Measuring Social Inequalities in Health: Data and Indicators

Dr. Insa Backhaus-Hoven

24.02.2026

- People in the EU now live an average of 81.4 years.

  o A child born in Spain can expect to live more than eight years longer than a child born in Bulgaria

- The number of years lived in good health varies even more.

  o In Malta, people can expect around 71 years in good health, compared with only 53 years in Latvia.
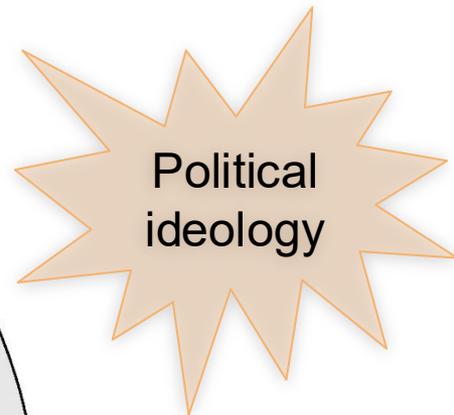

Life expectancy at birth 2023 (years)
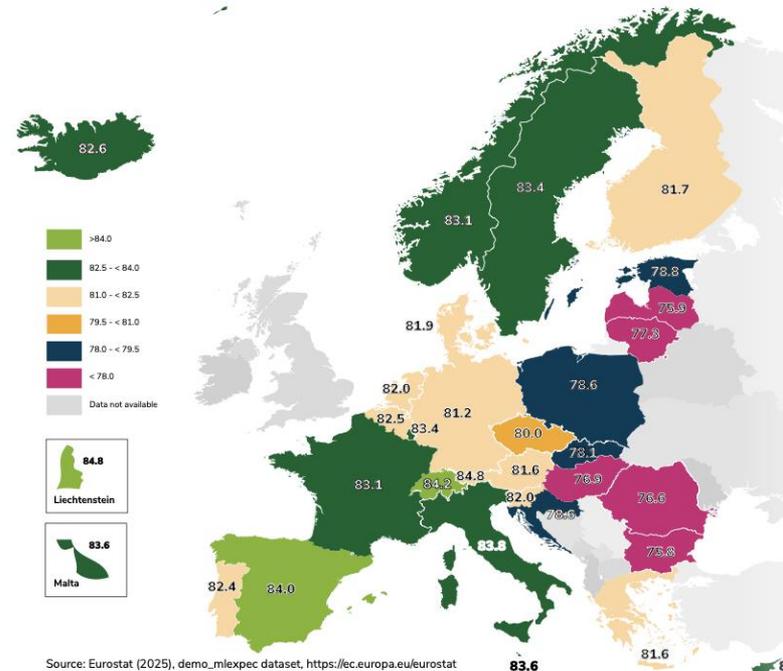
Source: Eurostat (2025), demo_mlexpec dataset, https://ec.europa.eu/eurostat

Social determinants of health

"…the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life."
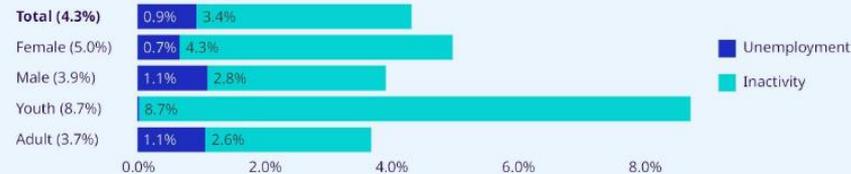*- World Health Organization -*
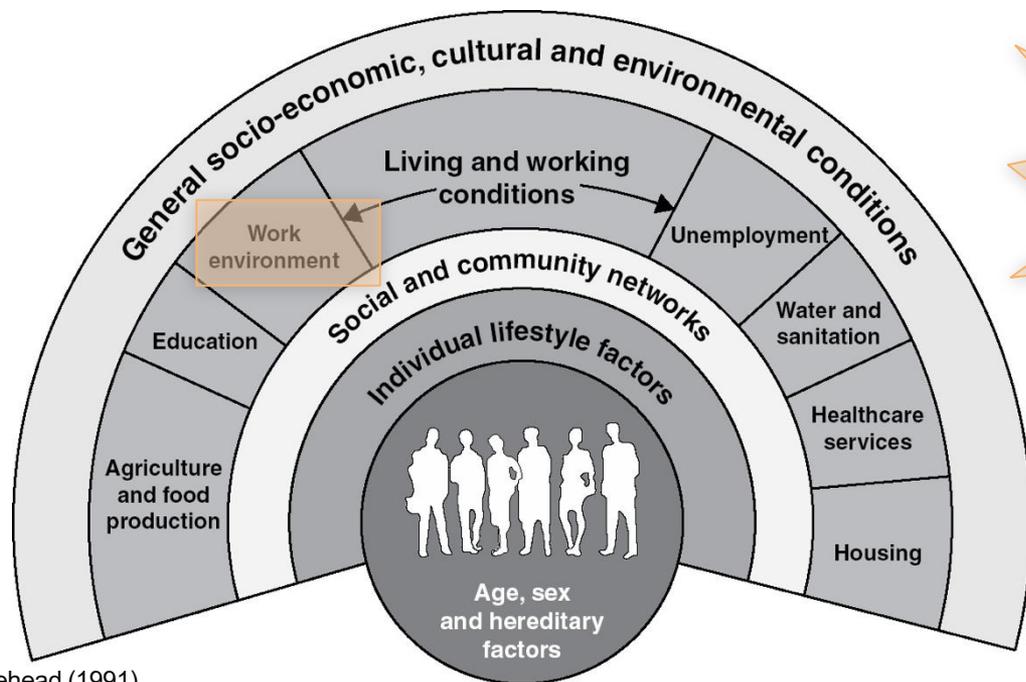
3

Psychosocial working conditions

4

Gender differences in working conditions

- 2020 was expected to be the "women super year", …

- but instead…

  - women suffered disproportionally from job losses.

