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Max Planck Institute for Demographic Research
Research Group: **MIGRATION AND HEALTH INEQUALITIES**

**Migration and health inequalities over the life-course: an
intersectional perspective**

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OUTLINE

- Overview of the project
- Results from 2 out of 3 pillars
 - Health trajectories
 - Role of adversities over the life-course
 - If time allows: role of the reason of migration

MOTIVATION

MIGRATION



POPULATION AGEING





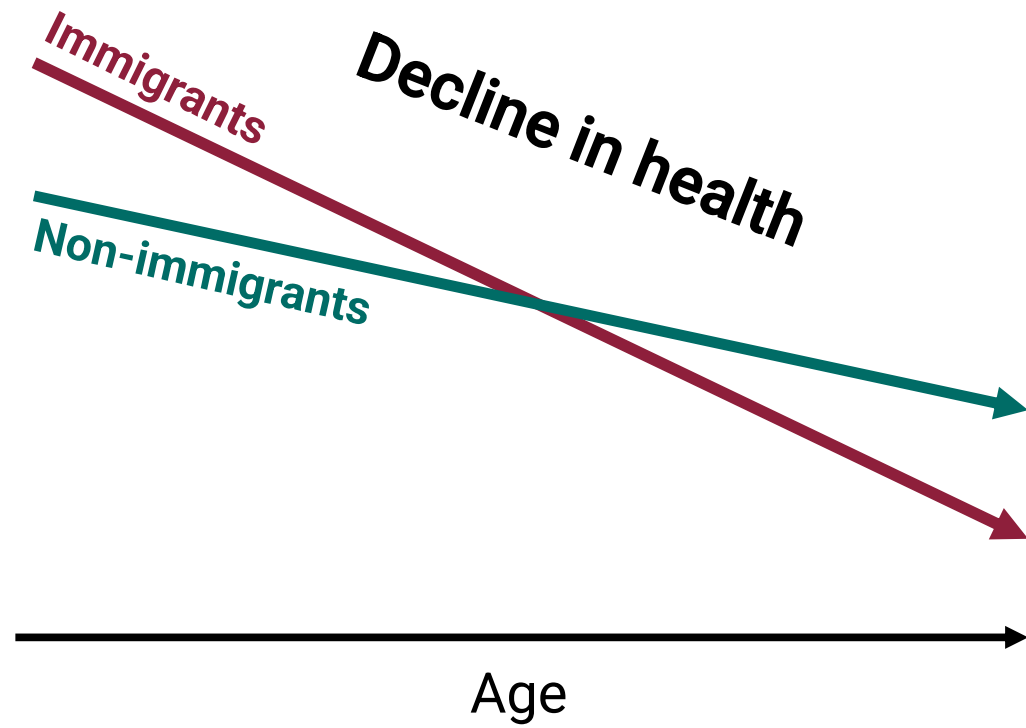
AIM

Why do immigrants age in poorer health?



AIM

PARADOX(ES)?

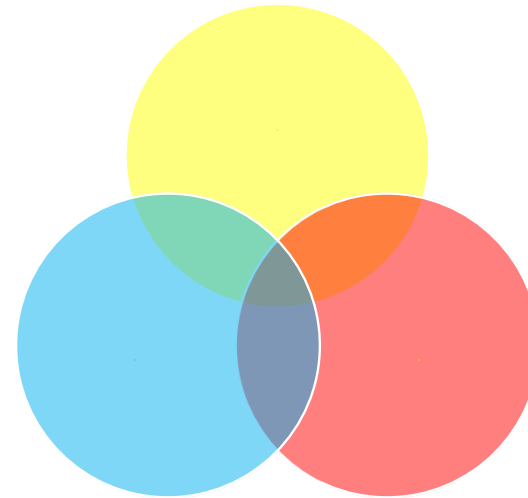
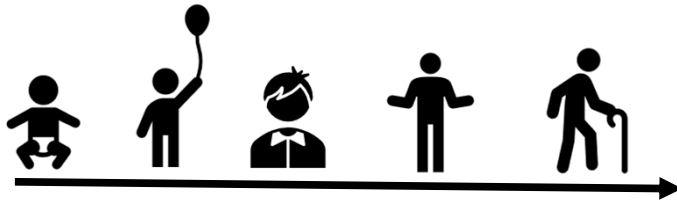


APPROACH

**LIFE-COURSE
APPROACH**

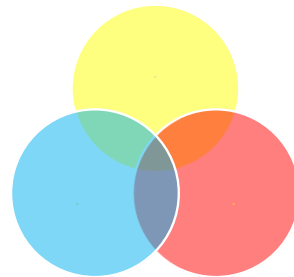


**INTERSECTIONAL
PERSPECTIVE**





INTERSECTIONALITY



Originated in gender studies, increasingly used to frame research on health inequalities (Crenshaw 1989)

Unitary approaches imply that single categories operate under an additive assumption and are layered one on the other (Bauer 2014; Hancock 2007)

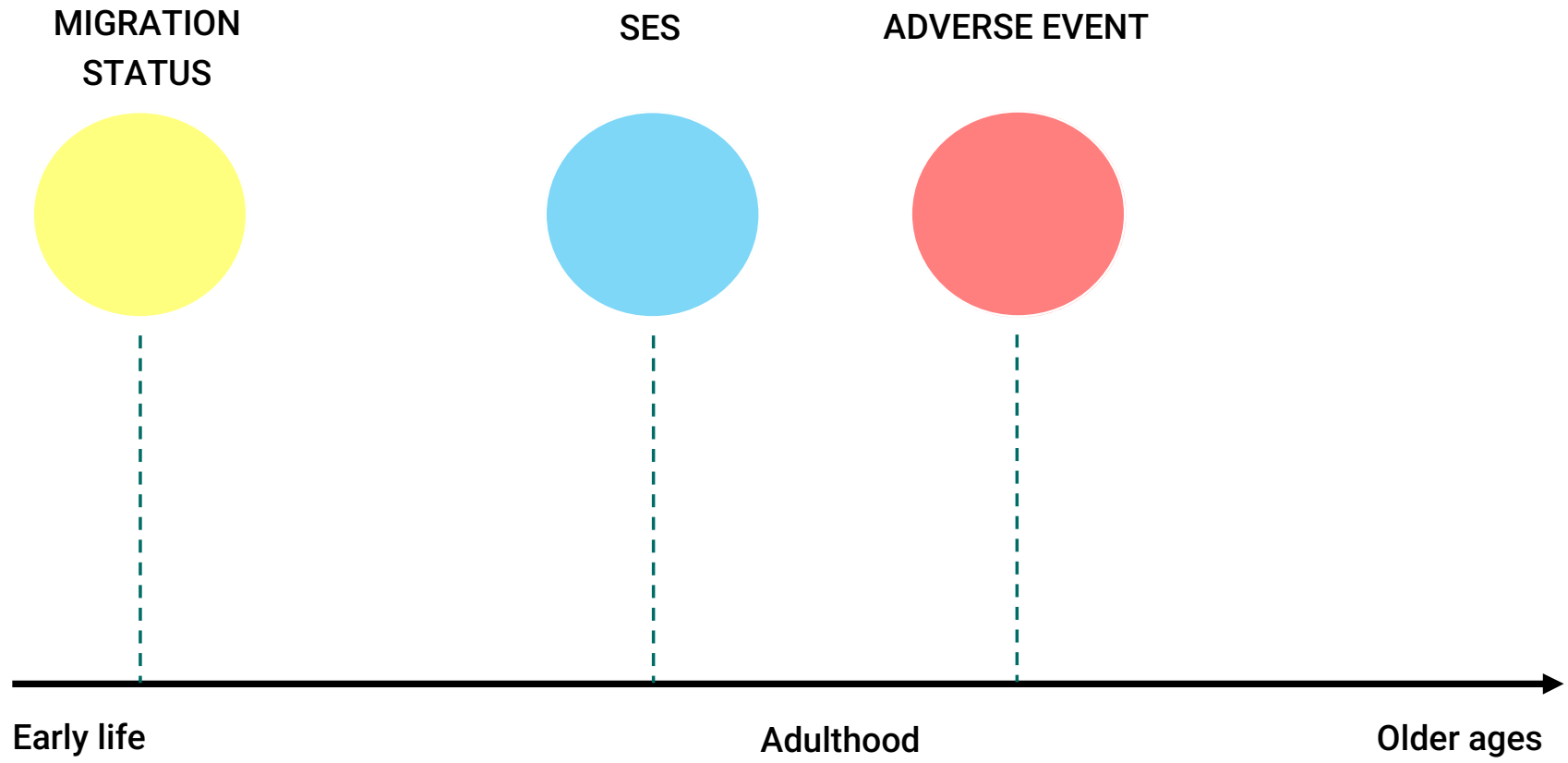
Intersectionality uses an inter-categorical approach to study how multiple social categories impact health and wellbeing simultaneously (Bauer 2014; McCall 2008)



Early life

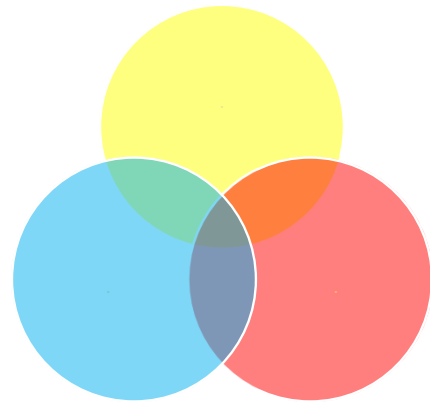
Adulthood

Older ages





MIGRATION STATUS



HEALTH

SES

EVENT



INDIVIDUAL LIFE HISTORY



MIGRATION STATUS



SES

EVENT



HEALTH



INDIVIDUAL LIFE HISTORY



MIGRATION STATUS OF
FAMILY MEMBER



SES OF FAMILY
MEMBER

EVENT OF FAMILY
MEMBER



HEALTH



INDIVIDUAL LIFE HISTORY



RESEARCH AGENDA

Healthy ageing

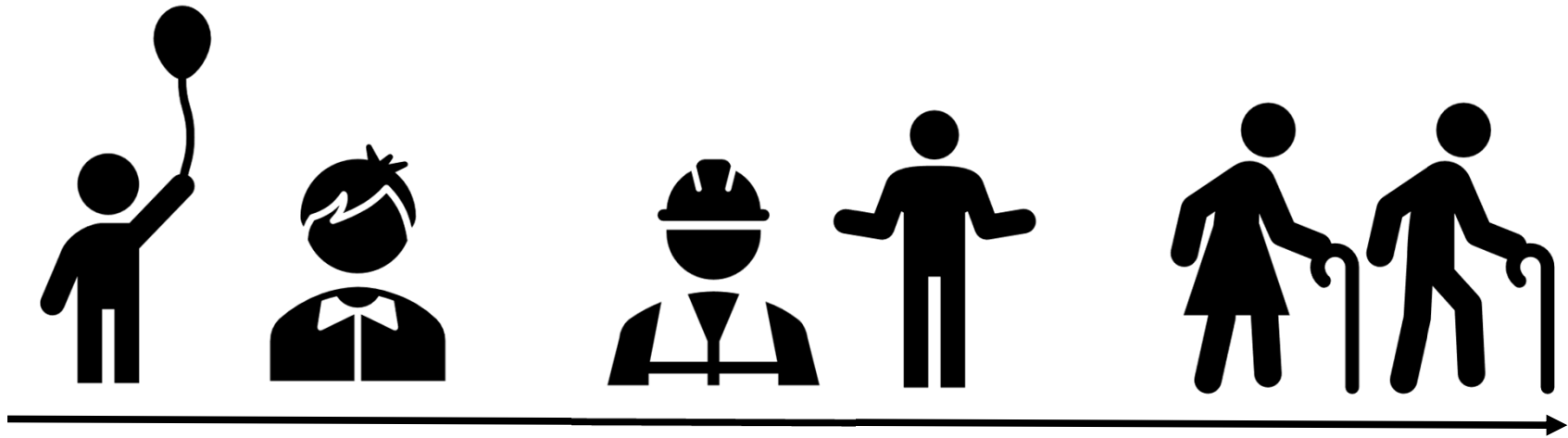
Quantify the gaps in healthy ageing trajectories between immigrants and non-immigrants by age, gender, age at migration, duration of stay, socioeconomic status, and their interactions

Adversities

Identify the critical events and circumstances in immigrants' lives that put them on a different healthy ageing trajectory from non-immigrants

Family

Study the impact of family composition and family ties in mitigating health inequalities by migration background





Age at migration

Generation (place of birth)

Countries of origin

Length of stay

Reason of migration

Exposure to stressors

SES, living and working conditions

Accumulation of social disadvantage over the life course

THE SALMON BIAS





EVIDENCE

- **Health trajectories**
- **Role of SES**
- **Role of adverse events during the life course**



UNEQUAL WEATHERING: HOW IMMIGRANTS' HEALTH ADVANTAGE VANISHES OVER THE LIFE-COURSE

Silvia Loi^{1,2}, Peng Li^{1,2}, Mikko Myrskylä^{1,2,3}

Under Review – Journal of Migration and Health

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2. Max Planck – University of Helsinki Center for Social Inequalities in Population Health, Rostock, Germany and Helsinki, Finland

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RESEARCH QUESTIONS

Compared to non-immigrants, are immigrants ageing in poorer self-perceived health, and with a higher probability of having a physical limitation?

Does having a high socio-economic status protect immigrants from experiencing a more rapid health decline?

Are there gender differences in these mechanisms?



