

Health dynamics of older populations across four continents

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Abstract

Nowadays, life expectancy is increasing particularly in mid and high income countries, which goes along with increased shares of older populations. Therefore the health status of those populations and their determinants are a broadly discussed issue especially as good health enhances quality of life.

Prior work has shown that health status does not only depend on biological factors such as age and sex, but also on behavioral risk factors and socio-demographic factors, e.g. marital status and education. The main purpose of this study is to show and analyze the trajectories of health from an international perspective. Here, the determinants of disabilities and bad self-rated health are investigated using comparable ageing surveys (e.g. CRELES, ELSA, HRS, SHARE, and SAGE). Moreover, we analyze determinants of objective health measures (e.g. hand-grip strength, walking speed, and BMI) and affective functioning.

Preliminary results show remarkable differences between and within countries across Africa, Asia, America, and Europe. For instance, investigating hand-grip strength, which co-varies with measures of general health, German men appear to be the strongest with 46kg on average, while Indians reach only about 29kg on average. Looking at chronic diseases, in 2010 the United States turns out to have the unhealthiest population aged 50+ with about 74% reporting at least one chronic disease, whereas only 42% Swiss aged 50+ report at least one chronic disease. Interestingly, following elderlies in the United States between 1995 and 2010, an increase in upper and lower body limitations can be identified.

Introduction

motivation

- increases in life expectancy in mid and high income countries
- increased shares of older population
- unhealthy elderlies a potential societal burden?

contribution

- age trajectories of several health measures
- considering objective and subjective health measures
- health status of 50+ population across countries
- health status of 50+ population across cohorts

Data & Variables

survey data

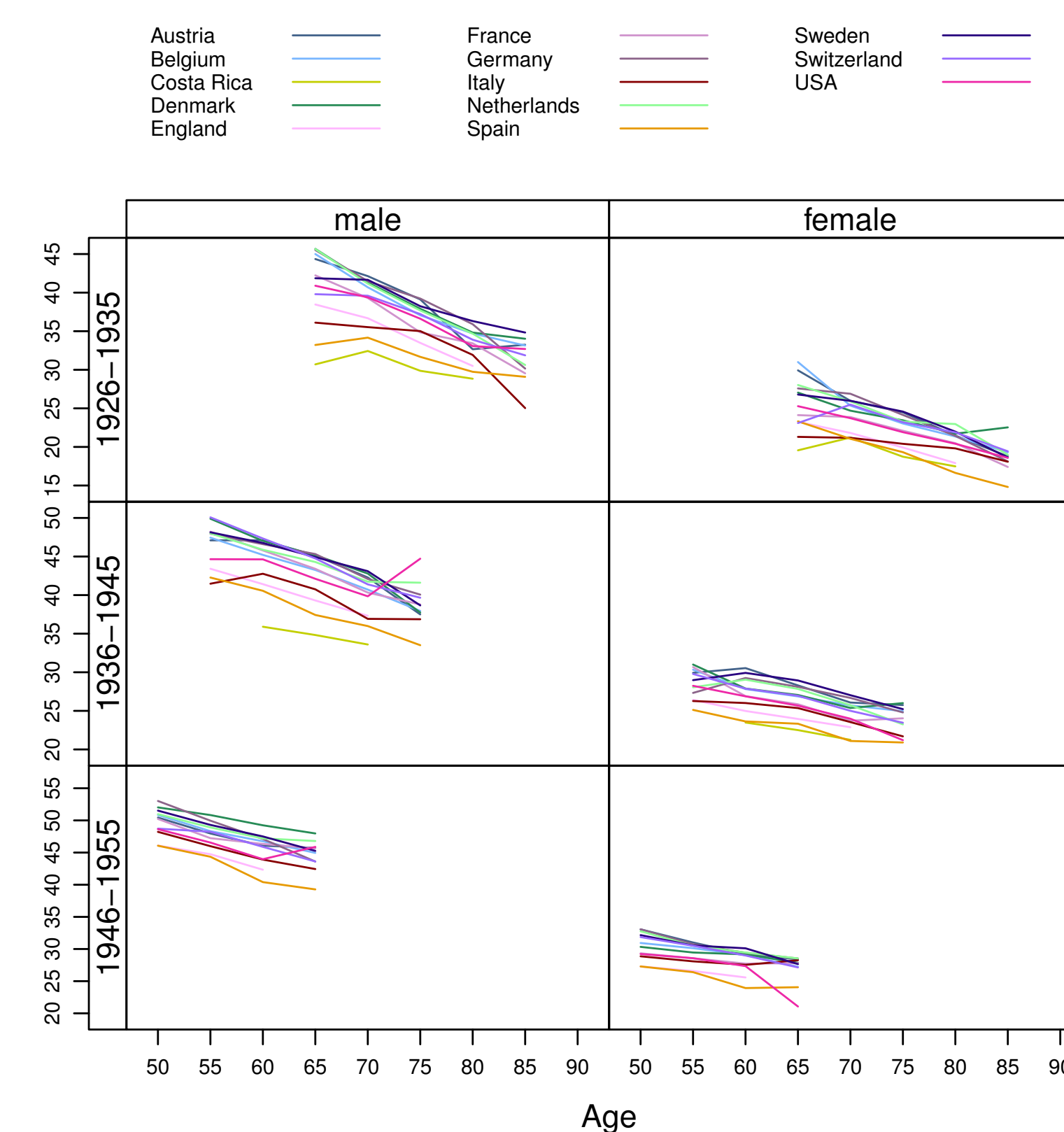
- Costa Rican Longevity and Healthy Aging Study (CRELES)
- English Longitudinal Study of Ageing (ELSA)
- Health and Retirement Study (HRS)
- Study on global AGEing and adult health (SAGE)
- Survey of Health, Ageing and Retirement in Europe (SHARE)