  - women's income decreased during the first lockdown months.

  - existing inequalities between women and men exacerbated.

▶ **Figure 8. Decomposition of employment losses into changes in unemployment and inactivity, by sex and age, world, 2020** (percentage)

	Unemployment	Inactivity
Total (4.3%)	0.9%	3.4%
Female (5.0%)	0.7%	4.3%
Male (3.9%)	1.1%	2.8%
Youth (8.7%)		8.7%
Adult (3.7%)	1.1%	2.6%

Note: The two bars in each row show the difference in, respectively, unemployment and inactivity (withdrawal from the labour force) in 2020 as a percentage of employment in the "no pandemic" scenario. The total of the bars in each case is the difference in employment compared to the "no pandemic" scenario. The percentages inside parentheses that appear after the names of the demographic groups indicate the employment loss for each particular group. Youth = aged 15–24 years; Adult = aged 25+ years.

Source: ILO estimates.

> Women were more affected by employment loss than men.
>
> The employment loss in 2020 for women is 5.0% versus 3.9% for men.

Source: International Labor Organization (2021). *Fewer women than men will regain employment during the COVID-19 recovery says ILO* [News].

European Working Conditions Survey

- Launched in 1990

- Random sample of workers (employees and self-employed)

- Covers between 12 and 37 countries in Europe

- Conducted nearly evry 5 years

Measures in the EWCS

- Job demand (eg. tight deadlines, high speed, time pressure)

- Job control (eg. ability to choose or change order of tasks)

- Social support (eg. Support from colleagues or supervisior)

- Work-life balance (eg. Flexibility in working time, work-life conflict)

Data

- **5th & 6th European Working Conditions Survey (2010 & 2015)**
  - Cross-sectional study
  - n = 69.039 employees between 18-67 years old
  - 33 European countries

- **Living, Working and COVID-19 (2020)**
  - Repeated cross-sectional panel study (Summer 2020)
  - n = 24.144 employees between 18-67 years old
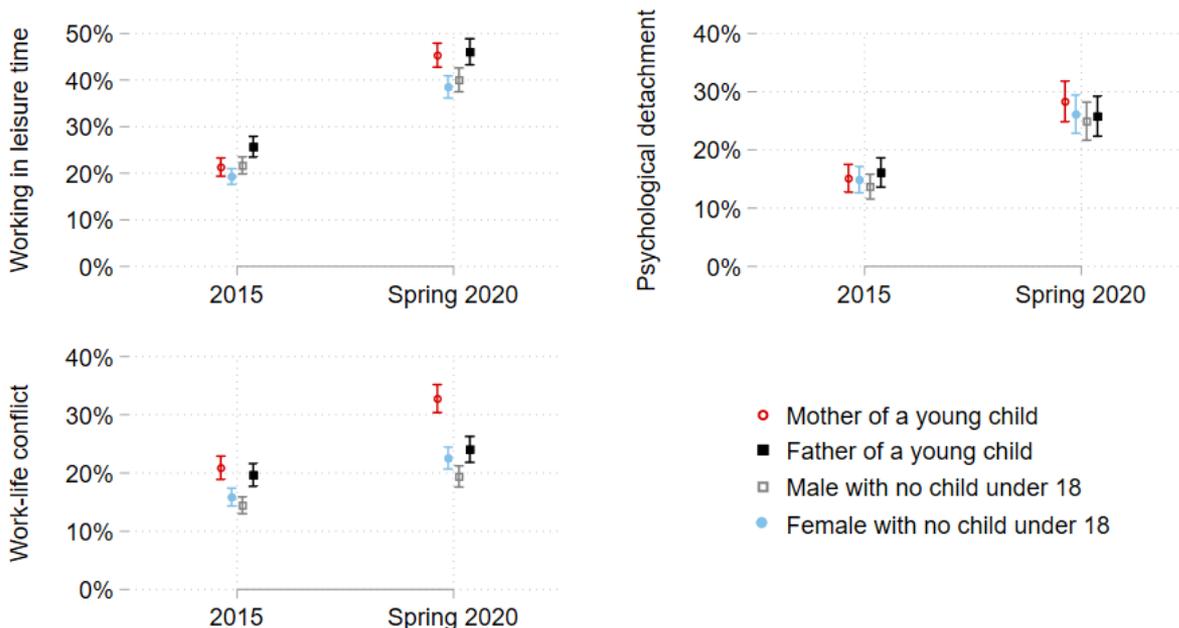 - 27 European countries