DATA AND MEASURES



German Socio-Economic Panel (G-SOEP)

1994-2019 SRH
2002-2019 Disability

Nationally representative longitudinal
study of private households in Germany

Sample

Individuals aged **30-80**
**1° gen. immigrants who have lived in
Germany for at least 10 years**
Foreign-born VS Native-born



Self-rated health

Disability



METHODS

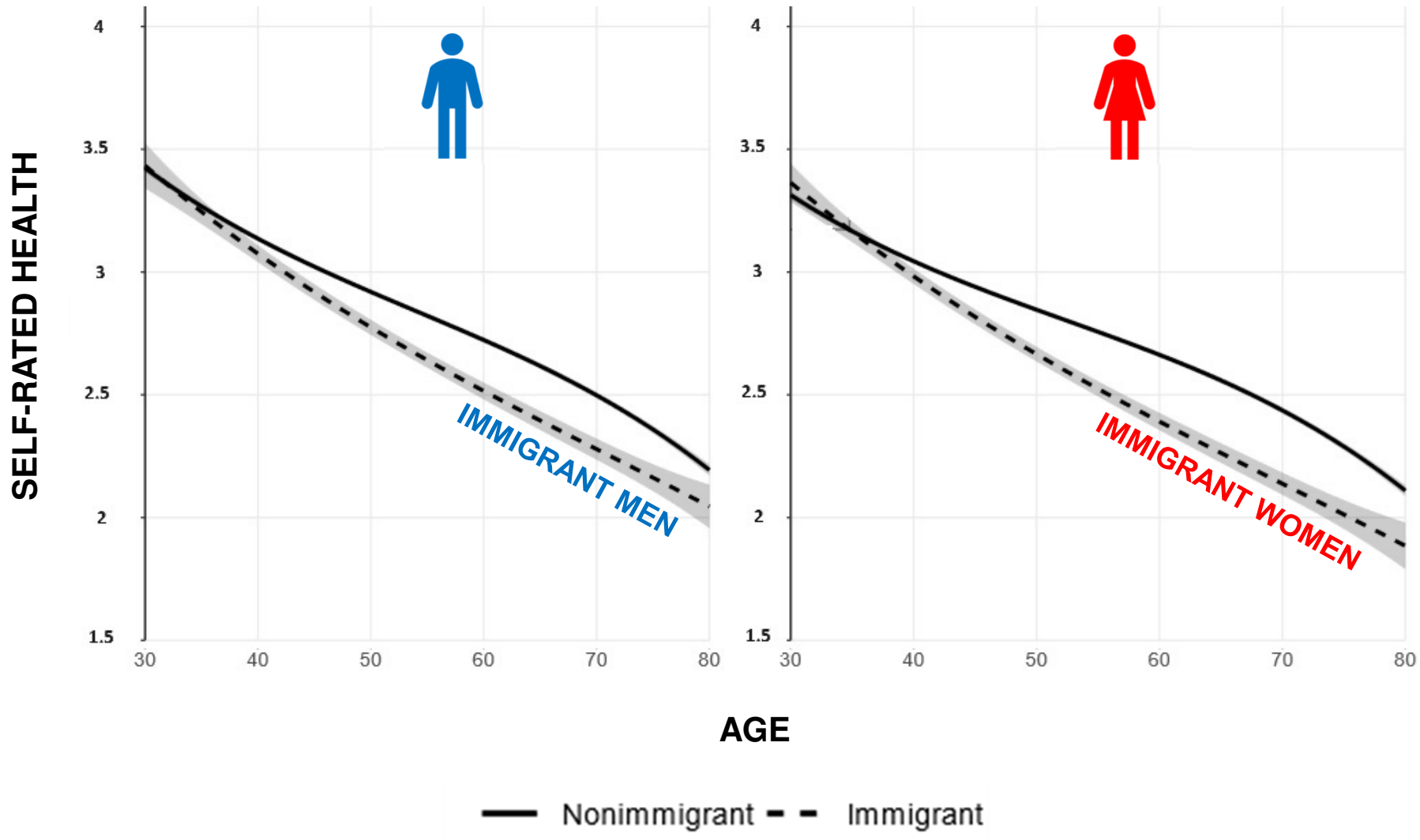
Random-effects models to describe and explain how the health trajectories of immigrants and non-immigrants differ with age

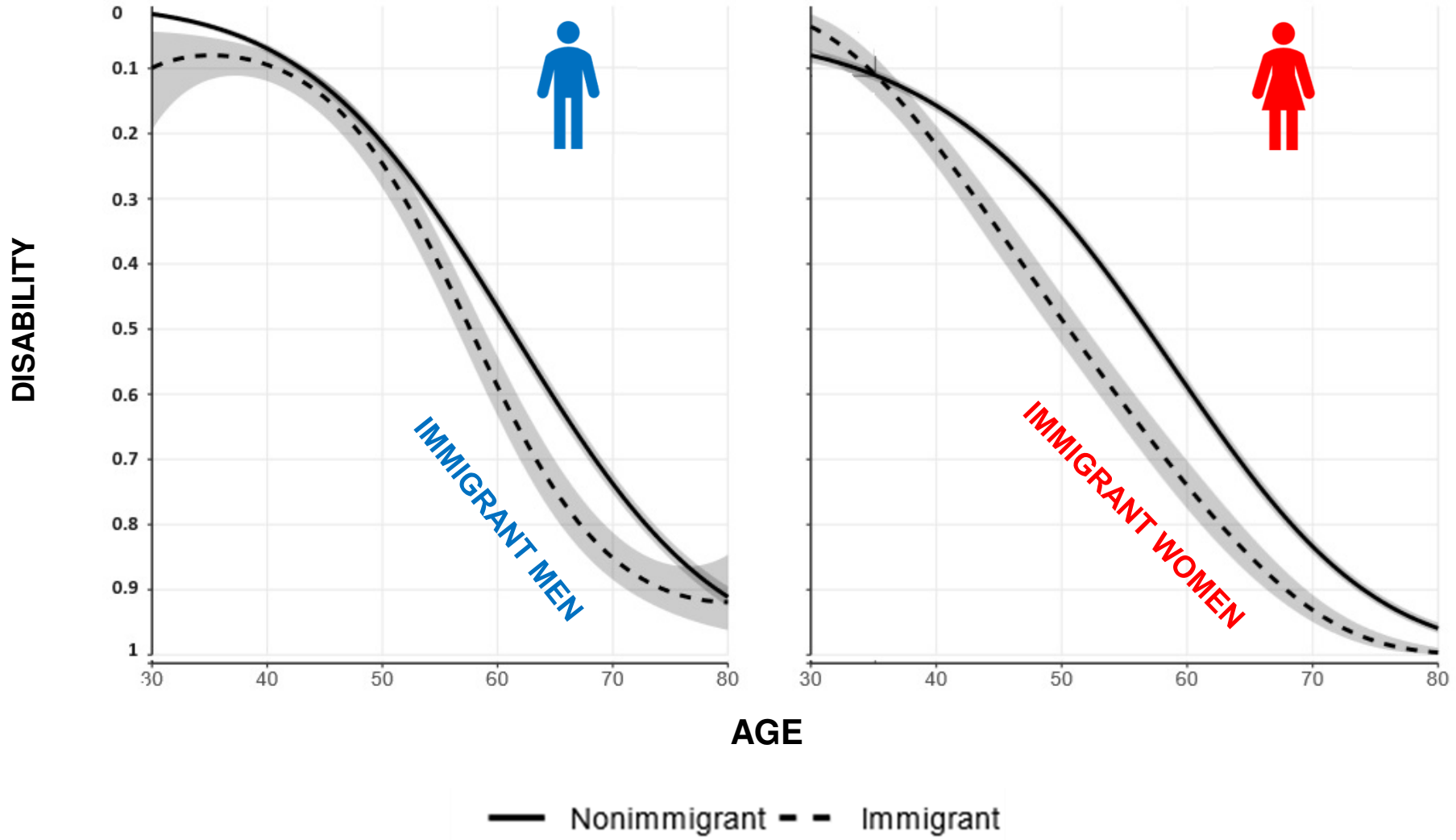
Salmon bias correction

In order to account for the bias due to loss to follow-up, and the potential “salmon bias”, we apply **inverse probability weighting (IPW)** techniques. Individuals are weighted by the inverse of their probability of participating in the study.

This probability is related to each individual’s characteristics, such as age, education, marital status, and income.

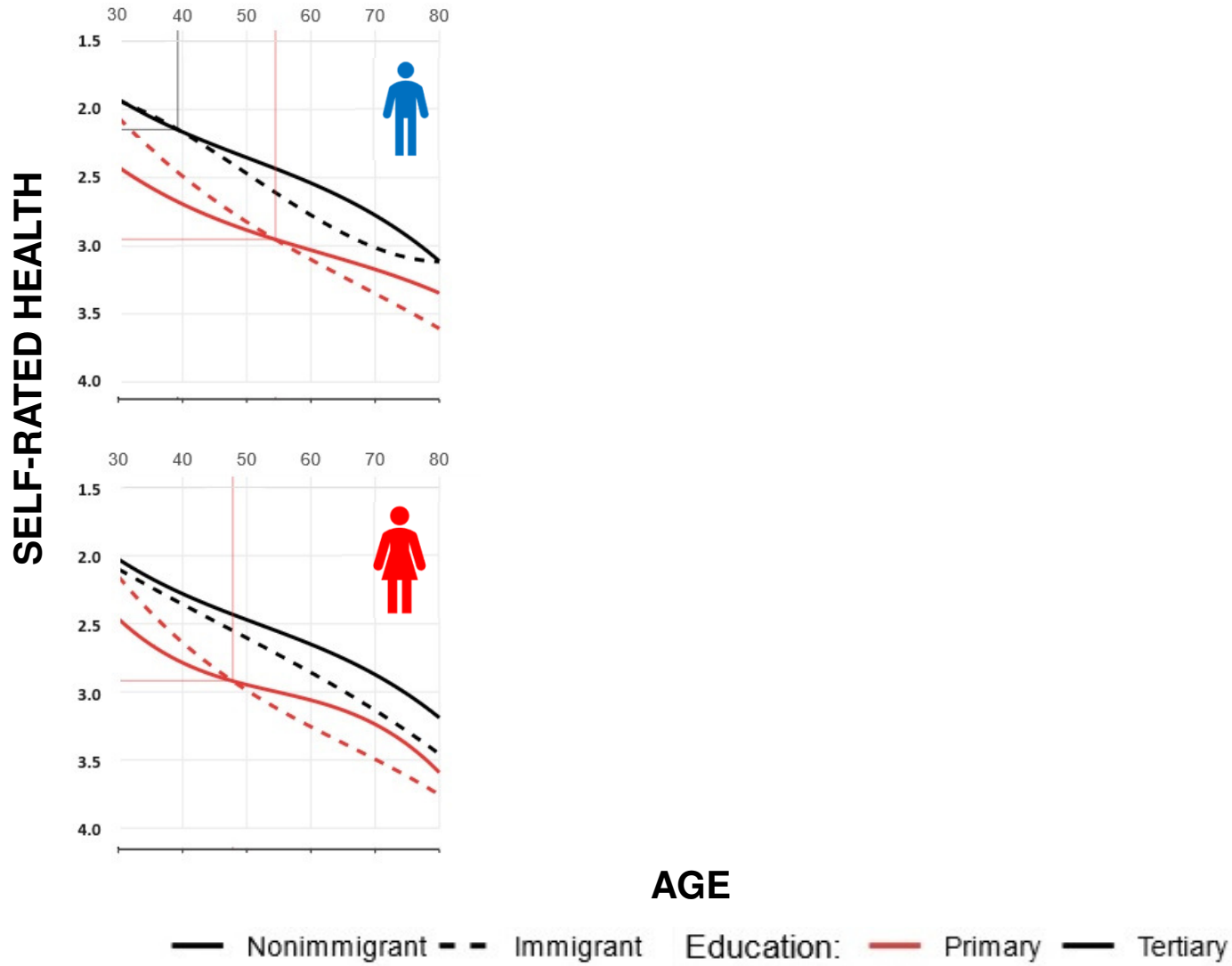
The use of IPW implies that an individual with a high probability of response is given a lower weight in the analysis (Metten et al 2022).







THE ROLE OF EDUCATION, MARITAL STATUS AND INCOME

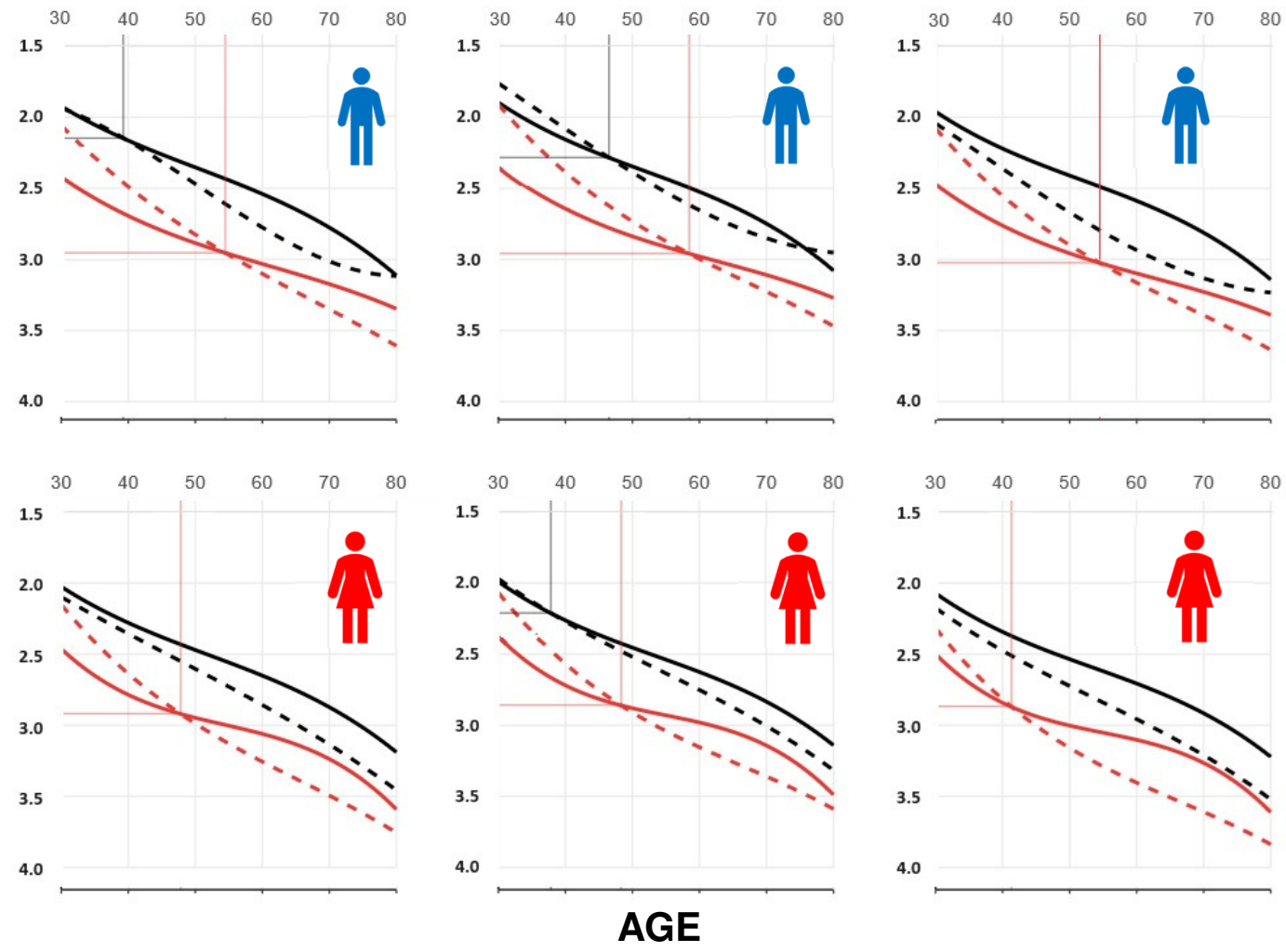




SELF-RATED HEALTH

High SES Married

Low SES Unmarried



— Nonimmigrant - - Immigrant Education: — Primary — Tertiary



AT THE INTERSECTION OF ADVERSE LIFE COURSE PATHWAYS: THE EFFECTS ON HEALTH AND WELLBEING BY MIGRATION STATUS

Silvia Loi^{1,2}, Peng Li^{1,2}, Mikko Myrskylä^{1,2,3}

Demography, 2024

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2. Max Planck – University of Helsinki Center for Social Inequalities in Population Health, Rostock, Germany and Helsinki, Finland
3. Helsinki Institute for Demography and Population Health, University of Helsinki, Helsinki, Finland



RESEARCH QUESTIONS

Does the relationship between age, migration status, and health differs depending on having experienced adverse events during the life course?

Do the short-term and the long-term consequences of adverse events on health vary between immigrants and non-immigrants?