measures of health

- ADL, IADL
- body limitations: upper and lower
- diseases: arthritis, cancer, diabetes, heart disease, hypertension, lung, stroke
- self-rated health
- biomarkers: hand-grip strength, walking speed
- depressive symptoms

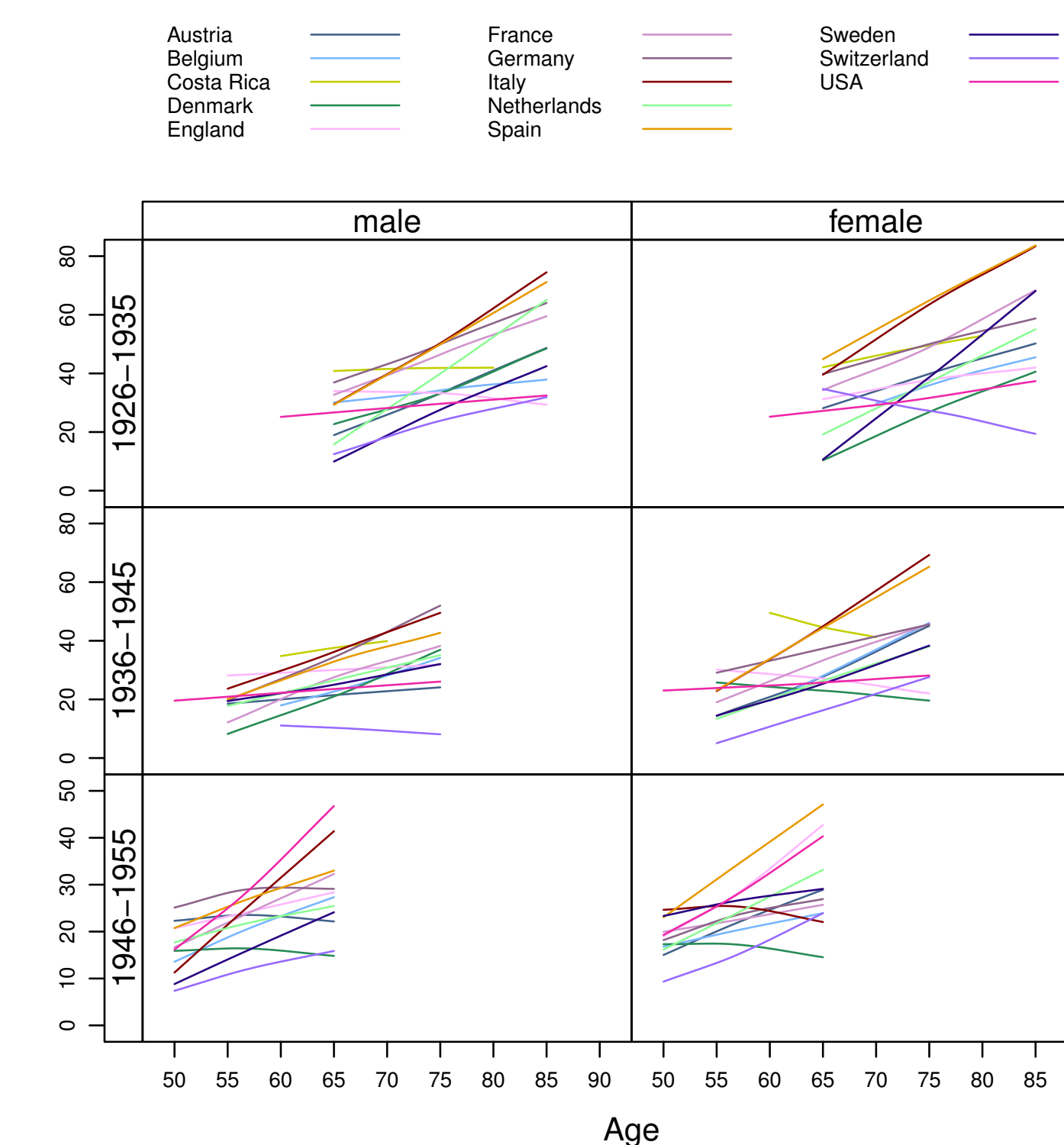
Descriptive Results

hand-grip strength



- northern European countries among top performers, whereas Spain and Costa Rica at bottom end for both sexes across cohorts
- 1946-55 born male Italians aged 56 and 1926-35 born northern European men aged 65 on average same hand-grip strength

self-rated health - bad health



- age trajectories vary across cohorts and countries
- cultural differences

International Perspective

Men born 1936-1945 aged 65-70

| country | ADL up. | body low. | body diseases | depressive | |
|----------------|--------------|--------------|---------------|--------------|--------------|
| Austria | 8.70 | 20.30 | 35.10 | 5.90 | 13.50 |
| Belgium | 10.30 | 16.50 | 32.70 | 6.30 | 18.60 |
| China | 1.50 | 5.70 | 5.50 | 4.10 | |
| Costa Rica | 33.50 | 21.20 | 38.60 | 9.30 | 4.90 |