- **Combined dataset**
  - 75.125 employees between 18-67 years old
  - 27 European countries

Changes in work-related stressors before and during the COVID-19 pandemic: differences by gender and parental status
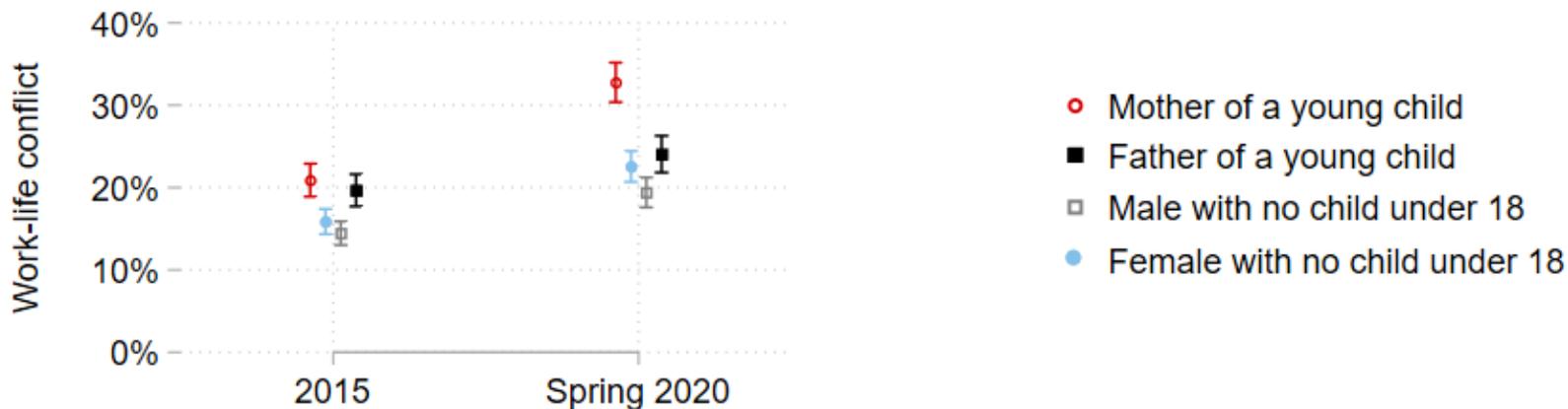
- Adverse psychosocial working conditions increased during the pandemic.

- The increase was more significant among women and mothers.

Legend:
- ○ Mother of a young child
- ■ Father of a young child
- ☐ Male with no child under 18
- ● Female with no child under 18

Note: Predicted probabilities and their 95% confidence intervals. Computation based on three-level multilevel regressions adjusted for age and education. Error bars represent 95% confidence intervals

Source: Backhaus, I., Hoven, H., Bambra, C., Oksanen, T., Rigó, M., di Tecco, C., Iavicoli, S., & Dragano, N. (2023). Changes in work-related stressors before and during the COVID-19 pandemic: differences by gender and parental status. International archives of occupational and environmental health, 96(3), 421–431. https://doi.org/10.1007/s00420-022-01933-w

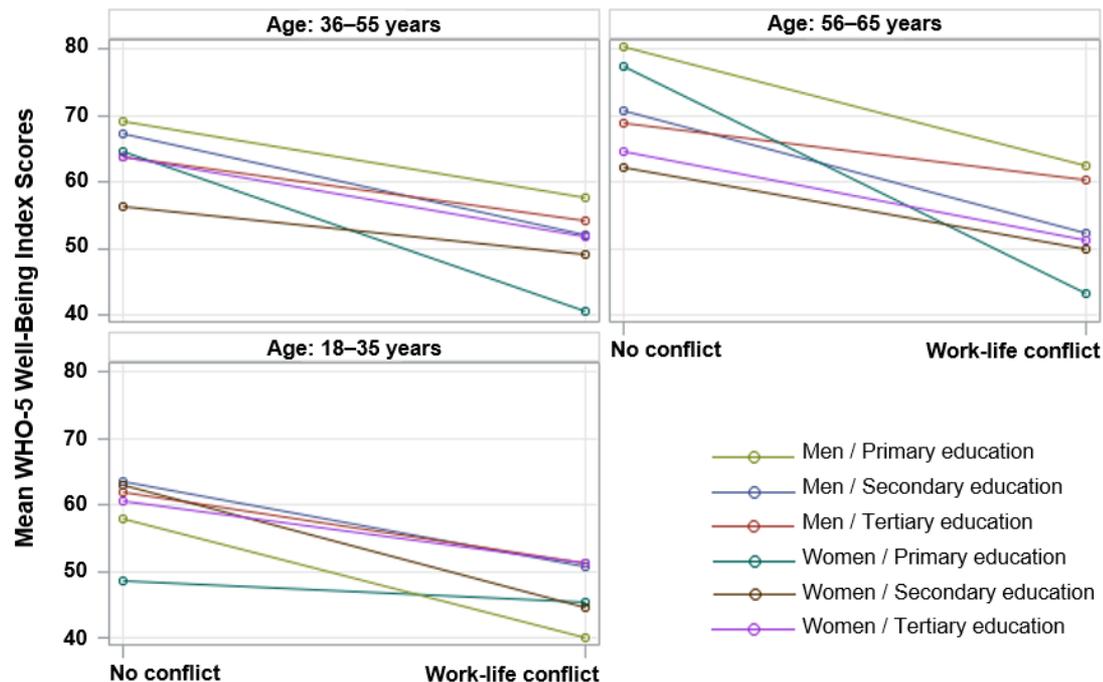# Gender differences in psychosocial working conditions during the COVID-19 pandemic