DATA AND MEASURES



German Socio-Economic Panel (G-SOEP) - 1984-2017

Nationally representative longitudinal
study of private households in Germany

Sample

Individuals aged **18-64**

1° gen. immigrants

Foreign-born VS Native-born



Self-rated health

Satisfaction with own health

Wellbeing



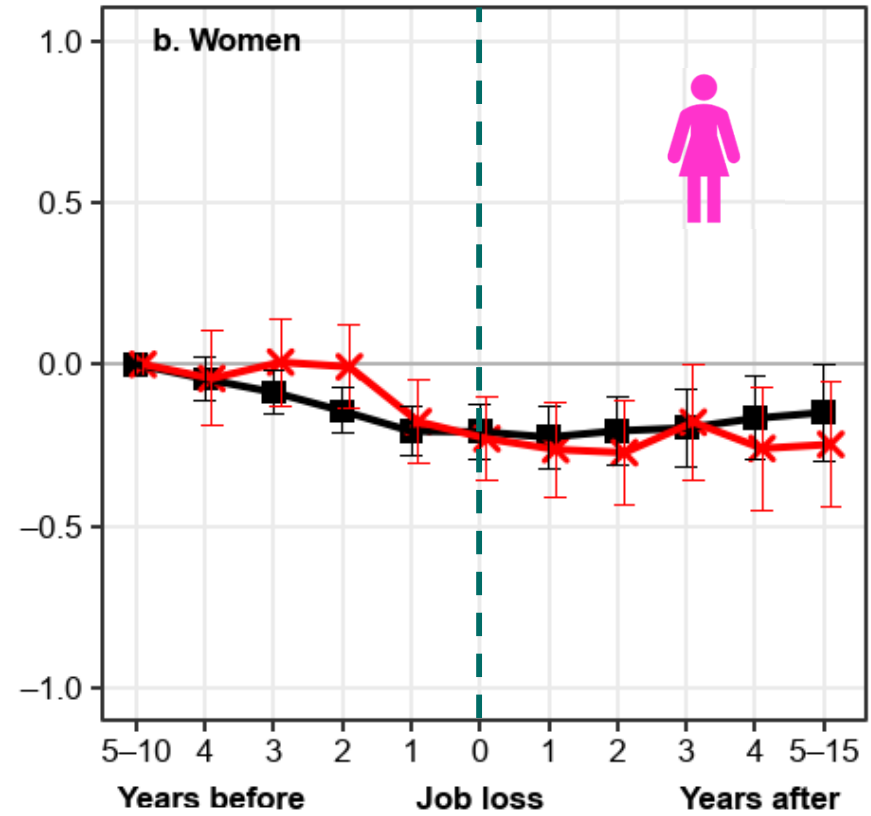
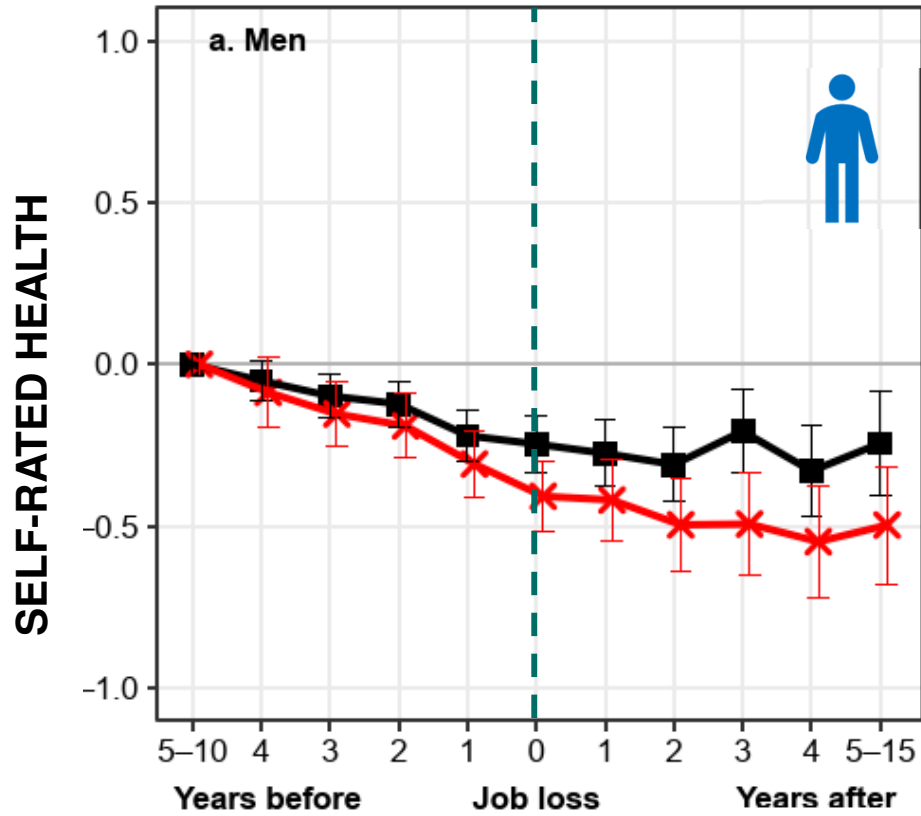
METHODS

- Random effects models to estimate the health trajectory over age
- Longitudinal fixed-effects (FE) linear models to estimate the within-individual response change to adverse life events (job loss, and divorce)
- Estimating the effect of a within-individual change, fixed-effects models implicitly control for all possible unobserved characteristics, as long as those characteristics do not change over time (Allison 2009)

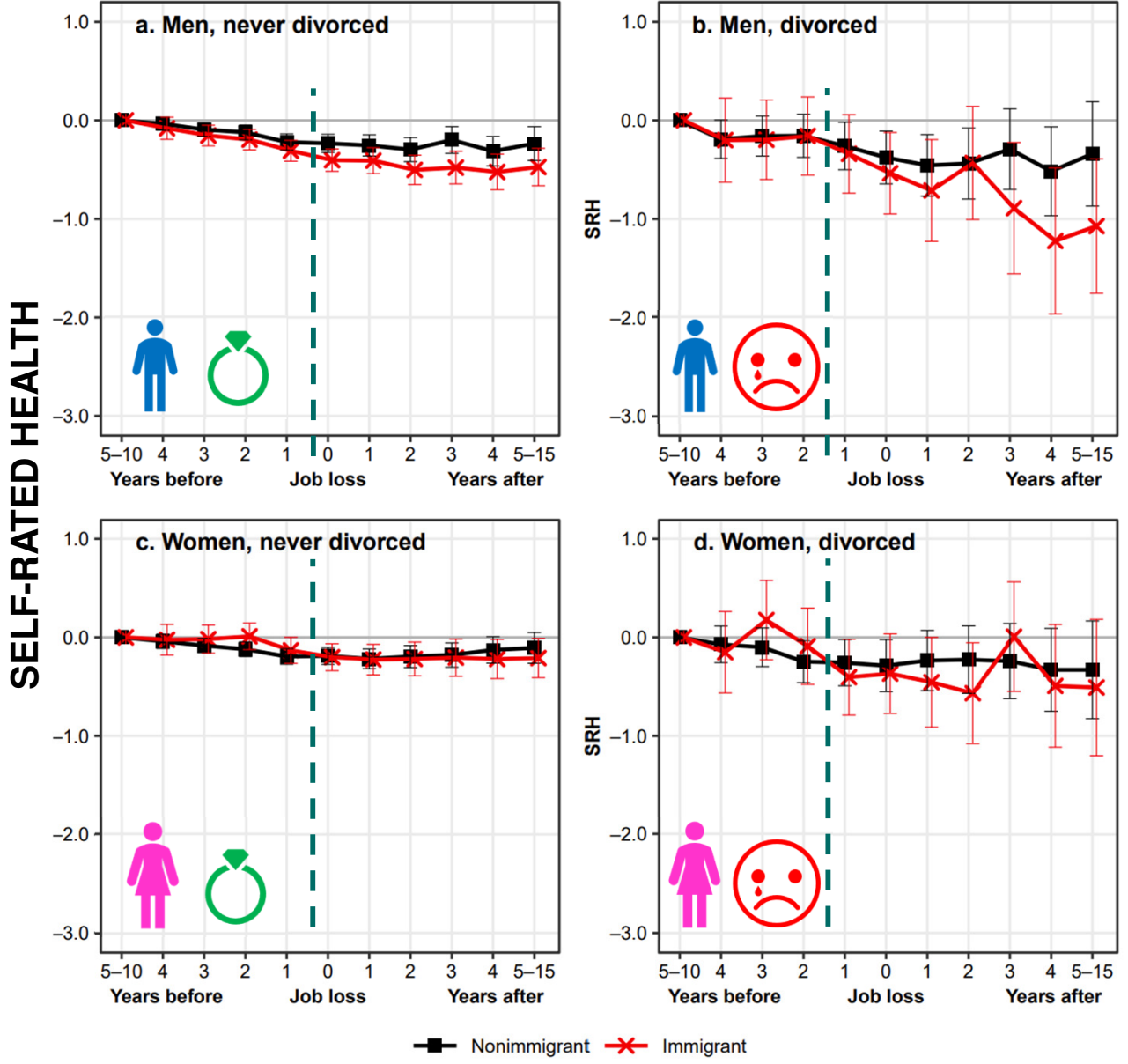


within-id difference between
health before and after the event





■ Nonimmigrant * Immigrant





DISCUSSION

- Immigrants are ageing in poorer health compared to non-immigrants; they display steeper declines in health;
- The determinants of the unhealthy ageing of immigrants are complex and intertwined, and depend on the life course stage:
 - Immigrants experience multiple disadvantages in the socio-economic sphere
 - The accumulation of these disadvantages in multiple social spheres; the higher propensity to experience adverse life events which have stronger consequences on their health compared to non-immigrants; the exacerbated disadvantage of immigrant women all contribute to explaining the unhealthy ageing of immigrants



MORE TO COME... STAY TUNED! 😊



POSTDOC POSITION OPEN IN MY GROUP!

For inquiries, please contact me: loi@demogr.mpg.de



THANK YOU

loi@demogr.mpg.de



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THE DECLINE OF REFUGEE HEALTH OVER THE LIFE COURSE

With Annalisa Busetta and Anna-Kathleen Piereth

Ongoing work

Data and Methods



German SOEP-Core version 37
+ IAB-BAMF Refugee sample



Ages 20-50



2016-2020 (arrived 2013 - 2019)

