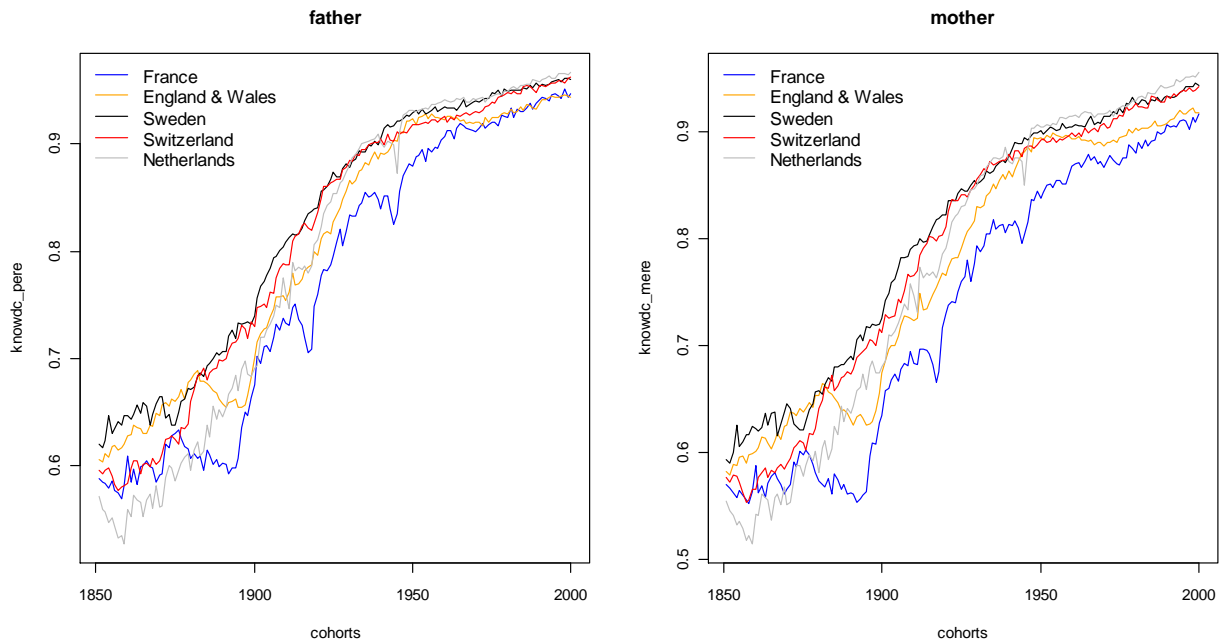
To run the simulations, prospective mortality risks and fertility rates are needed. The mortality data comes from the Human Mortality database. The fertility rates come mainly from the Human Fertility Database, and may sometimes be completed with historical estimates. As the results are sensitive to maternal histories, parity-specific fertility rates will be estimated using a model presented elsewhere (Pierrard, Zegarra & Rizzi, 2013).

The fertility and mortality experience of cohorts not extinguished in 2010 will be completed by forecasting future demographics until 2100 (using the Lee-Carter method, constant scenario or other forecast producers estimations). At the end, the microsimulated data will enable to analyze complete biographies of cohorts born from 1850 to 2000.

Preliminary results

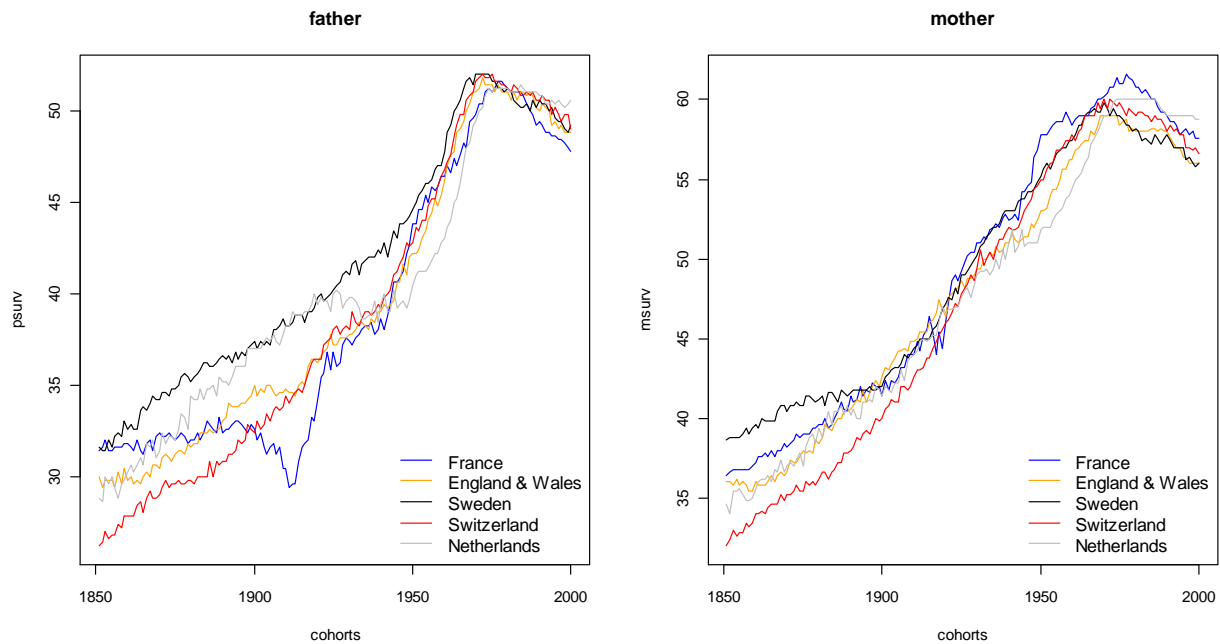
When life expectancy rises so does the proportions of cohorts who experience parental death (figure1). Around 60% of a cohort born in the mid 19th century had to bury its father and little less, between 55 and 60%, its mother. For younger cohorts, these proportions now rise to almost 95% for both parents, meaning that surviving its parents, and therefore having to bury both of them, has become a common experience.