Note: Predicted probabilities and their 95% confidence intervals. Computation based on three-level multilevel regressions adjusted for age and education. Error bars represent 95% confidence intervals

Source: Backhaus, I., Hoven, H., Bambra, C., Oksanen, T., Rigó, M., di Tecco, C., Iavicoli, S., & Dragano, N. (2023). Changes in work-related stressors before and during the COVID-19 pandemic: differences by gender and parental status. International archives of occupational and environmental health, 96(3), 421–431. https://doi.org/10.1007/s00420-022-01933-w

Intersectional inequalities in work-life conflict and mental wellbeing

- Work–life conflict showed a negative association with mental well-being.

- During the COVID-19 pandemic the most prominent negative association between work–life conflict and health could be observed among women with primary education.

Backhaus, I., Gero, K., Dragano, N., Bambra, C. (2023). Health inequalities related to psychosocial working conditions in Europe. In ETUI, The European Trade Union Institute. https://www.etui.org/publications/health-inequalities-related-psychosocial-working-conditions-europe

Political ideology

- Established in 2001 and conducted every two years

- Large-scale, cross-national survey conducted across Europe

- Aims to provide high-quality, comparable data across participating countries.

- Focuses on topics such as politics, trust, well-being, social inequality, migration, work, health, and values.

Data

- Wave 10 of the European Social Survey published in November 2022

- Cross-country perspective collecting data in more than 25 European countries (e.g. Austria, Bulgaria, Germany, Italy)

- N > 52,000 individuals between 16-100 years old

Far-right populism has been associated with poorer health

- Voting for a far-right populist party is associated with poor self-rated health (AOR: 1.33, OR: 95% CI: 1.16 - 1.53)
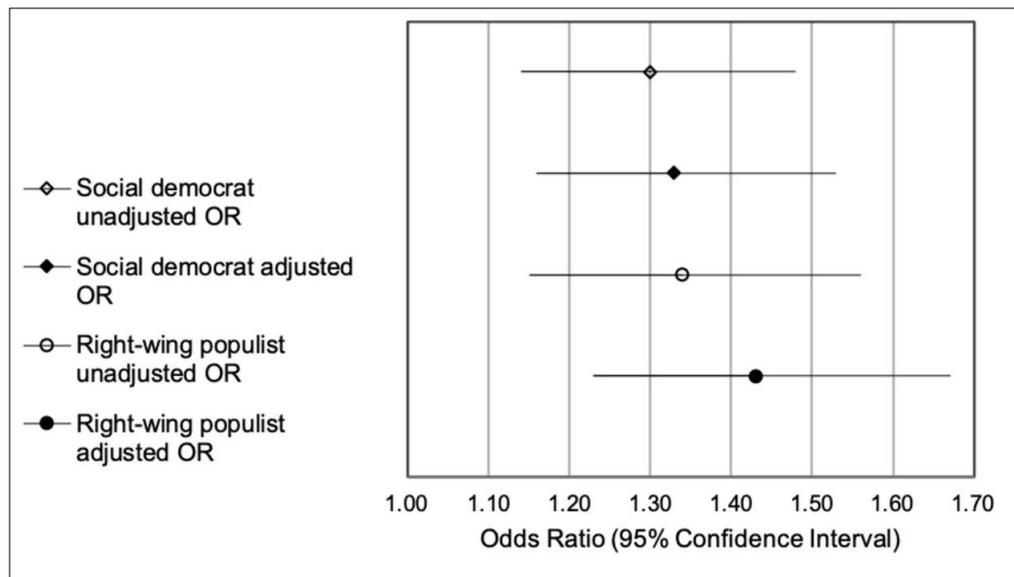

Figure: Unadjusted and age, sex and socioeconomic adjusted odds-ratios and 95% confidence intervals for political ideology. Pooled sample of individuals from 18 EU countries

Backhaus, I., Kino, S., La Torre, G., & Kawachi, I. (2019). Right-wing populism and self-rated health in Europe: a multilevel analysis. Journal of epidemiology and community health, 73(12), 1116–1121. https://doi.org/10.1136/jech-2018-211995

Political polarization of public health measures

Bolsonaro: *"For 90 percent of the population, this will be a little flu or nothing."*