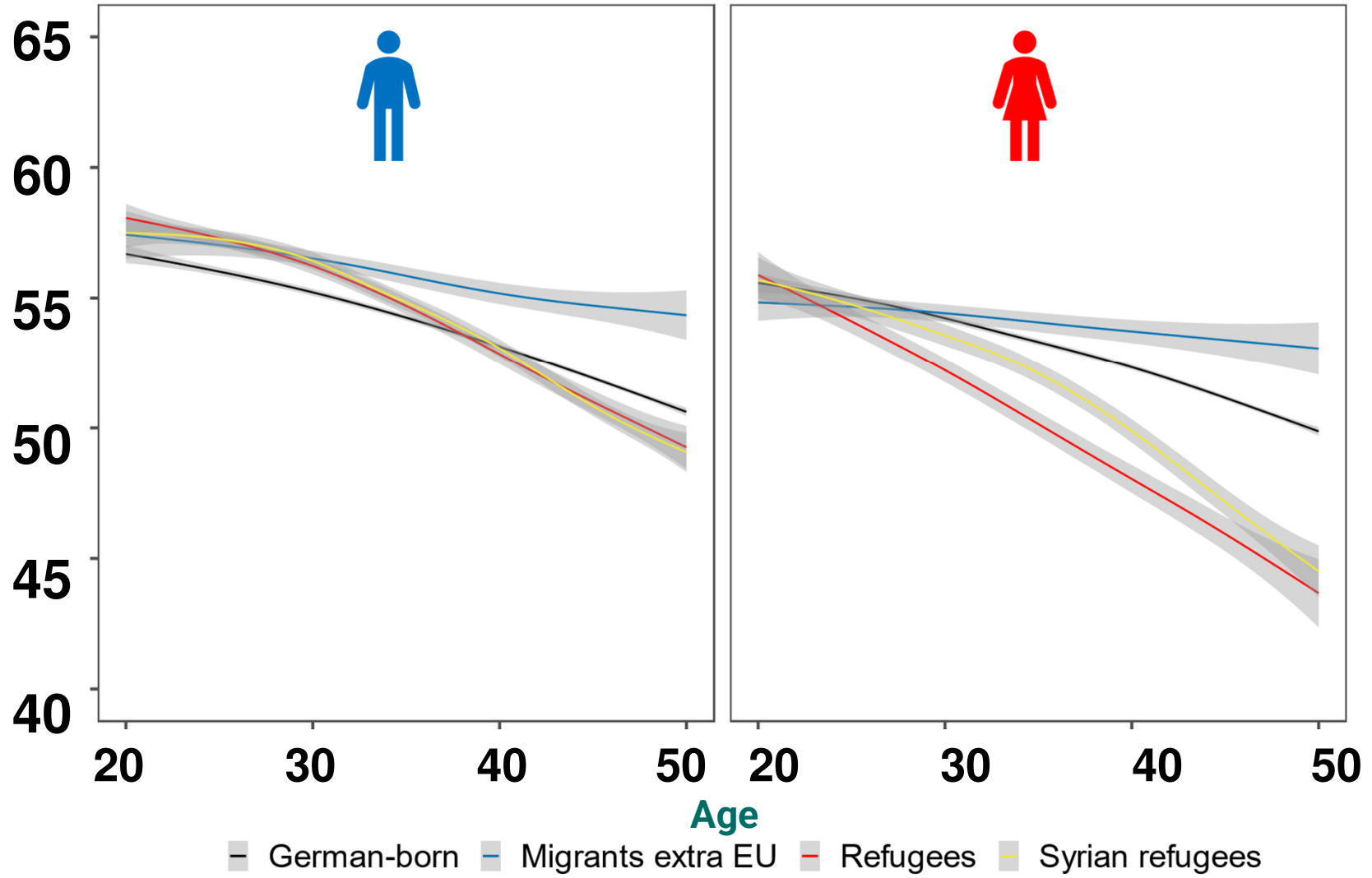


Growth curve
models

PHYSICAL HEALTH



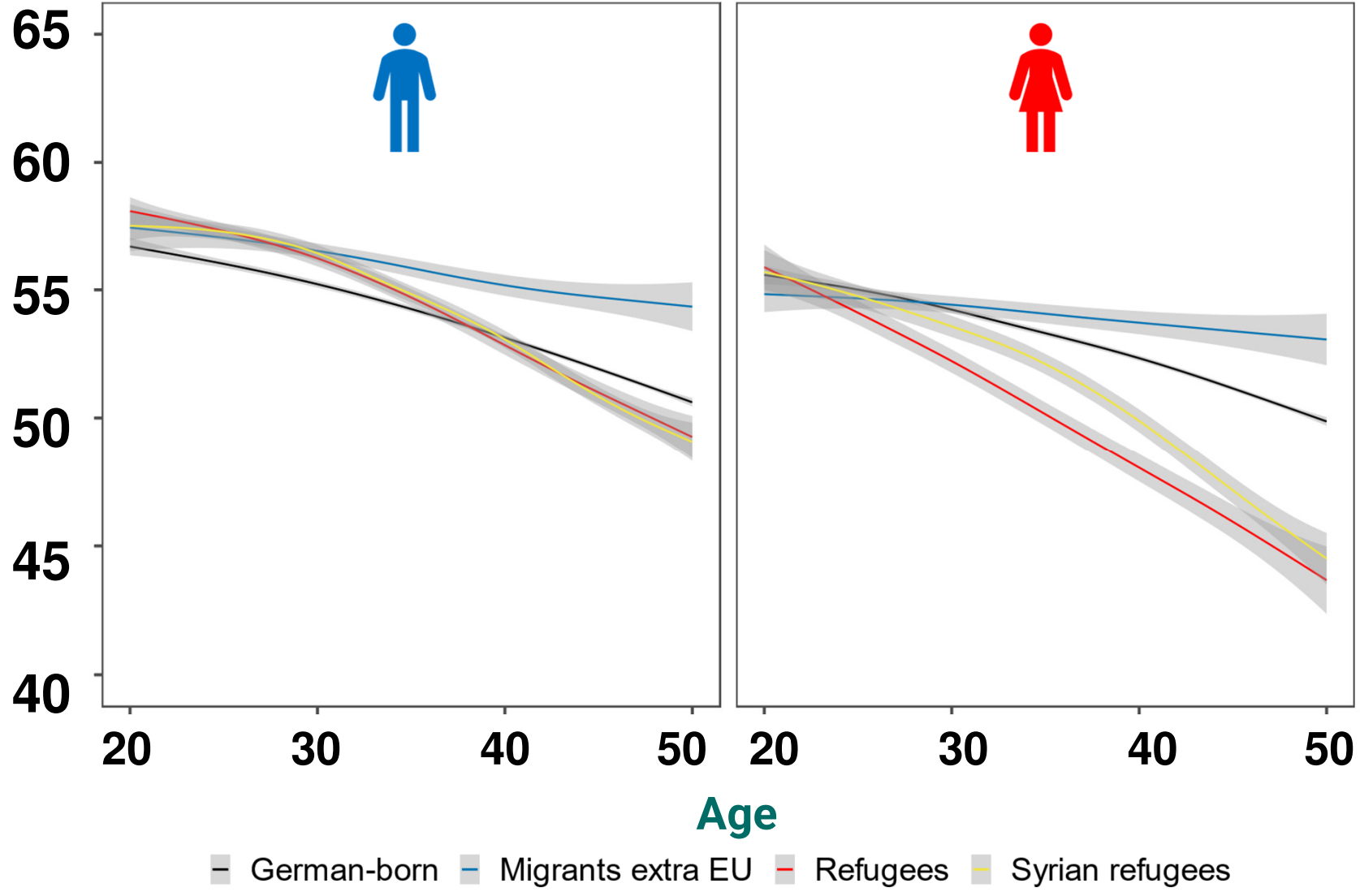
<5 Years



PHYSICAL HEALTH



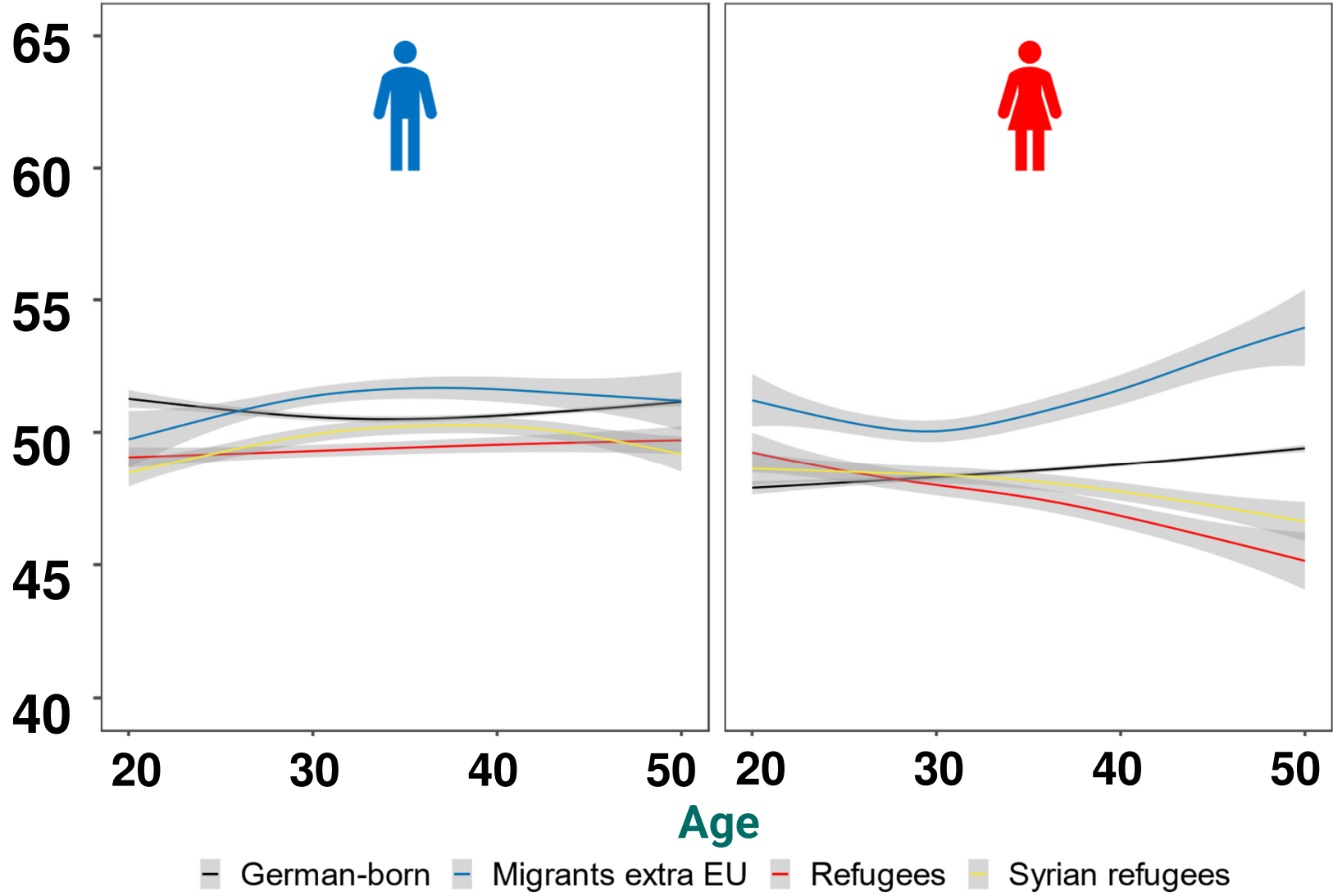

6+ Years



MENTAL HEALTH



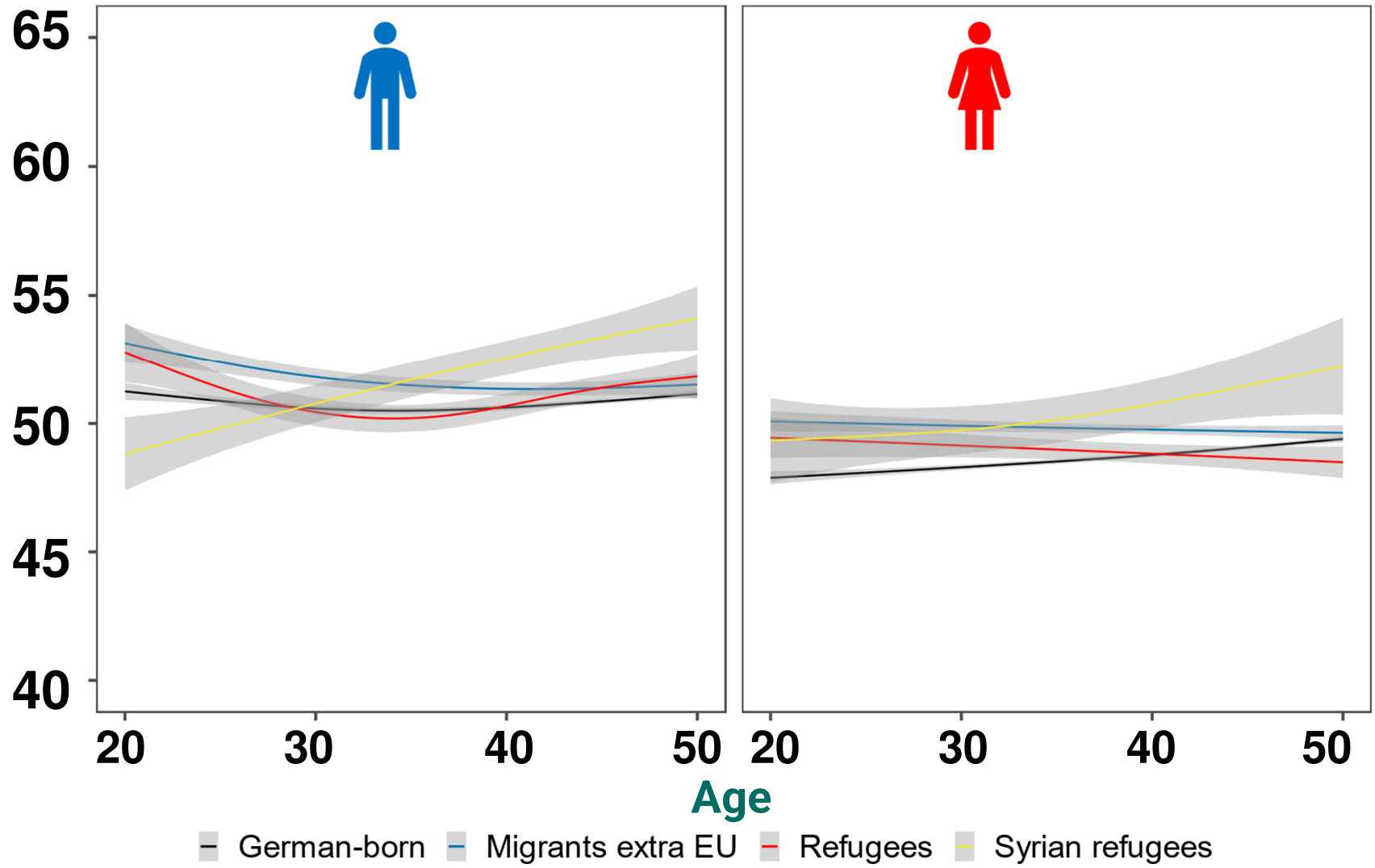

<5 Years



MENTAL HEALTH

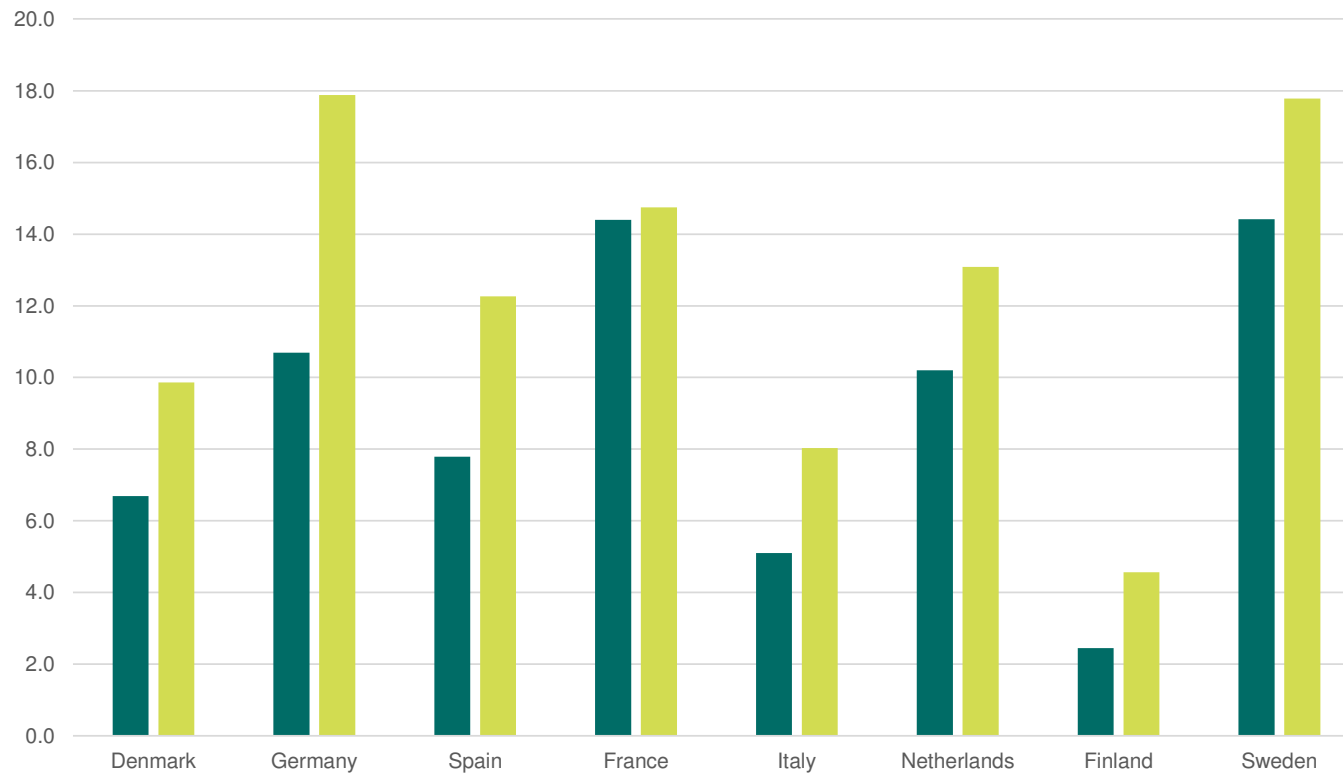


6+ Years





Popolazione di età 50+; Proporzione di nati all'estero; 2013-2023





Popolazione di età 65+; Proporzione di nati all'estero; 2013-2023

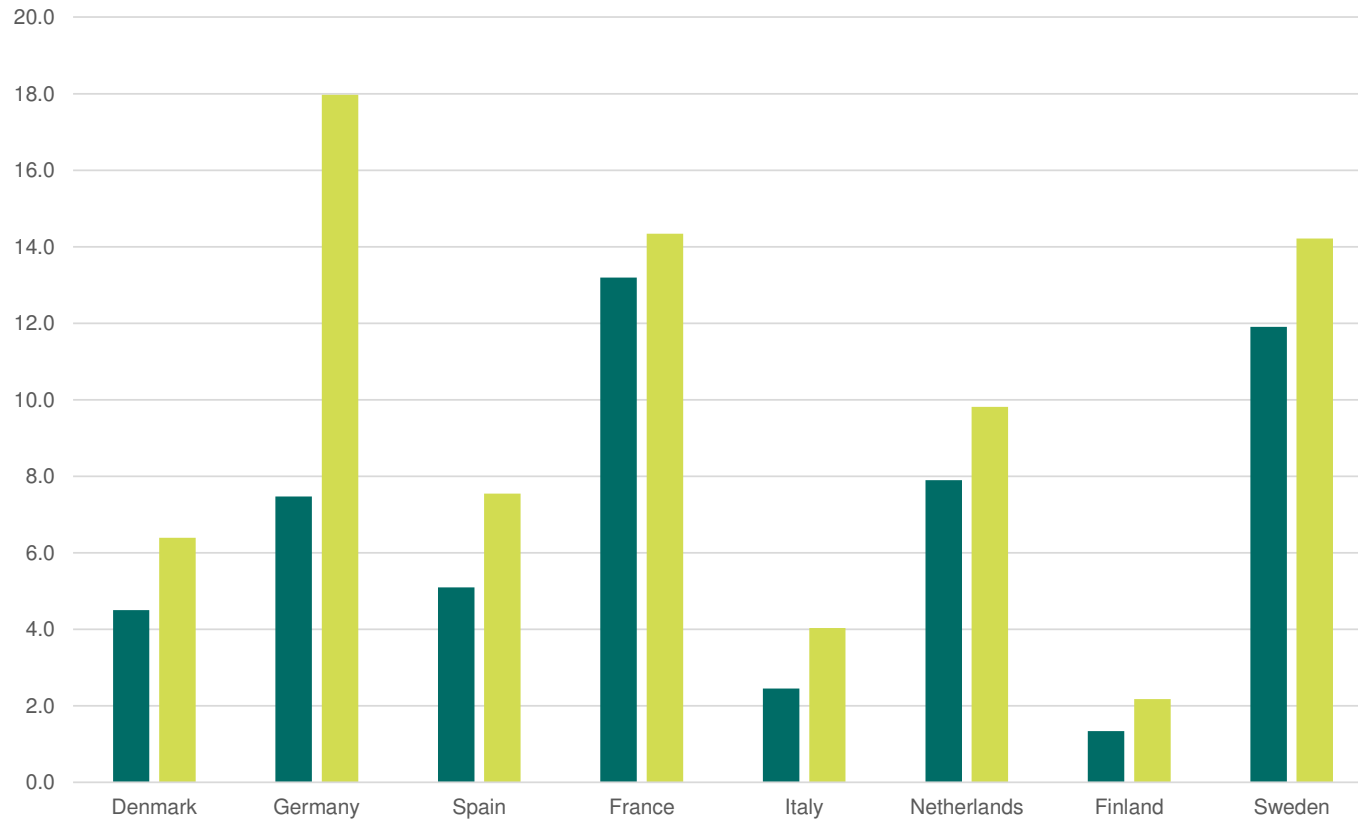
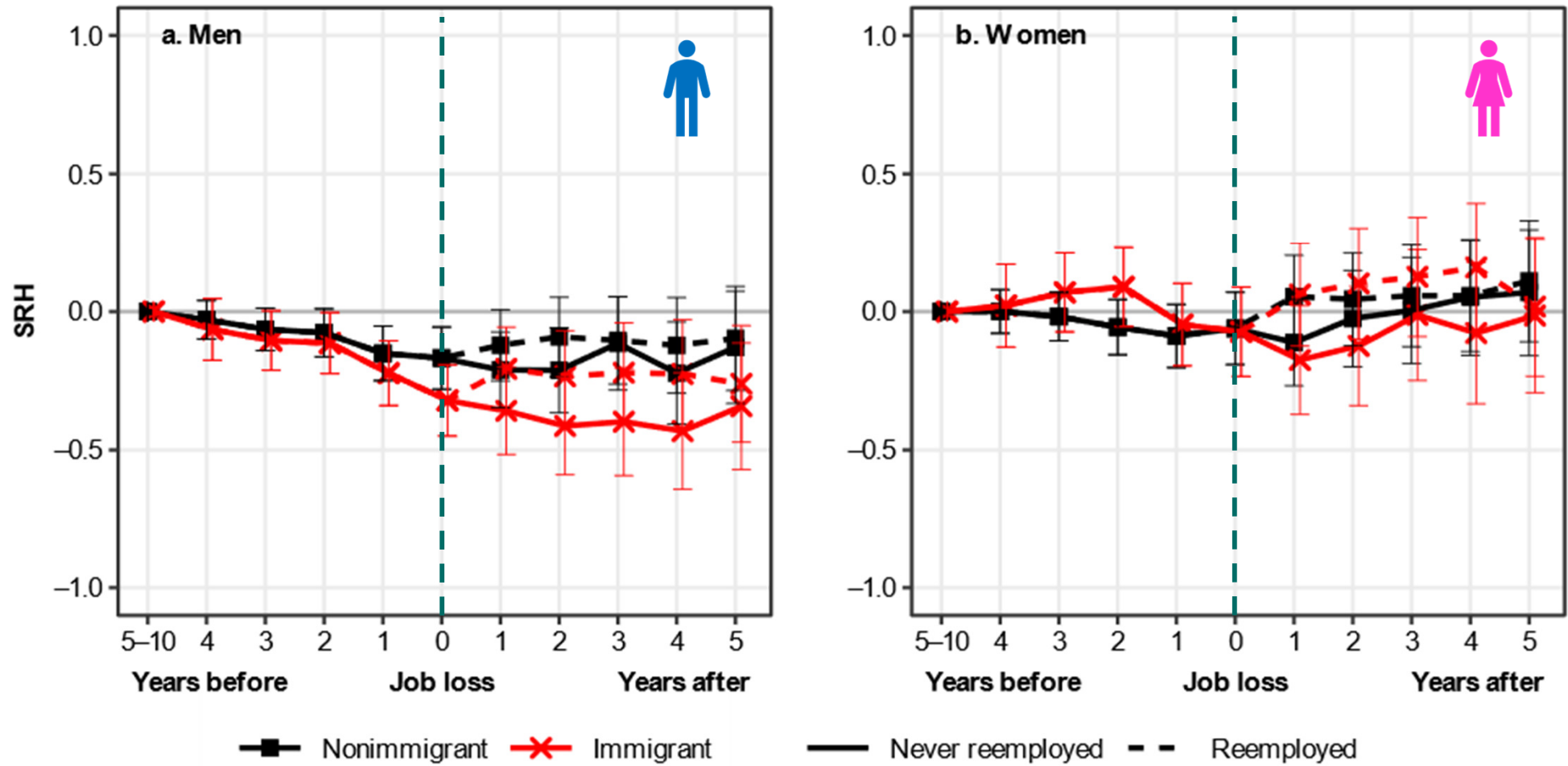




Fig. A1 Self-rated health trajectory before and after job loss, including re-employment after job loss, by migration status and sex, from fixed-effects linear regression models.



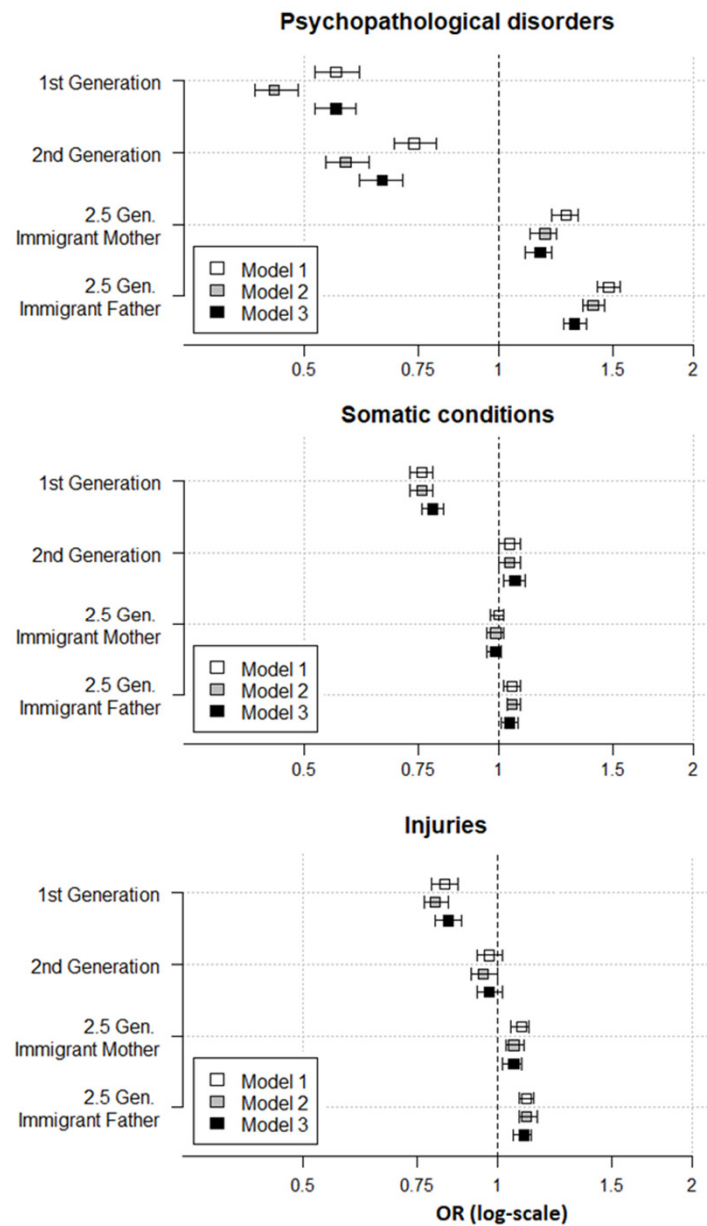
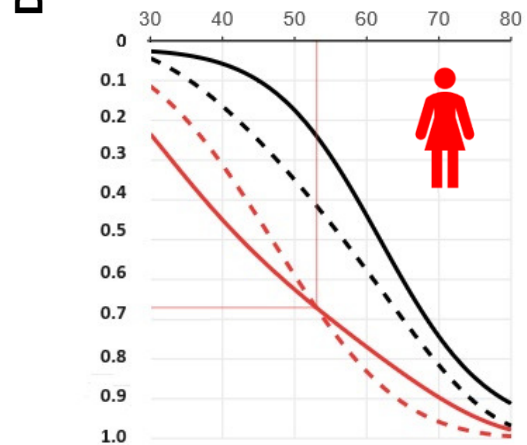
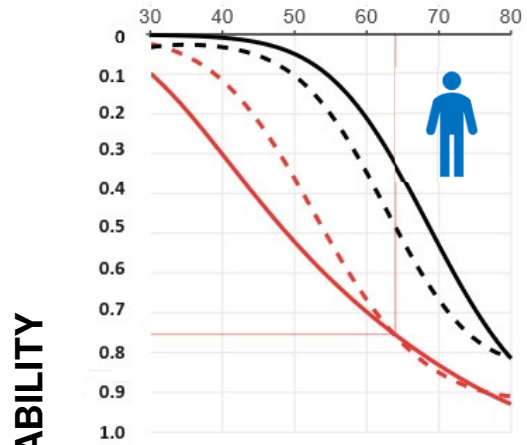


