

More information relating to the Lifespan Inequalities Research Group, the open positions, and life in Rostock, Germany

The LIFEINEQ research group

The project is headed by [Alyson van Raalte](#), and postdocs [Rosie Seaman](#) and [Marília Nepomuceno](#) have recently joined the group. We are currently searching for 1-2 PhD students, to work either full-time, or for partial stays of six months to one year.

The LIFEINEQ research project

The LIFEINEQ project is funded by a 5-year (July 2017-June 2022), 1.478 million EUR Starting Grant from the European Research Council.

Inequalities are generally measured by comparing averages of predefined groups or national populations. For instance the highest educated groups live around 4-12 years longer than the lowest educated groups in Europe (van Raalte et al. 2011), and have death rates that are 2 to 4 times lower (Mackenbach et al. 2008). Using averages, however, overlooks important disparities that happen *within* groups. In 2012, period life expectancy was 82 years in France. Still, with these death rates, 22 percent of the population would have died before age 75 and 32 percent would have lived beyond age 90, irrespective of social standing. Uncertainty in the expected timing of death is substantial.

This matters for individuals. If retirement savings are planned to an average age at death of 82, by the time the lucky 32 percent of the population live beyond age 90, savings are considerably depleted. On the other hand, those who die before their expected age at death are robbed of time spent with family and friends, and of being able to enjoy the benefits of their hard-earned savings. Societies also suffer from inequality. Public investments in training and education increase in value when individuals survive through working ages. It is easier to plan institutional care for the coming 'grey tsunami' when ages at death are better predicted.

The LIFEINEQ project proposes a better way to measure inequality, one that complements life expectancy. Lifespan inequality is a measure of differences in ages at death within groups. It can be measured in a number of ways, including the standard deviation, the Gini coefficient, and the life disparity of ages at death.

Figure 1 tracks the development of longevity trends in Finland by occupational group. The left panel shows life expectancy and the right panel displays the standard deviation in ages at death. The two are obviously complementary. On the left each point depicts how long the occupational group lives on average, on the right, the variation or inequality around these averages—the higher the more inequality. As this example demonstrates, life expectancy and lifespan inequality are measuring distinct phenomenon and can move independently of one another. Life expectancy increased for all occupational groups and differences between groups widened only marginally. Lifespan inequality, on the other hand diverged sharply over the period. Altogether differences between occupational groups in the standard deviation increased from 0.7 to 2.3 years over the 40 years. If these dynamics are found elsewhere it could have profound societal implications—upper SES groups manage increasingly certain, longer lives while lower SES groups face both a shorter life and greater uncertainty about the timing of death—a double burden of inequality.

To date, lifespan inequality is rarely discussed or tracked by population health experts. As individuals are surviving to increasingly higher ages, a crucial and timely question for policymakers is whether to direct limited resources toward future life expectancy increases or toward reductions of inequalities in longevity. In order to formulate effective policies to reduce lifespan inequality, we need a deeper understanding of the magnitude and causes of divergent age patterns of mortality decline. LIFEINEQ will fill these gaps by undertaking a comprehensive inquiry into the development and persistence of lifespan inequality between countries and socioeconomic groups.

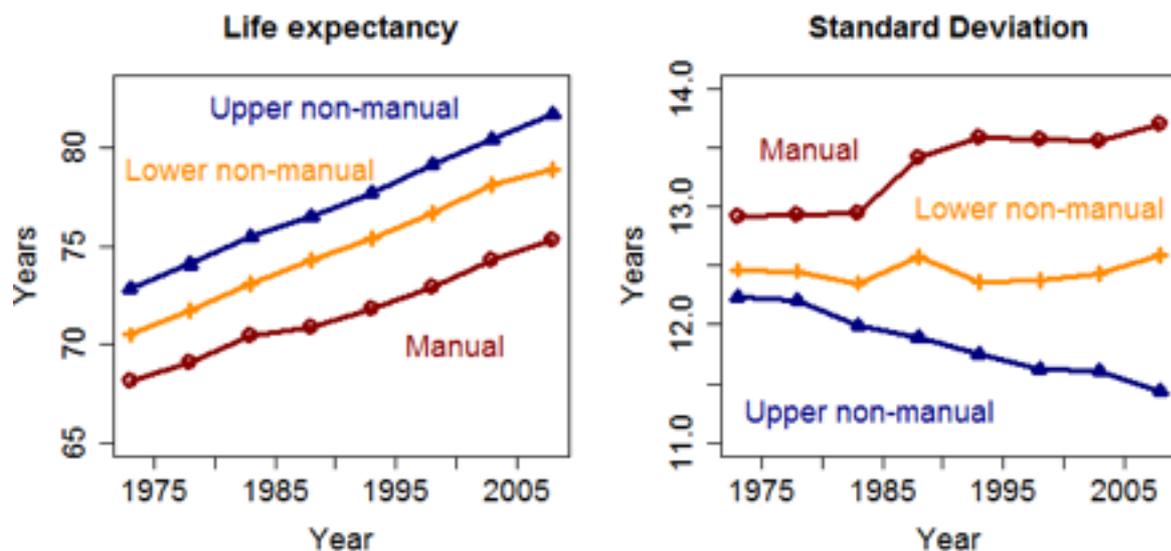


Figure 1: Trends in life expectancy and lifespan variation measured by standard deviation, both conditional upon survival to age 31, for Finnish male occupational social classes. Own calculations based on data from van Raalte et al. (2014).