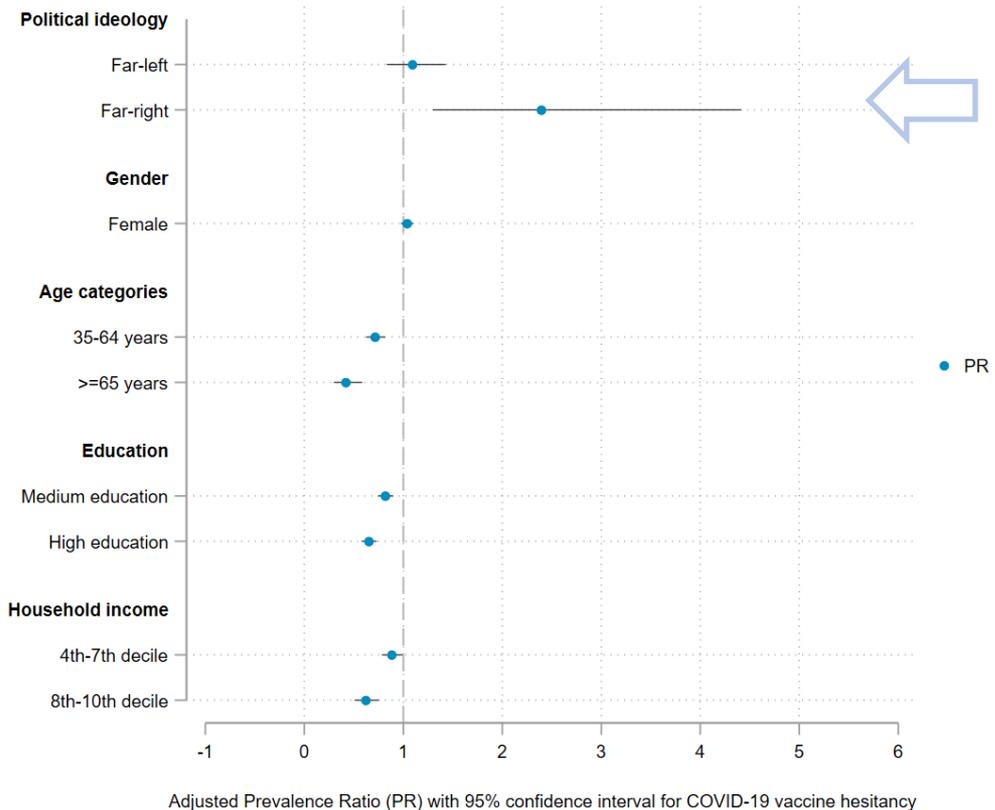Dúró : "The COVID-19 vaccine is more deadly for children than the virus itself."

THE LANCET

"On April 24, 2020,RSF for drinking disinfectants was 32.3 (95% CI: 31.9–32.7)."

Far-right political ideology and COVID-19 vaccine hesitancy: Multilevel

Insa Backhaus [a, b, *], Hanno Hoven [a, c], Ichiro Kawachi [a]

ries

- Data from 28,000 individuals nested in 21 countries suggests that there is an association between far-right ideology and COVID-19 vaccine hesitancy.

17

Political ideology and COVID-19 vaccine hesitancy

Adjusted Prevalence Ratio with 95% confidence interval
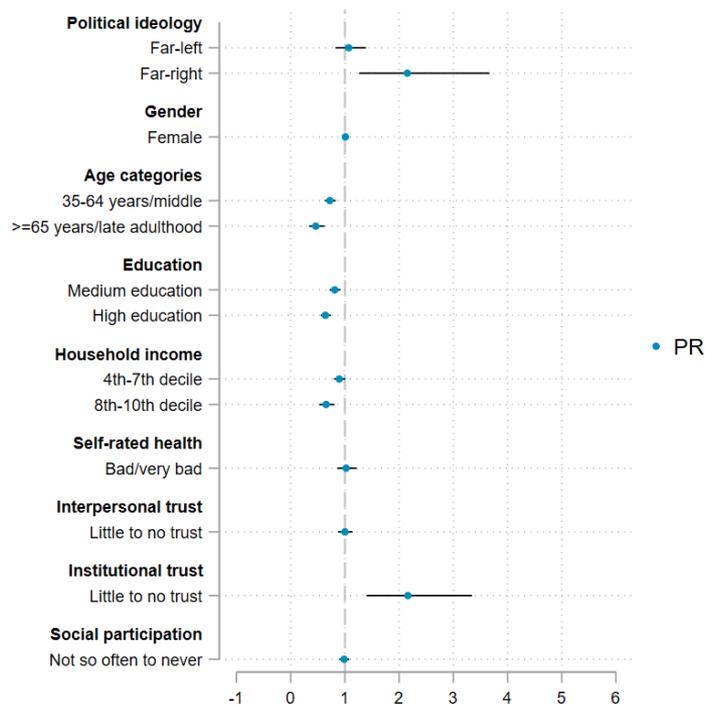
The estimate (PR: 2.11; 95% CI: 1.37-3.26) remained stable when adding confounders such as interpersonal and institutional trust.