Fig. 2 The generational gradient on inpatient and outpatient care for psychopathological disorders, somatic conditions and injuries. Odds ratio estimated with logistic regression with robust standard errors clustered by individuals (reference category: children of native-born parents), plotted on a log-scale.

Model 1 is adjusted for age of the child, sex, area of residence, and missing data on the father.
 Model 2: model 1 + age of the mother at childbearing, education of the mother, household income.
 Model 3: model 2 + living in a two-parent family, divorce of the parents prior to the child's 10th birthday, mental health of the mother.



AGE

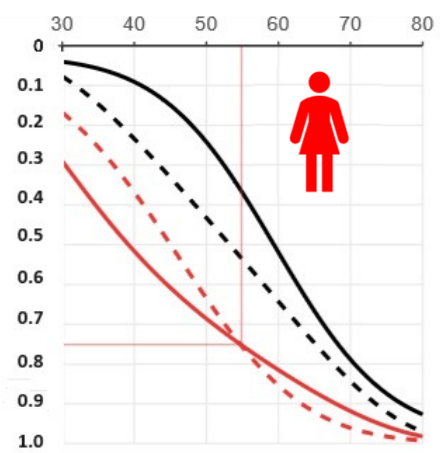
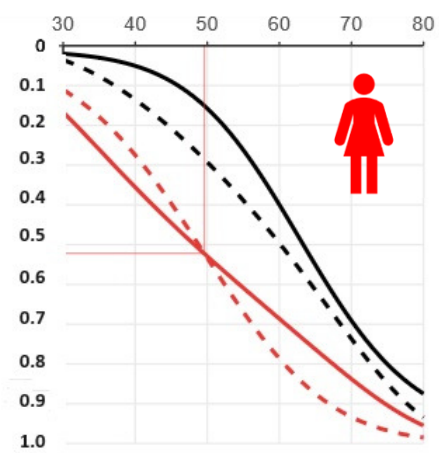
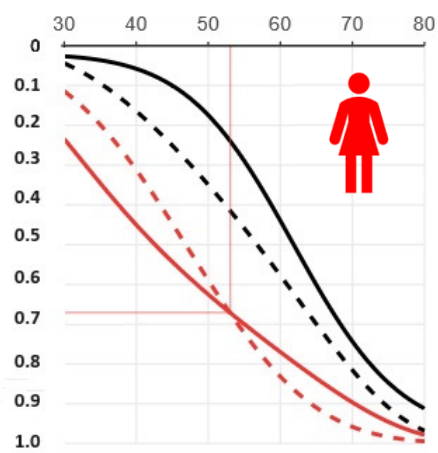
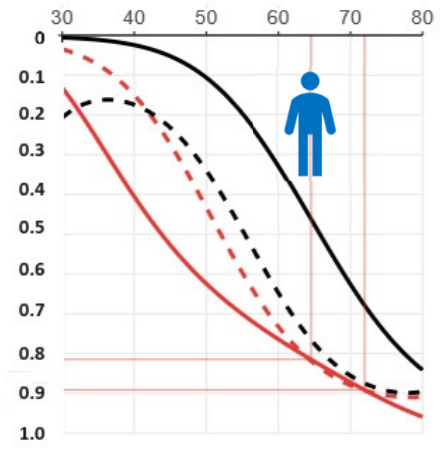
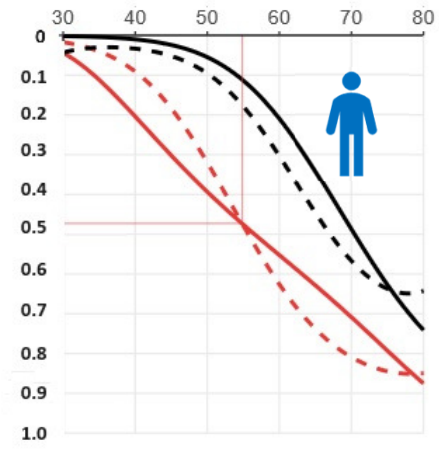
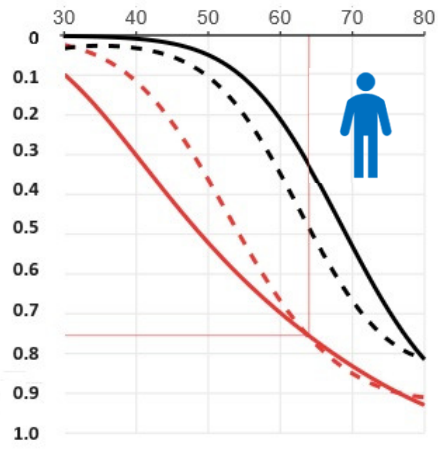
— Nonimmigrant - - Immigrant Education: — Primary — Tertiary