Figure 1 – Proportion of cohorts who experience parental death, 1850-2000



Parents also die when individuals reach older ages than before. The median lifetime spent with a living father was around 30 years for cohorts born second half of the 19th century. For younger cohorts, it is a little lower than 50 years. Higher female life expectancy translates in slightly higher median lifetimes with surviving mothers: from an average of 35 in older cohorts to about 57 in the youngest. One can note the tendency has not been totally linear and is sensitively affected by mortality and fertility trends. In France, for instance, the rise starts after World War I for surviving father, which is not the case for surviving mother. The general rise in mean age at parenthood in the seventies produces downward tendencies in younger cohorts. Both survival with father and mother decreased in these cohorts, meaning the progresses in mortality cannot counterbalance the rise of the age of parents.

Figure 2 – Median lifetimes with parents alive, 1850-2000



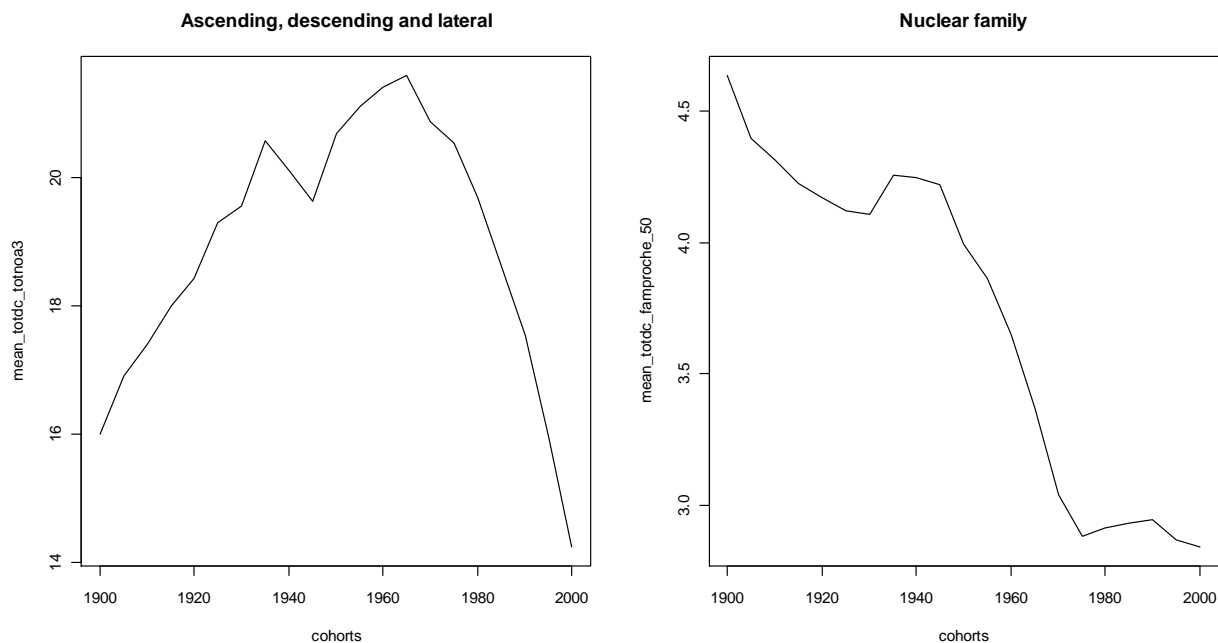
This rise in the experience of parental death is also observed for older kin, such as grand-parents and great grand-parents. With the rise in life expectancy, cohorts have progressively more ancestors alive at the time of their birth, which combined with lower mortality submit cohorts to a higher number of ancestors death (figure not shown).

The total number of deaths that occurs in the family network of individuals shows surprising results¹. Counter-intuitively, if the number of deaths in the whole family² has progressively risen, it has now started to decline, due to lower fertility and consequently lower probabilities of knowing death of lateral or descending kin. According to our results, younger cohorts will experience on average less deaths than did their ancestors. The results holds when looking at closer kin only, such as the nuclear family (parents, sibship and children) for which the tendency to lower experience of death is even more obvious.

¹ Figures presented below are for The Netherlands only, and based on fertility data by order of birth. Comparative results with the other countries will be included in the paper.

² Including ascending (parents, grand-parents), descending (children, grandchildren and great-grandchildren) and lateral (brothers/sisters, uncles/aunts, cousins).

**Figure 3 – Mean number of death experienced by cohorts, 1850 – 2000
in the whole extended family (left) and close nuclear family (right)**



Further improvements

The results quickly presented in this abstract are expected to be improved in many ways. We plan to explore several mortality and fertility assumptions in order to test the sensitivity of our findings. More detailed analysis shall also be presented, such as gender difference, age perspective or period description. We may also include more countries as the final outcome of this research is to provide a contrasted panorama of the transformation in the experience of death in Europe.

References

- Pierrard, A., Zegarra, G. & Rizzi, E. (2013). *Modeling fertility by order of birth*. Poster presented at the IUSSP International Population Conference, Busan.
- Monnier, A., & Pennec, S. (2004). L'expérience de la mort : une approche démographique. In G. Caselli, J. Vallin & G. Wunsch (Eds.), *Démographie. Analyse et synthèse. Tome VI*. Paris: Ined.
- Uhlenberg, P. (1980). Death and the Family. *Journal of family history*, 5(3), 313-320.