Source: Backhaus, I., Hoven, H., & Kawachi, I. (2023). Far-right political ideology and COVID-19 vaccine hesitancy: Multilevel analysis of 21 European countries. Social science & medicine (1982), 335, 116227. https://doi.org/10.1016/j.socscimed.2023.116227

CROss-National Online Survey

- Sub-survey of the European Social Survey

- Attempt to establish a large-scale, cross-national, probability-based panel survey

- Respondents recruited at the end of face-to-face interviews in 11 countries

- CRONOS-3: Self-completion panel survey fielded over five waves from September 2024 until June 2025

Subjective mental health
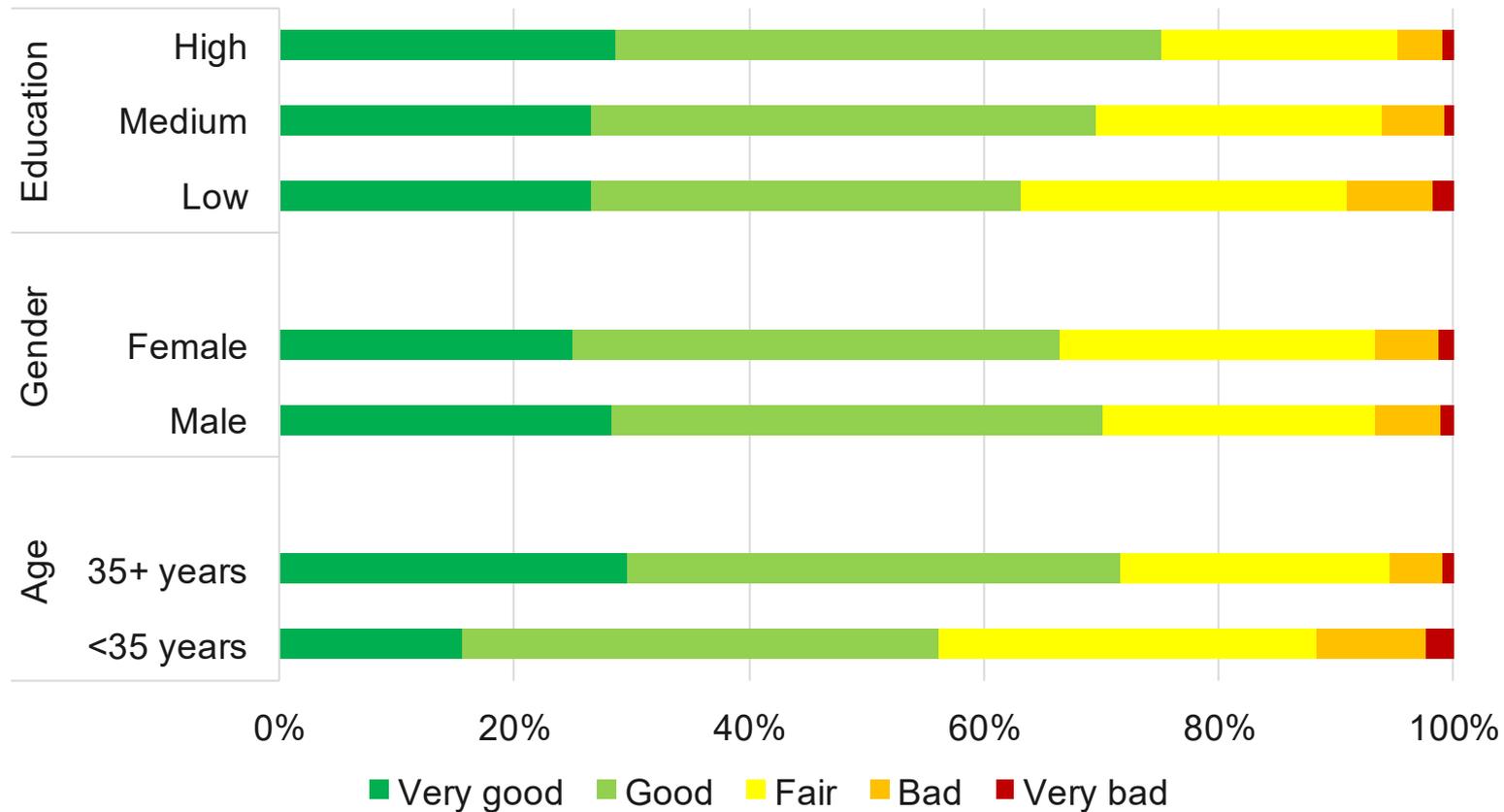
Conclusion

- Various data sources and A LOT to investigate.
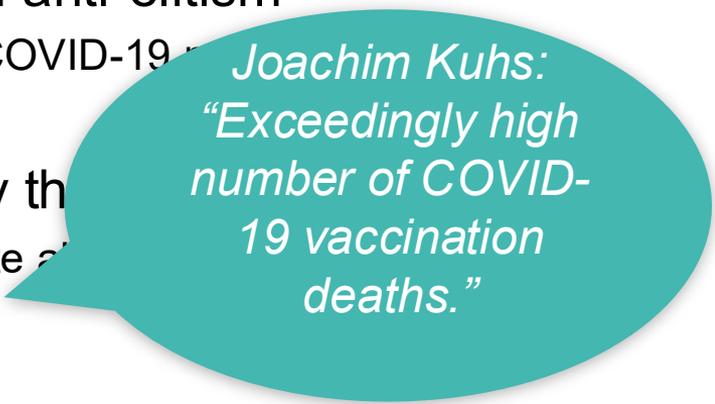
Thank you!

Dr. Insa Backhaus-Hoven

insa.backhaus@ntnu.no

https://orcid.org/0000-0002-5638-9057

Mechanisms explaining the association

1. Expression of the general sentiment of anti-elitism
   - Expression against government-mandated COVID-19 ~~

2. Belief in disinformation and conspiracy th~~
   - Far-right politicians have 'hijacked' the debate ~~ vaccination and have spread disinformation.