High SES Married

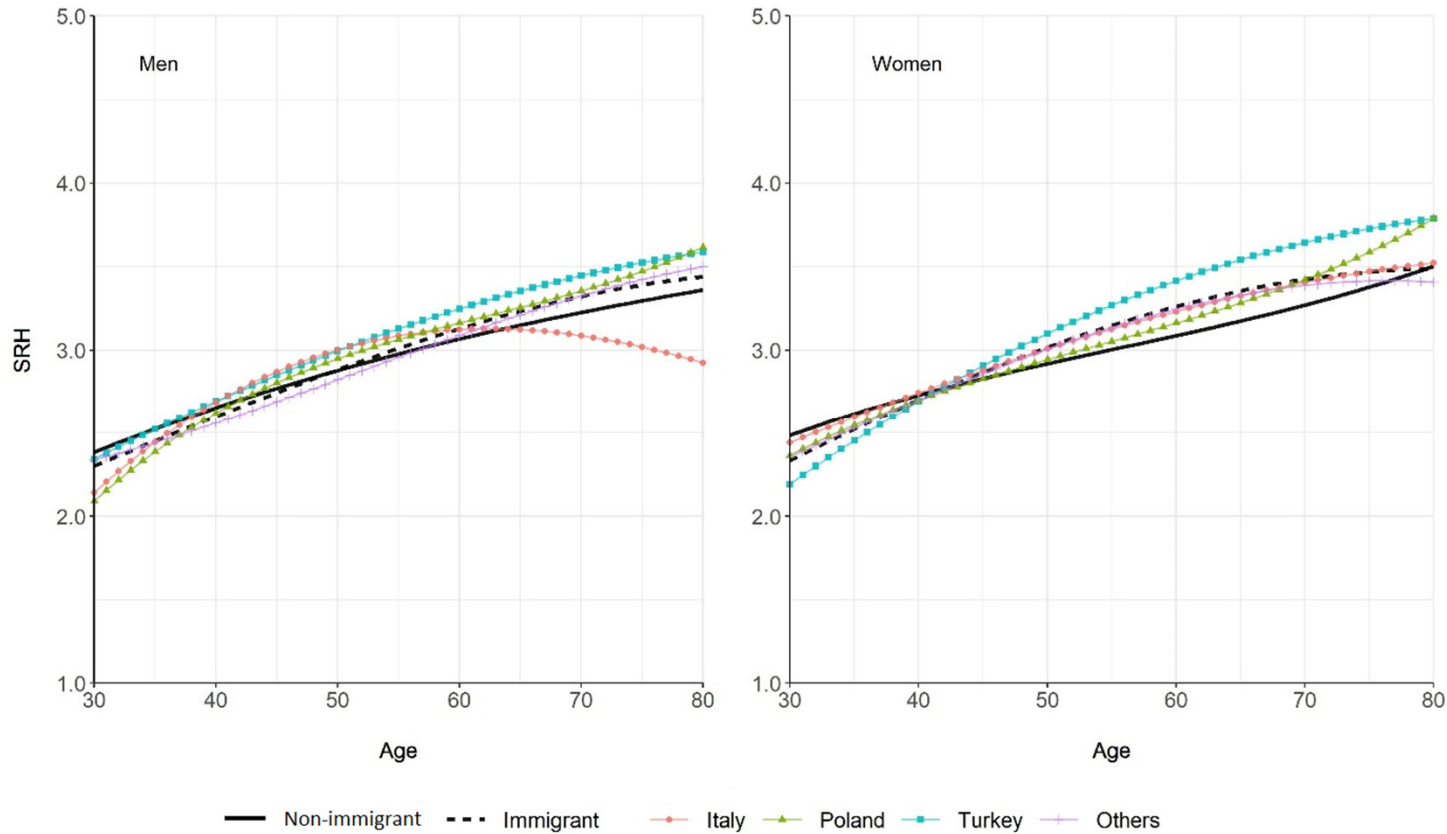
Low SES Unmarried

DISABILITY



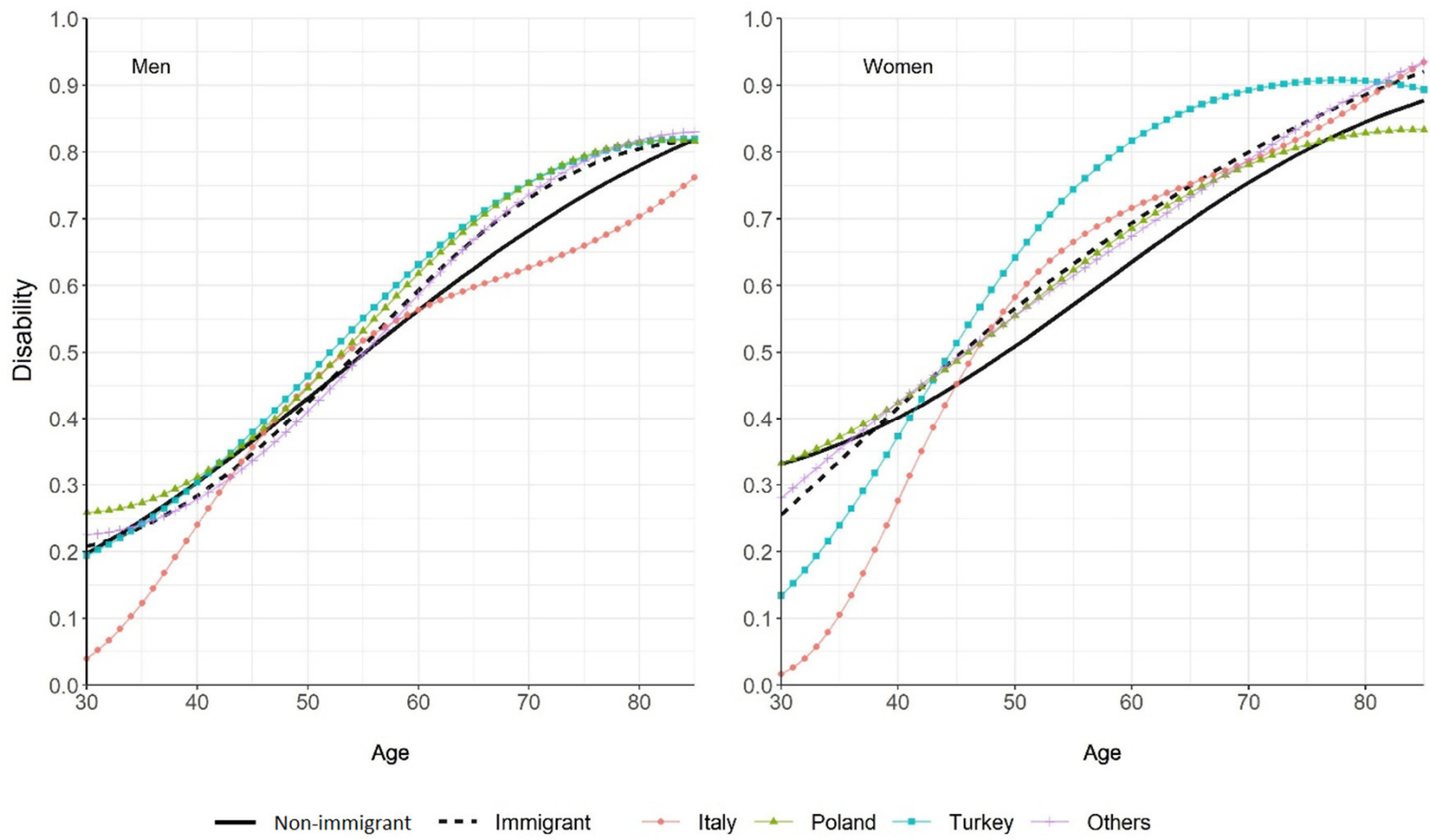
AGE

— Nonimmigrant - - Immigrant Education: — Primary — Tertiary



Self-rated health trajectories by age and immigration status, stratified by sex and countries of birth.

Models adjusted by education and weighted with inverse probability weighting.



Disability trajectories by age and immigration status, stratified by sex and countries of birth.

Models adjusted by education and weighted with inverse probability weighting.

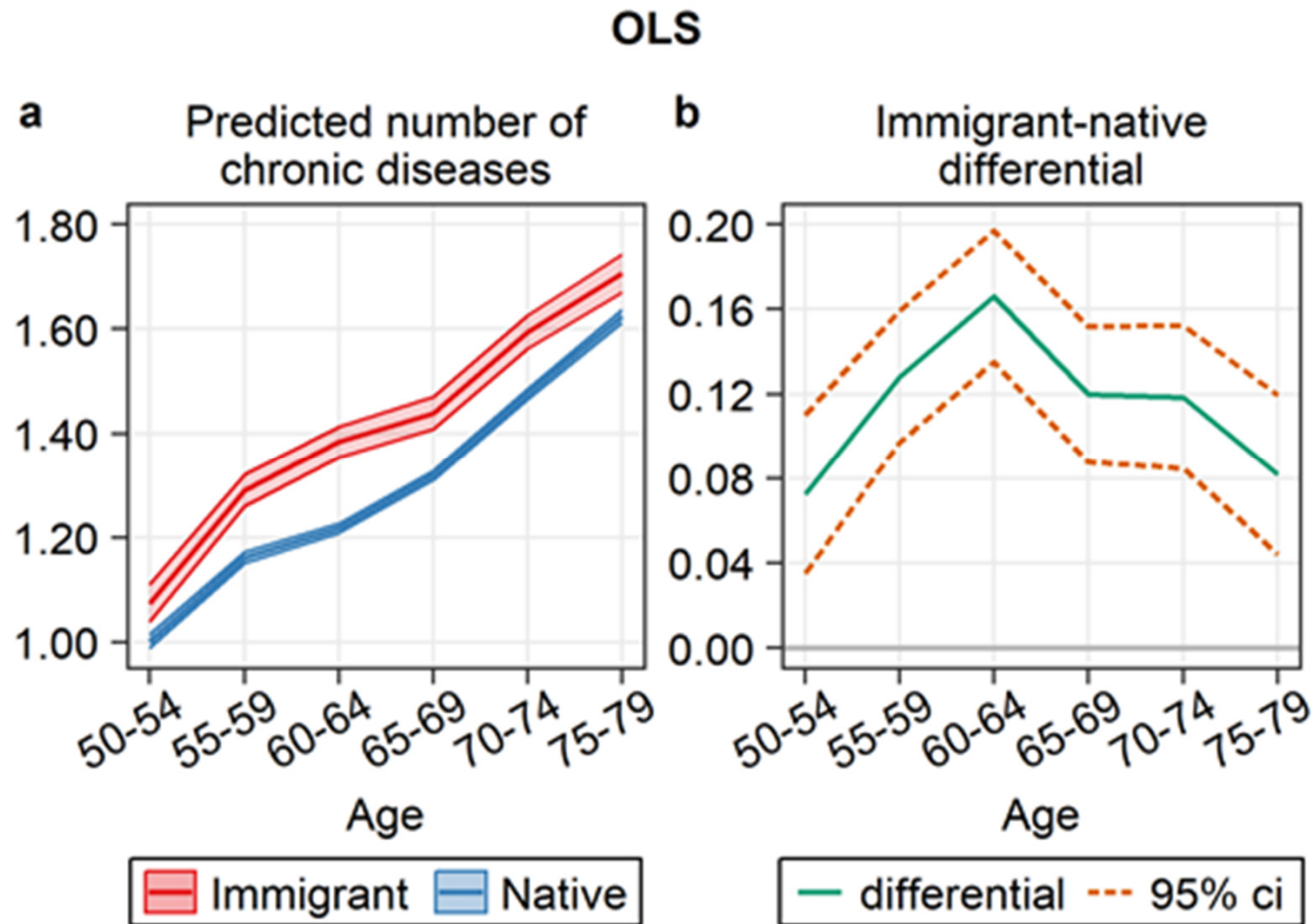
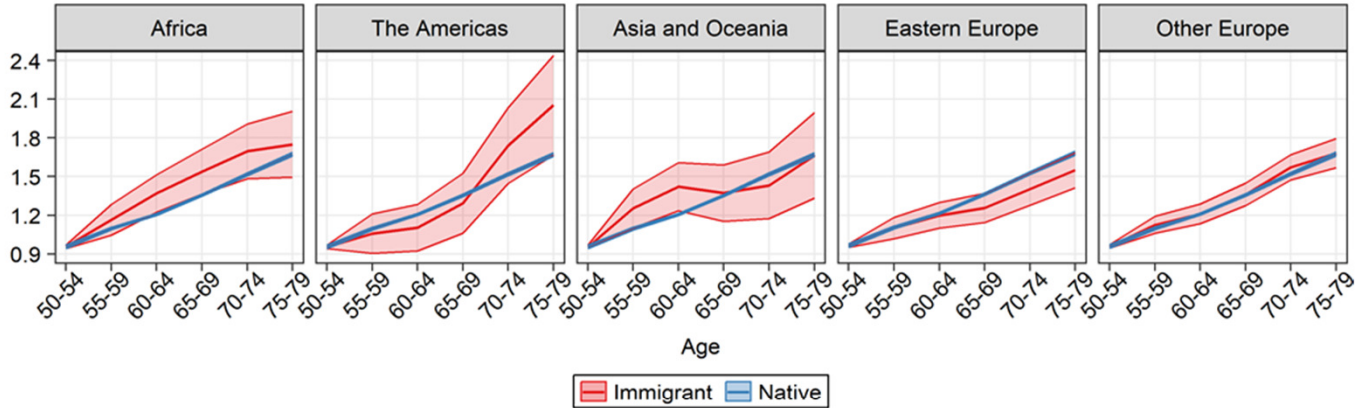


Fig. 2 Chronic health condition trajectories from the OLS estimation. **a** predicted number of chronic conditions by immigrant status; **b** immigrant-native differentials from the estimation
Note: All covariates calculated at the average; shaded areas from panel **a** indicate 95% confidence intervals.



Origin country group

a Chronic health condition development



b Immigrant-native differential

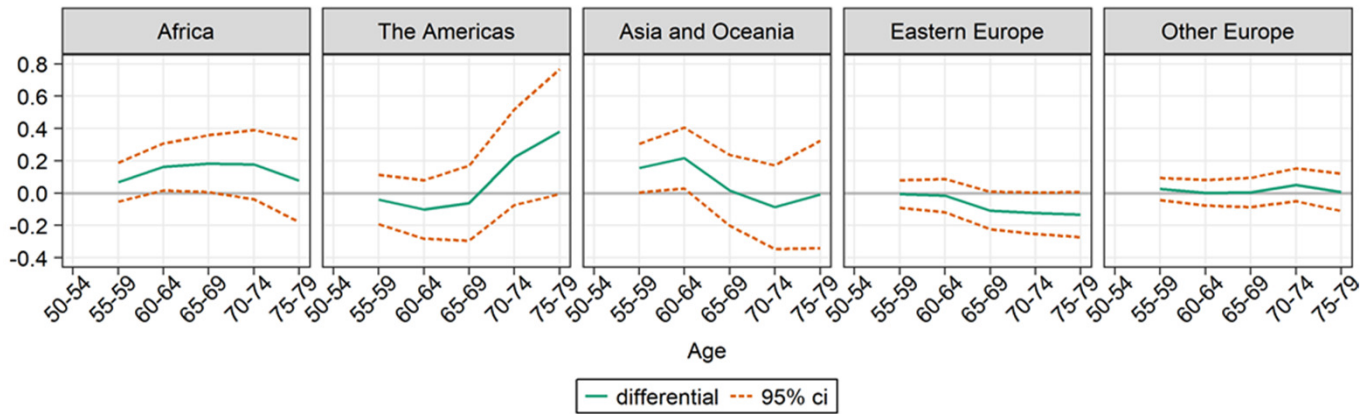


Fig. 4 Regional variations in the development of chronic health conditions by immigrant status between origin country groups. **a** group-specific development of chronic health conditions by immigrant status; **b** immigrant-native differentials from the estimation
Note: All covariates calculated at the average; shaded areas from panel **a** indicate 95% confidence intervals.