Specifically LIFEINEQ has four main objectives:

1. To track and forecast the relationship between life expectancy and lifespan inequality in national populations,
2. To determine the ages and causes of death that drive outlying age patterns of mortality,
3. To analyze the development of lifespan inequality by socioeconomic groups, and
4. To assess the impact of individual differences in behaviour on lifespan inequality.

All projects have the potential to uncover novel results with important policy implications. The first objective is descriptive and addresses the degree to which we need to worry about lifespan inequality. The second and third objectives address *how* populations and socioeconomic groups differ in lifespan inequality--this comparative perspective allows us to identify best practices in reducing inequalities across populations. The fourth objective identifies causal reasons that populations differ in lifespan inequality.

The open PhD positions

The exact topic of the PhD is flexible, but preference would be given to candidates interested in one or more of the following topics: (1) the development of different age patterns of mortality within socioeconomic groups and how these relate to inequalities between socioeconomic groups, (2) determining the impact of behavior (good and bad) on past, present and future age patterns of mortality, (3) modeling and forecasting how the death density is changing with respect to the mean, variance, skewness and kurtosis, (4) cohort age patterns of mortality and cohort lifespan inequality.

The MPIDR is not a degree-granting institution. The PhD degree will be awarded by a partnering university, generally the co-supervisor of the PhD student. This can be settled after accepting the position, depending on the interest and topic of the PhD student. The LIFEINEQ group has strong ties to the public health department at Erasmus MC, the sociology department at the University of Helsinki, and the demography department at the University of Rostock. Other arrangements could be made possible as well. Full-time PhD students will spend the bulk of their time here in Rostock with a few short stays at the partner university. The selected candidate(s) will be given the opportunity to participate in international PhD training networks within the fields of Demography and Population Health, which may involve stays at other institutes.

The salary is paid according to the German pay scale TvÖD 13, 50% (up to level 2; usually starting at level 1). This is normally around 1250 EUR/month but may differ depending on experience and tax class. A Christmas bonus (45% of gross salary) is given in November. Public health insurance is deducted from the gross salary and is comprehensive. Travel costs to present research findings at selected important international conferences are covered.

About the MPIDR, Rostock and life in Germany

The MPIDR is a leading institute specialized in demography. It is international and interdisciplinary. As of summer 2017 we have around 50 researchers from 20 countries (top 3 nationalities are German, American, and Italian), from fields including demography, sociology, epidemiology, statistics, economics, and biology. The majority are PhD students and postdocs. The working language is English. The institute's top 5 publication outlets January 2016 - July 2017 are (numbers in brackets): Demography (10), Demographic Research (6), European Journal of Public Health (4), European Journal of Population (4), and Social Science and Medicine (4).

Researchers at the MPIDR are split into a number of research groups and labs. In practice, research interests overlap and there is substantial collaboration across research groups. The LIFEINEQ group works closely with the Population Health and Demographic Data laboratories and the Gender Gaps in Health and Survival research group.

There are opportunities for further education through our [International Advanced Studies in Demography](#) program, which runs short courses on cutting edge quantitative techniques. The topics are generally chosen depending on the wishes of current PhD students and postdocs.

Rostock is a small university city of about 200 000 people on the Baltic Sea coast. The institute overlooks the Warnow river, and a beautiful white sand beach (Warnemuende) is only a 20-minute train ride or 30-minute cycle away. Admittedly the water is cold, but swimming is possible in summer. Hamburg and Berlin are the closest big cities, each around

200 km away, with trains connections running nearly every hour. A single bedroom apartment (~40m²) in a nice area in Rostock rents for around 450-600 EUR per month including utilities.¹ Younger Rostock residents, particularly university students, tend to speak English well however older residents struggle. Learning German while here makes life in the city easier, but is not strictly necessary for completing a PhD.

German parental leave includes up to around 15.5 months partial salary replacement if shared between partners (minimum 2 months each). For mothers full pay is received for the 'mother protection period' (around 6 weeks before the birth and 8 weeks after the birth). The remaining 12 months (10 months if only taken by one partner) are paid at around 2/3 salary and can be split or overlapped in any way between the partners. Child allowances are nearly 200 EUR per child per month. Full-time child care costs around 200-350 EUR per child monthly depending on the age of the child and type of day care. Fertility treatment including up to 3 rounds of IVF are partially or near-fully covered by many public health insurance providers.

¹ Examples of current vacancies in walking distance to the institute can be found here (in German). "Kaltmiete" is rent before utilities and extra costs (heating, water, garbage collection, etc.). "Warmmiete" includes these costs but excludes electricity and phone/internet. https://www.immobilienscout24.de/Suche/S-T/Wohnung-Miete/Mecklenburg-Vorpommern/Rostock/Gartenstadt_Kroepeliner-Tor-Vorstadt_Hansaviertel_Stadtmitte/-/30,00-50,00?enteredFrom=result_list

The institute also has guest apartments which can be rented for the first few months while searching for an apartment.