Joachim Kuhs: "Exceedingly high number of COVID-19 vaccination deaths."

3. 'Groupthink' and 'social contagion' of unhealthy behavior
   - A phenomenon where a cohesive group comes to a consensus with out critical reasoning or evaluation

1) Wondreys, J., & Mudde, C. (2022). Victims of the Pandemic? European Far-Right Parties and COVID-19. *Nationalities Papers*, *50*(1), 86–103. doi:10.1017/nps.2020.93

Conclusion

- Research focus: Social inequalities in health and determinants of health.

- Research is in line with the main research areas, teams and research methods.

Main Research Areas

Currently, the key areas of research are:

Work | Organisation | Gender

- Forms of work and work relations
- Flexible work — TEAM BERGHAMMER
- Organisational processes — TEAM STEIBER
- Segregation by gender — TEAM BORDONE

- Future research activities and grant application:
  - Quantify the effect of political ideology on health (e.g. systematic review and trend analysis).
  - Apply for a principal investigator grant from the Austrian Science Fund (FWF).

Additional slides

Reasearch focus

Investigation of social influences (e.g., working conditions, social capital, education) on health (e.g., mental health):

1. Development of social inequalities at early stages of the life course.
   - Adolescent health
   - Student health
   - Young people's health

2. Introducing political ideology as a new social determinant.

Education and adult mortality
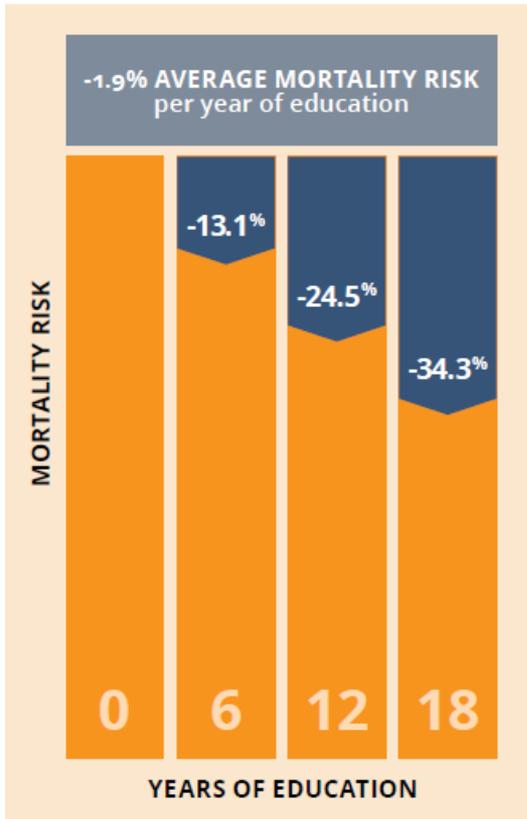
Each year of education reduces adult all-cause mortality

- Completing primary school reduces the risk of dying by 13% compared to no schooling.

- Graduating from secondary school lowers the risk of death by 25% compared to no schooling.

- 18 years of education reduces the risk of death by 34%.

Compatability to other research groups

Main Research Areas

Currently, the key areas of research are:

Work | Organisation | Gender

- Forms of work and work relations
- Flexible work
- Organisational processes
- Segregation by gender

Family | Generation | Life Course | Health

- Socio-demographic trends
- Construction of family patterns / stages of life
- Generational relationships
- Longevity

Migration | Cities | Social Policy | Social Inequality

- Diversity of forms of migration
- Socio-structural diversity
- Integration
- Relations between majority and minorities

Knowledge | Culture | Visual Worlds

- Dynamics of change of material culture
- Expertise, professionalism and competence
- Cultural change through media change
- Visual sociology

Compatability to other research groups

TEAM BERGHAMMER

- Work and Family
- Inequality
- Demography

Berghammer, C., & Adserà, A. (2022). Growing inequality during the Great Recession: Labour market institutions and the education gap in unemployment across Europe and in the United States. *Acta Sociologica*, 65(4), 374-397. https://doi.org/10.1177/00016993221083226

Berghammer, C. (2022). Childcare and housework during the first lockdown in Austria: Traditional division or new roles? *Journal of Family Research*, 34(1), 99–132. https://doi.org/10.20377/jfr-701

TEAM BORDONE

- Ageing
- Intergenerational relationships
- Grandparent (ship)
- Well-being
- Health

Arpino, B., Bordone, V., & Di Gessa, G. (2023). COVID-19 precautionary behaviors and vaccine acceptance among older individuals: The role of close kin. *Proceedings of the National Academy of Sciences of the United States of America*, 120(13), Artikel e2214382120. https://doi.org/10.1073/pnas.2214382120, https://doi.org/10.1073/pnas.2305288120

Arpino, B., Bordone, V., & Scherbov, S. (2018). Smoking, education and the ability to predict own survival probabilities. *Advances in Life Course Research*, 37, 23-30. https://doi.org/10.1016/j.alcr.2018.06.001

TEAM STEIBER

- Social structure and social inequality
- Education and social mobility
- Work/ employment
- Family
- Age
- Well-being/ health
- Quantitative methods