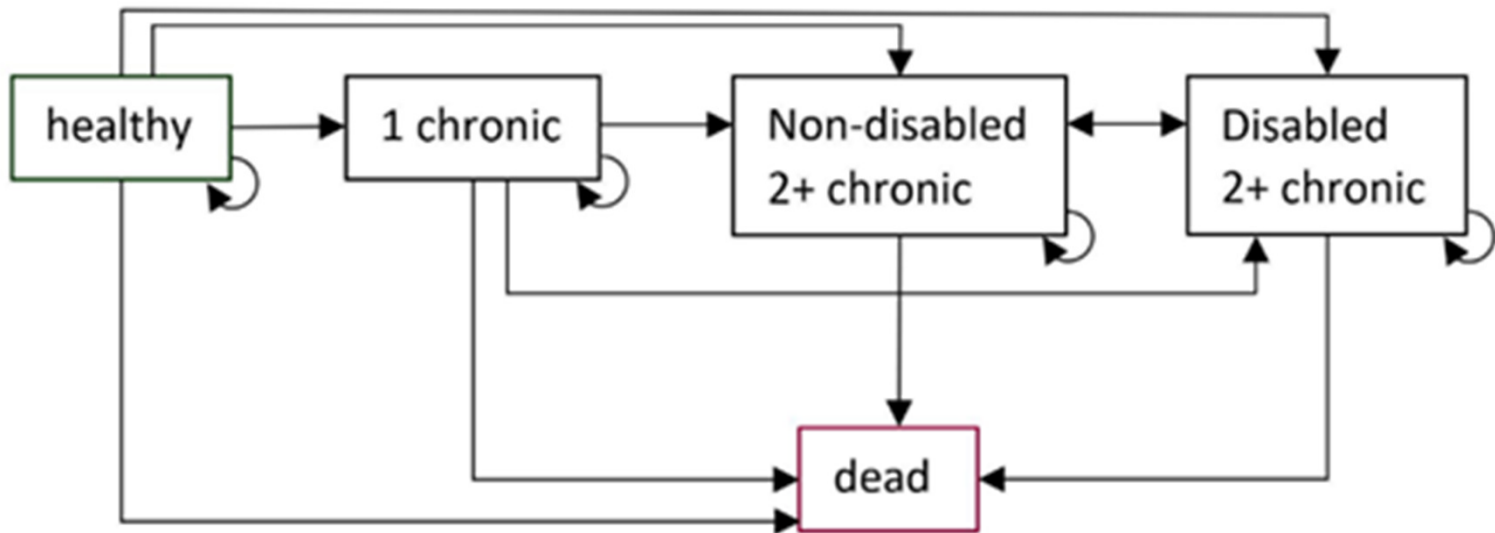


Figure 1 State-space diagrams of the multimorbidity model.

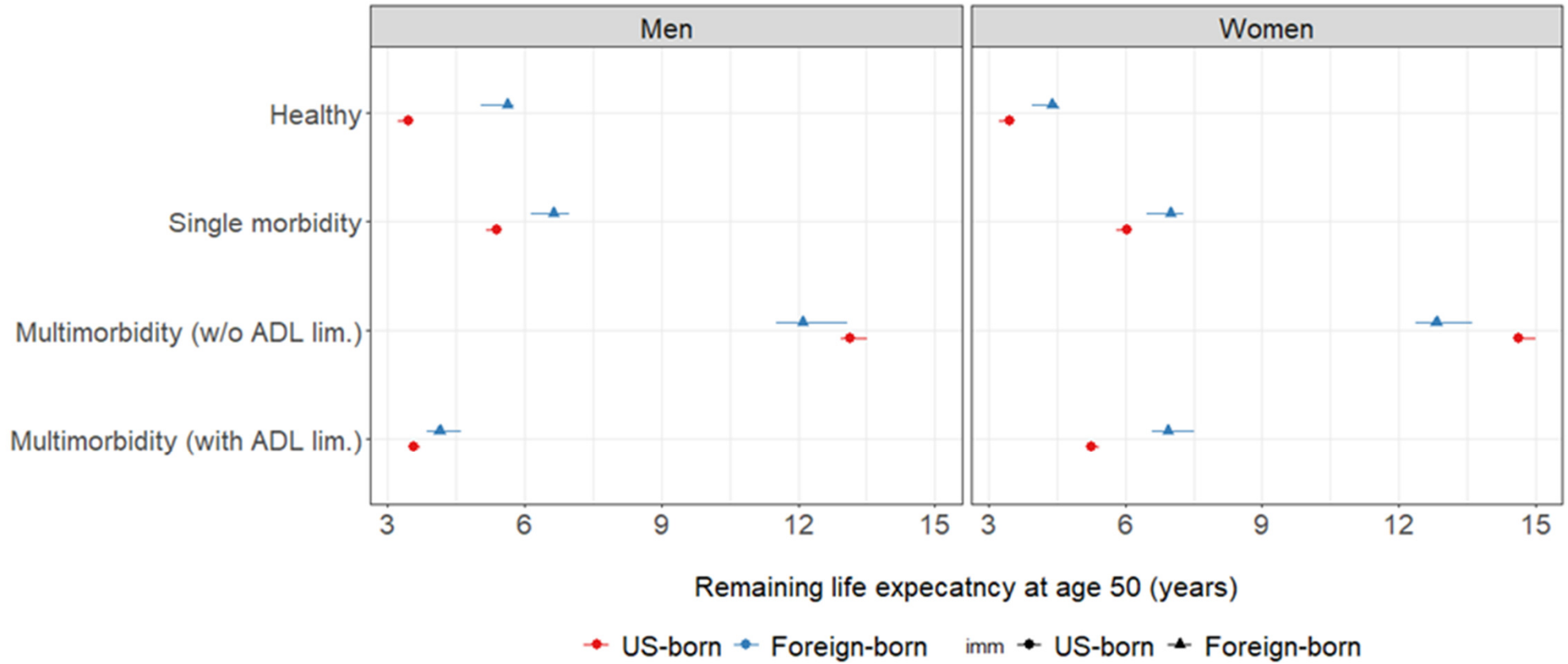


Figure 2 Life expectancy with chronic diseases and functional limitations by gender and country of birth.

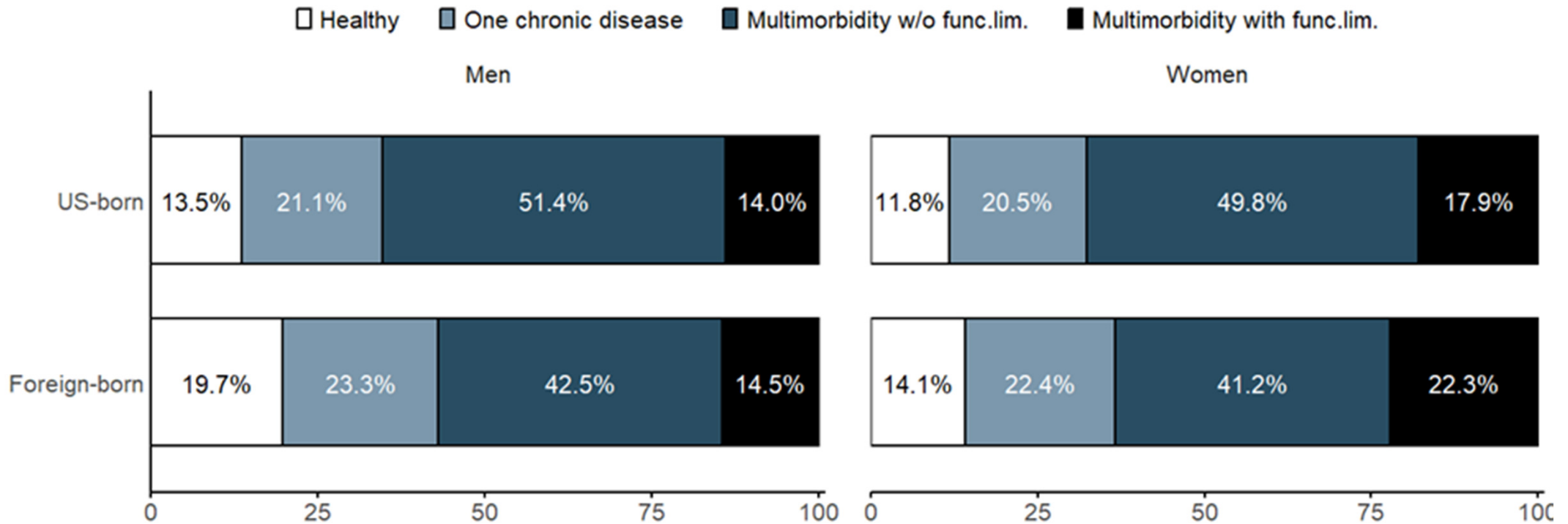


Figure 3 Relative share of lifetime spent with chronic diseases and functional limitations by gender and country of birth.



□ HLE ■ OLE ■ MLE ■ LMLE

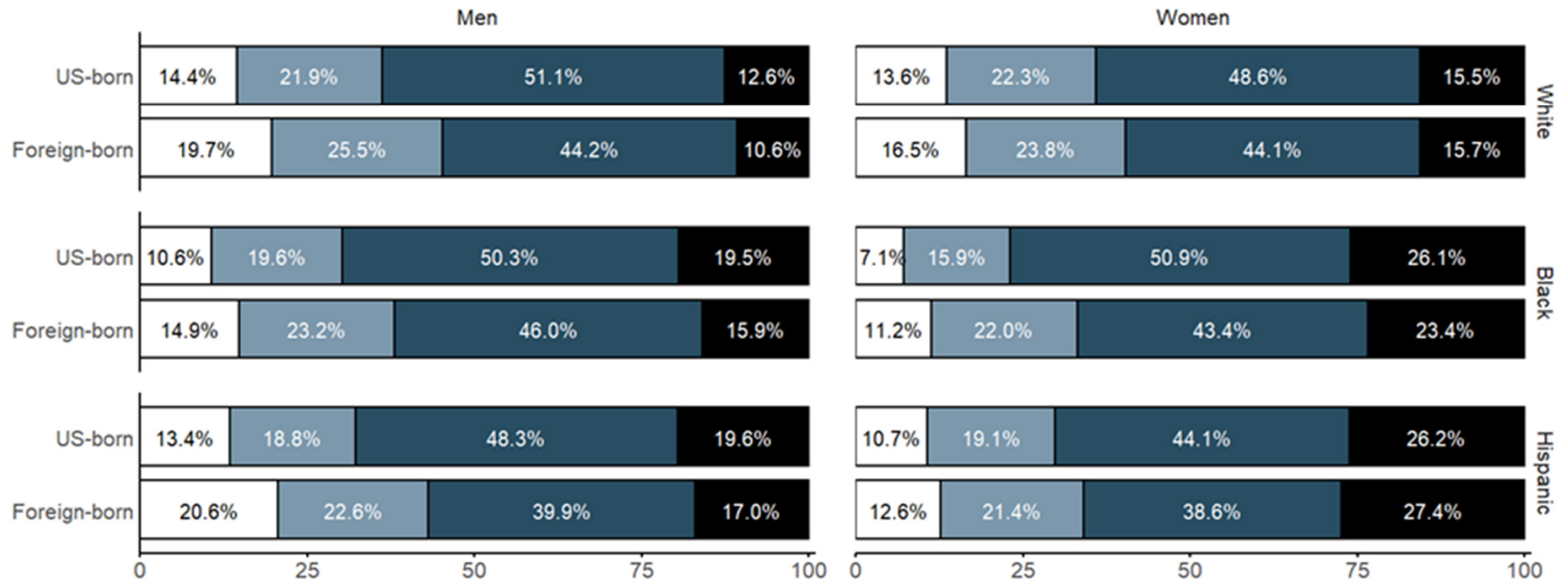


Figure 4 Relative share of lifetime spent with chronic diseases and functional limitations by gender, country of birth, and race/ethnicity.

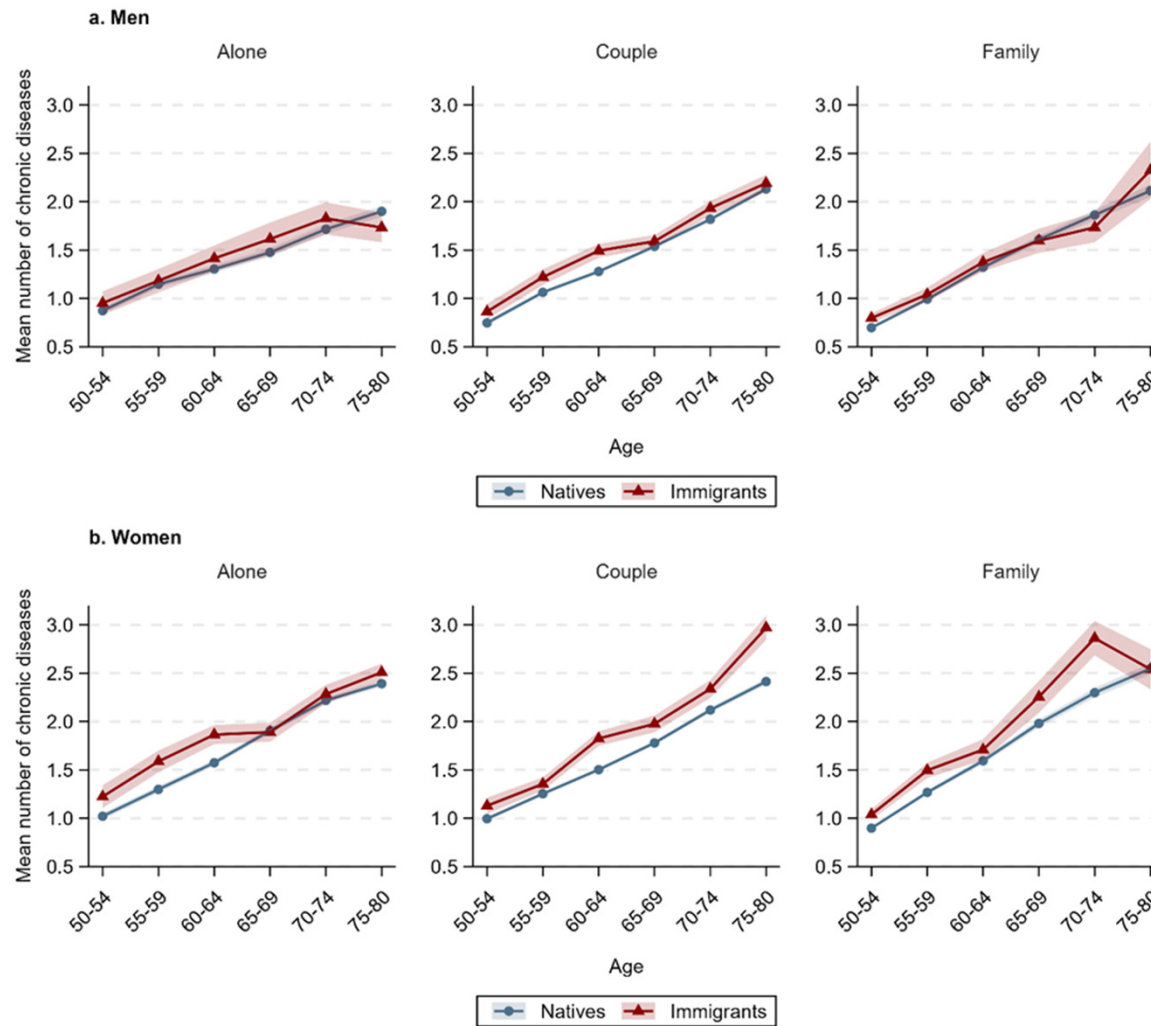


Figure 1 Average number of chronic diseases of the participants at the study entry by immigration background and living arrangement for each gender and age group.