| Czech Republic | 6.50 | 16.80 | 28.10 | 9.70 | 16.00 |
| Denmark | 8.00 | 11.00 | 26.20 | 6.60 | 12.90 |
| England | 18.90 | 22.60 | 39.80 | 11.90 | 21.80 |
| Estonia | 14.10 | 24.00 | 38.00 | 12.10 | 32.70 |
| France | 10.10 | 16.40 | 28.90 | 6.60 | 22.30 |
| Germany | 10.80 | 19.20 | 39.10 | 7.80 | 15.60 |
| Ghana | 5.80 | 20.40 | 21.20 | 1.10 | |
| Greece | 5.00 | 13.00 | 30.60 | 4.60 | 10.70 |
| Hungary | 12.70 | 25.60 | 43.10 | 19.40 | 31.90 |
| India | 8.40 | 18.20 | 28.00 | 3.70 | |
| Italy | 7.70 | 17.60 | 32.30 | 8.80 | 22.40 |
| Mexico | 11.10 | 16.50 | 16.70 | 1.30 | |
| Netherlands | 5.80 | 14.00 | 24.50 | 4.00 | 13.80 |
| Poland | 16.40 | 31.70 | 38.50 | 11.20 | 33.70 |
| Portugal | 9.60 | 20.40 | 30.70 | 6.20 | 23.00 |
| Russia | 7.60 | 9.60 | 17.00 | 20.90 | |
| Slovenia | 9.70 | 29.20 | 40.20 | 6.80 | 17.30 |
| South Africa | 6.80 | 12.20 | 22.20 | 3.90 | |
| Spain | 9.30 | 21.50 | 29.60 | 7.20 | 20.00 |
| Sweden | 8.30 | 11.70 | 29.40 | 5.90 | 13.00 |
| Switzerland | 5.20 | 9.40 | 22.50 | 3.80 | 12.00 |
| USA | 12.80 | 25.80 | 50.30 | 24.90 | 11.70 |