Steiber, N., Liedl, B., Mlynek, M., & Spitzer, S. (2021). Die Vereinbarkeit von Familie und Beruf in der COVID-19 Pandemie. Webpublikation, Institute for Advanced Studies (IHS). https://inprogress.ihs.ac.at/die-vereinbarkeit-von-familie-und-beruf-in-der-covid-19-pandemie/

Compatability to research methods

Main Research Methods

The main empirical methods used are:

Complex Statistical Methods for Analysis	Interpretative Methodologies and Methods	Analysis of Images, Film and Media
■ Cross-sectional and longitudinal analysis	■ Interpretive paradigm	■ Participatory photo interviews
■ Structural equation models	■ Grounded theory	■ Visual segment analysis
■ Sequence data analysis	■ Methods of biographical research	■ Ethnographic films

Reasons for not getting vaccinated

- Lack of Confidence in the safety of the vaccine.

- Complacency about the risk of the disease, believe that the disease is not harmful and vaccination not needed.

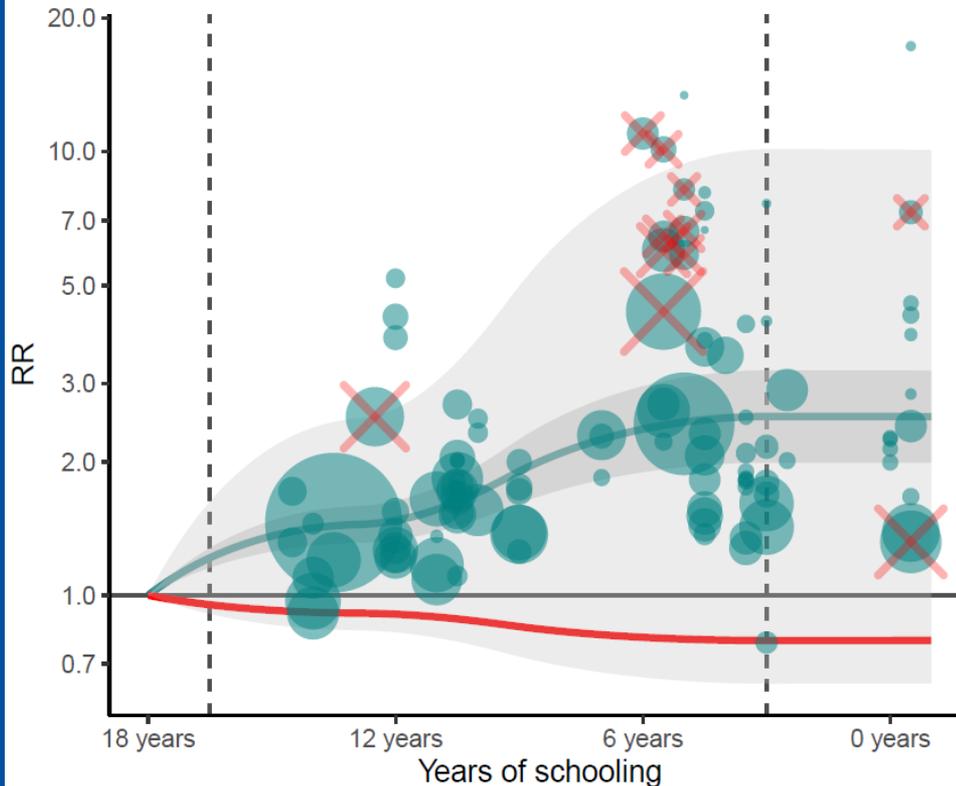- Inconvenience of receiving the vaccine due to its affordability or accessibility.

Education

Educational inequalities in COVID-19 mortality: A global systematic review and meta-analysis

Insa Backhaus-Hoven[1*], Claire Henson[2*], Talal Mohammad[1], Pilar Vidaurre-Texidó [1], Brigid Unim[3], Hanno Hoven[1,4],

nature medicine

Institute for Health Metrics and Evaluation

- Individuals with only 6 years of education had the highest risk of dying from COVID-19 compared to those with 18 years of schooling.

Inequalities in adolescent health during the COVID-19 pandemic: health and education professionals' perspectives

Nicola J Gray[1], Insa Linnea Backhaus[2], Shraddha Manandhar[1], Miranda Beck[3], Catherine Chabot[1], Terje Andreas Eikemo[2]

[1]UNESCO Chair 'Global Health & Education', University of Huddersfield, UK and Université Clermont Auvergne, France;
[2]Centre for Global Health Inequalities Research (CHAIN), Department of Sociology and Political Science, Norwegian University of Science and Technology (NTNU), Norway
[3]Institute for Environmental Medicine, Karolinska Institutet, Sweden

- Qualitative study: Online semi-structured interviews in 6 languages with education and health professionals.

Words used to describe the students' mental wellbeing included 'stressed', 'traumatised', 'overwhelmed', 'fatigued', 'anxious', 'depressed', 'frustrated', and 'burdened'.

Number of respondents
- 1 - 10
- 10 - 30
- 30 - 50
- 50 - 250
- 250 - 875
- Geopolitical frontiers
- Countries

35