Living alone

- Model 1: Only living arrangements, adjusted for SES
- Model 2: Model 1 + Interaction with age
- Model 3: Model 2 + Interaction with migration
- Model 4: Model 3 + Interaction with age and migration

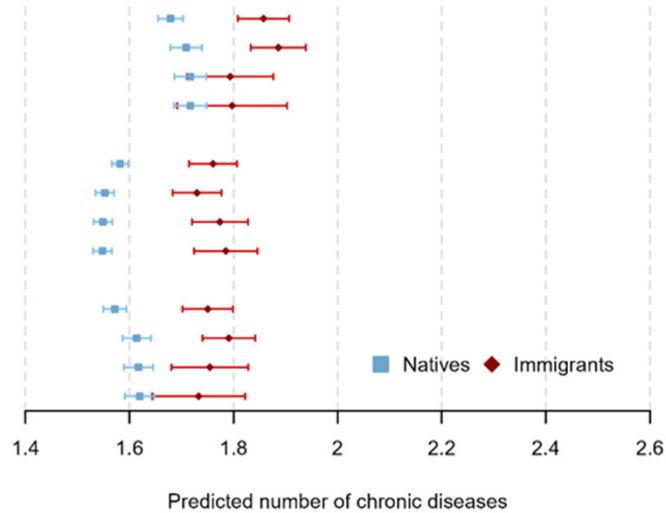
Living as a couple

- Model 1: Only living arrangements, adjusted for SES
- Model 2: Model 1 + Interaction with age
- Model 3: Model 2 + Interaction with migration
- Model 4: Model 3 + Interaction with age and migration

Living as a family

- Model 1: Only living arrangements, adjusted for SES
- Model 2: Model 1 + Interaction with age
- Model 3: Model 2 + Interaction with migration
- Model 4: Model 3 + Interaction with age and migration

a. Men



b. Women

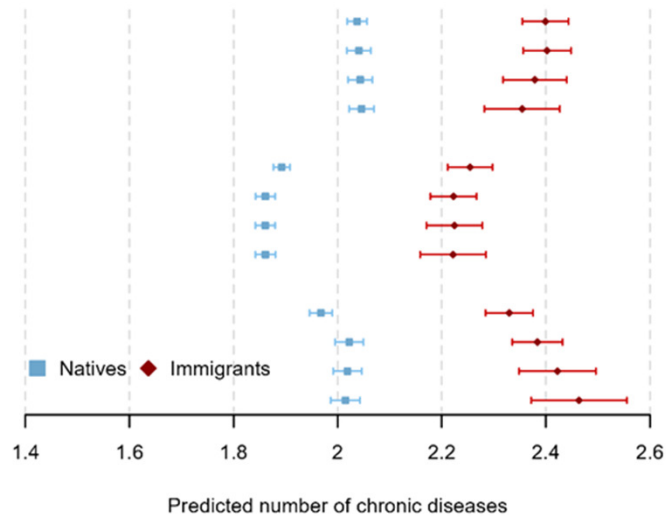


Figure 2 Average predicted number of chronic diseases by living arrangement and immigration background for men and women.

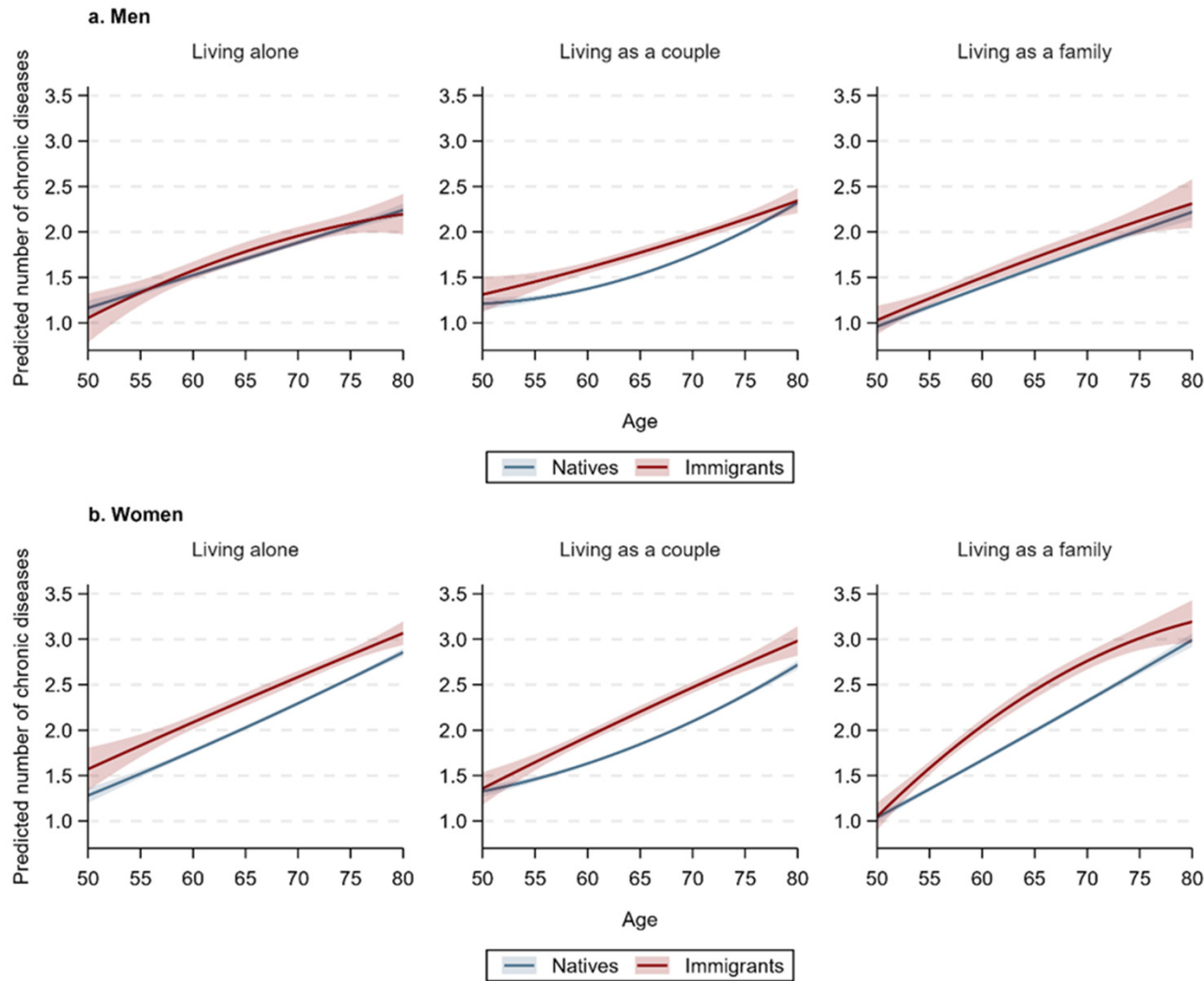


Figure 3 Predicted age-related profiles of chronic disease accumulation by living arrangement. Each box shows the gender- and immigration background-stratified estimations.

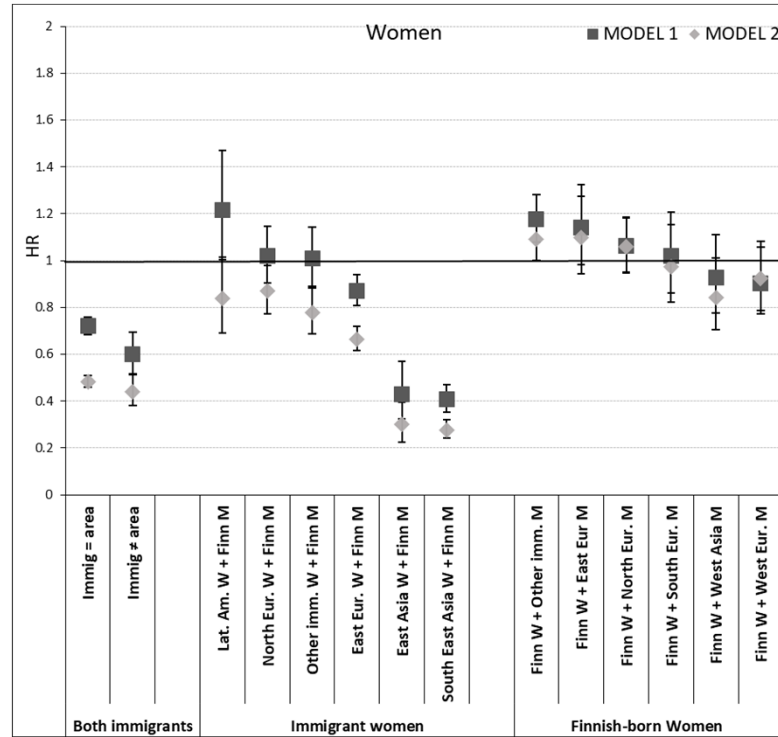
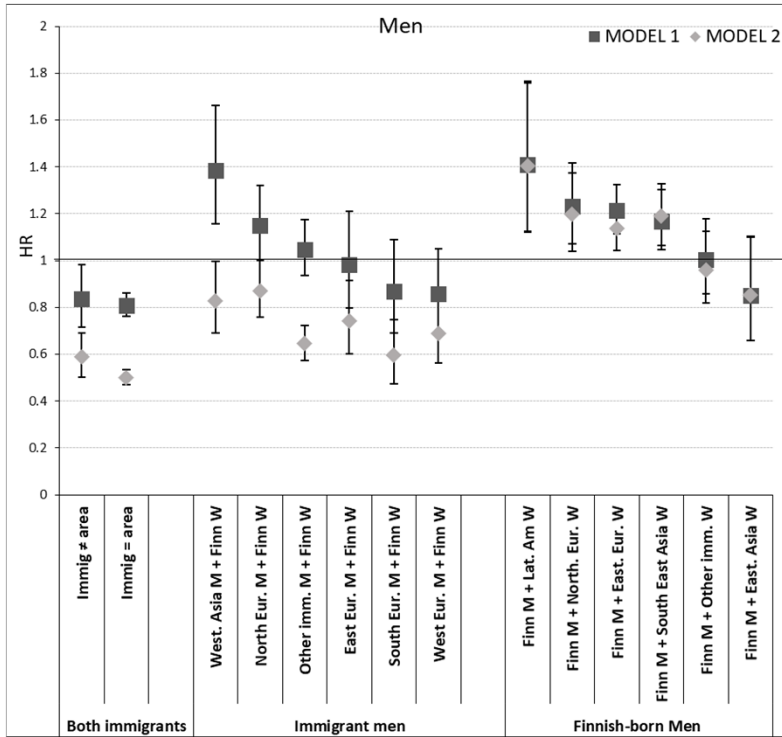


Fig. 1
 Psychopathological conditions
 Model 1: controlled for sex, age difference between the spouses, living in cities (yes, no), having children
 Model 2: Model 1 + cohabitation, income.

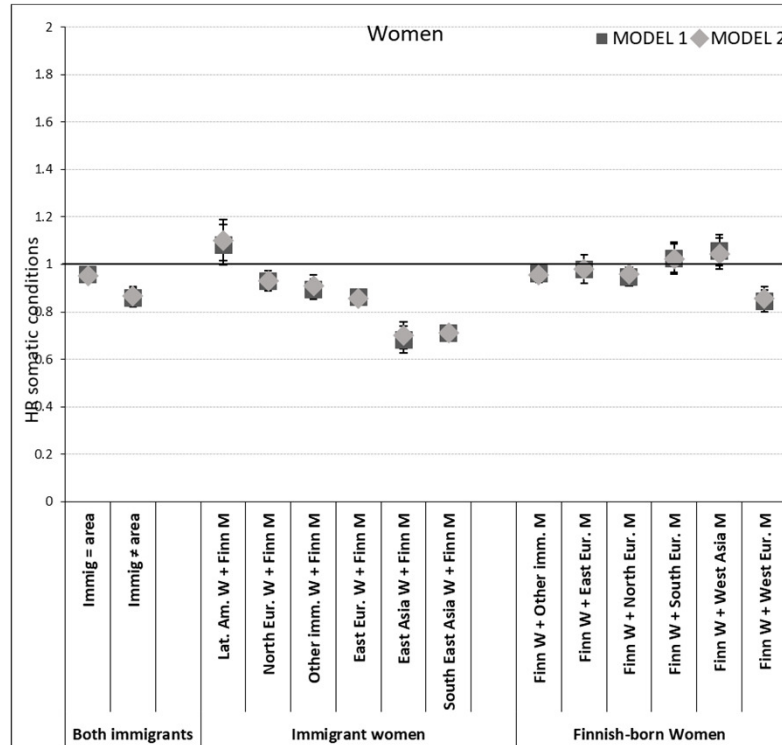
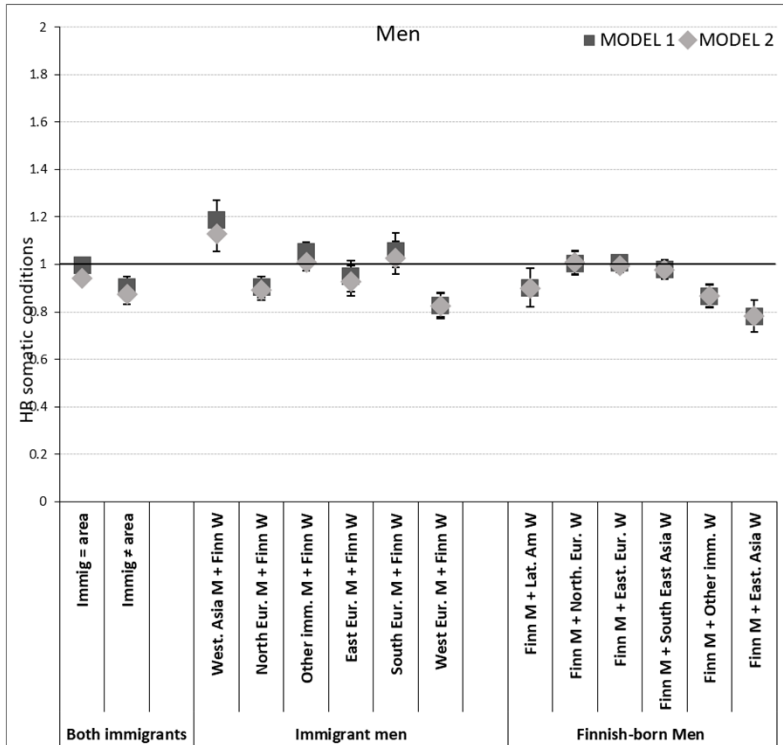


Fig. 2 Somatic conditions.

Model 1: controlled for sex, age difference between the spouses, living in cities (yes, no), having children

Model 2: Model 1 + cohabitation, income