Women born 1936-1945 aged 65-70

| country | ADL up. | body low. | body diseases | depressive | |
|----------------|--------------|--------------|---------------|--------------|--------------|
| Austria | 11.50 | 35.10 | 45.40 | 6.20 | 25.60 |
| Belgium | 16.10 | 36.90 | 46.40 | 8.20 | 32.80 |
| China | 1.60 | 8.40 | 8.00 | 6.10 | |
| Costa Rica | 48.10 | 33.90 | 55.40 | 19.20 | 11.40 |
| Czech Republic | 8.90 | 34.30 | 43.10 | 9.30 | 30.70 |
| Denmark | 9.40 | 25.10 | 35.90 | 7.80 | 20.70 |
| England | 21.30 | 38.30 | 51.30 | 12.20 | 31.70 |
| Estonia | 17.70 | 42.90 | 52.40 | 18.40 | 47.40 |
| France | 12.20 | 35.20 | 41.50 | 7.90 | 42.20 |
| Germany | 13.30 | 34.30 | 49.20 | 7.60 | 28.70 |
| Ghana | 7.80 | 24.30 | 32.00 | 1.60 | |
| Greece | 9.70 | 34.30 | 52.20 | 6.30 | 29.40 |
| Hungary | 15.60 | 47.80 | 65.20 | 26.30 | 47.60 |
| India | 13.70 | 28.00 | 45.80 | 2.90 | |
| Italy | 15.60 | 39.40 | 52.60 | 11.70 | 43.50 |
| Mexico | 6.80 | 23.70 | 28.70 | 4.70 | |
| Netherlands | 9.30 | 31.50 | 37.40 | 5.20 | 24.90 |
| Poland | 20.10 | 50.70 | 54.80 | 14.30 | 52.30 |
| Portugal | 20.90 | 45.60 | 50.70 | 13.70 | 47.50 |
| Russia | 9.10 | 12.50 | 20.30 | 24.30 | |
| Slovenia | 10.10 | 43.00 | 53.30 | 8.00 | 33.10 |
| South Africa | 8.90 | 16.40 | 29.50 | 7.40 | |
| Spain | 14.40 | 43.70 | 48.10 | 10.80 | 45.50 |
| Sweden | 10.40 | 27.60 | 45.40 | 5.30 | 24.50 |
| Switzerland | 7.80 | 22.40 | 34.00 | 3.50 | 23.30 |
| USA | 16.80 | 40.60 | 61.70 | 25.60 | 17.00 |

Conclusion

- age trajectories of health vary across health measures
- huge variation in health across countries (e.g. self-reported health, limitations, and diseases)
- age trajectories of biomarkers (e.g. grip strength, walking speed) vary across countries
- within a country differences across cohorts and gender

differences remain after controlling for education
cultural differences in self-reporting health status

Acknowledgements

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