

Educational differences in health in 26 European countries

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in the framework of the JA-EHLHEIS programme**

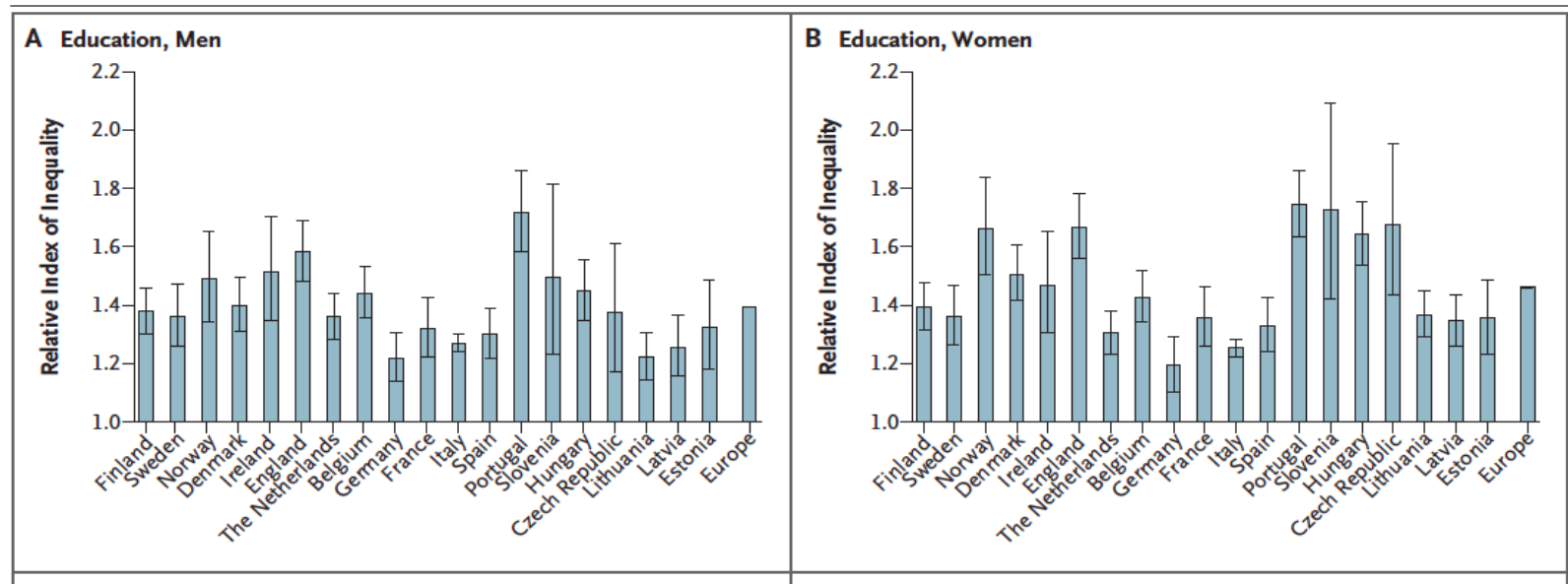
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Exploring educational differentials in health

Relative Inequalities in the Prevalence of Poorer Self-Assessed Health



Mackenbach et al. Socioeconomic Inequalities in Health in 22 European Countries. 2008. New Engl J of Med 358;23

- Large variation in the size of the high/low educated gap in poor health
- Country effect? Scandinavian and Anglo-Saxon have better self-reported health ... but Bismarckian/Anglo-Saxon regimes show smaller gaps than Scandinavian and Southern and Eastern European



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Exploring educational differentials in health

The magnitude of the
health inequalities
vary widely

Education & health of individuals:

(selection effect in childhood, health knowledge skills and access to care, economic return of education and life & work conditions)

- How much is the *health advantaged* of the HEd?
- How much is the *health disadvantaged* of the LEd?

Country context/welfare policy-related: Northern-Southern-Western-Eastern-Baltic

(Mackenbach et al. 2008 *New Eng J Med.*, Avendano et al. 2009 *J Eur Soc Pol*)

- To what extent policies improve care access, knowledge, and/or child & adult life conditions...
- and reduces/increments the health disadvantaged of the *LEd* or the health advantaged of the *HEd*

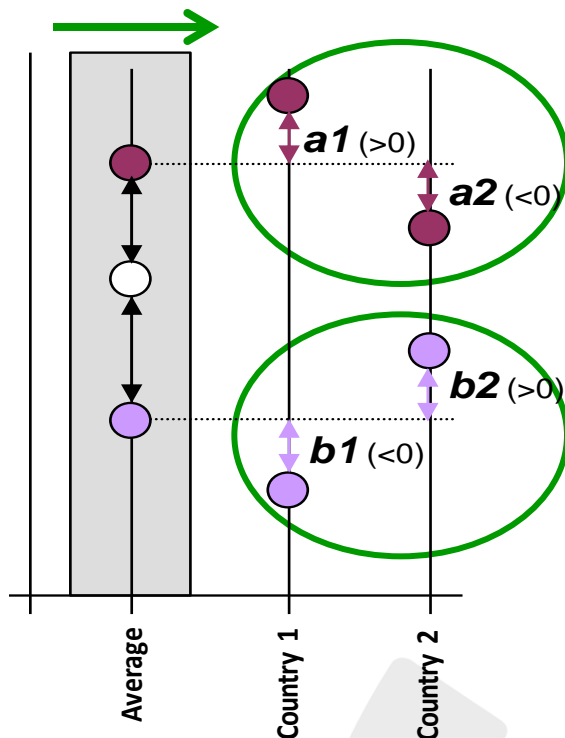


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Objectives

Looking not only at the variation of the size of the gaps but

- variation of the **health disadvantage** of the low-Ed
- variation of the **health advantage** of the high-Ed



- Low-educated
- Middle-educated
- High-educated

- 1) Compared to the middle-Ed:
average excess-risk of the LEd
average lower risk of the HEd
 - 2) How much the risk for LEd in country 1, 2... deviates from the average excess-risk
=> more or less *health disadvantaged* than average?
- How much the risk for HEd in country 1, 2... deviates from the average lower-risk
=> more or less *health advantage* than the average



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Data

2009 EU-SILC (European Study on Income and Living Conditions)

- 25 countries + Norway
- We consider 3 educational groups:
 - International Classification (ISCED): 0-2 | 3-4 | 5-6
- Data quality (representativeness of the sample)
 - We exclude individuals aged 80+ and three countries LU, IS, MT
 - We need to pay special attention to IE, ES, CZ, UK, SE, NL, IT, DE and SK
- Study population
 - We include individuals aged 30-79 and by 3 age groups
- Disability indicator : **GALI “Global Activity Limitation Index”**
 - "limitations in activities people usually do for > 6 months due to health problems"



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Method

Logistic models (standardizing for age, sex)

- 1) Estimation of the European average effect of education on health (for the pooled data – 26 population samples)
- 2) Estimation of country specific patterns:
Country x Ed interactions *minus* 1)

Repeated analysis for the 30-79, 30-49, 50-64, 65-79 years old:

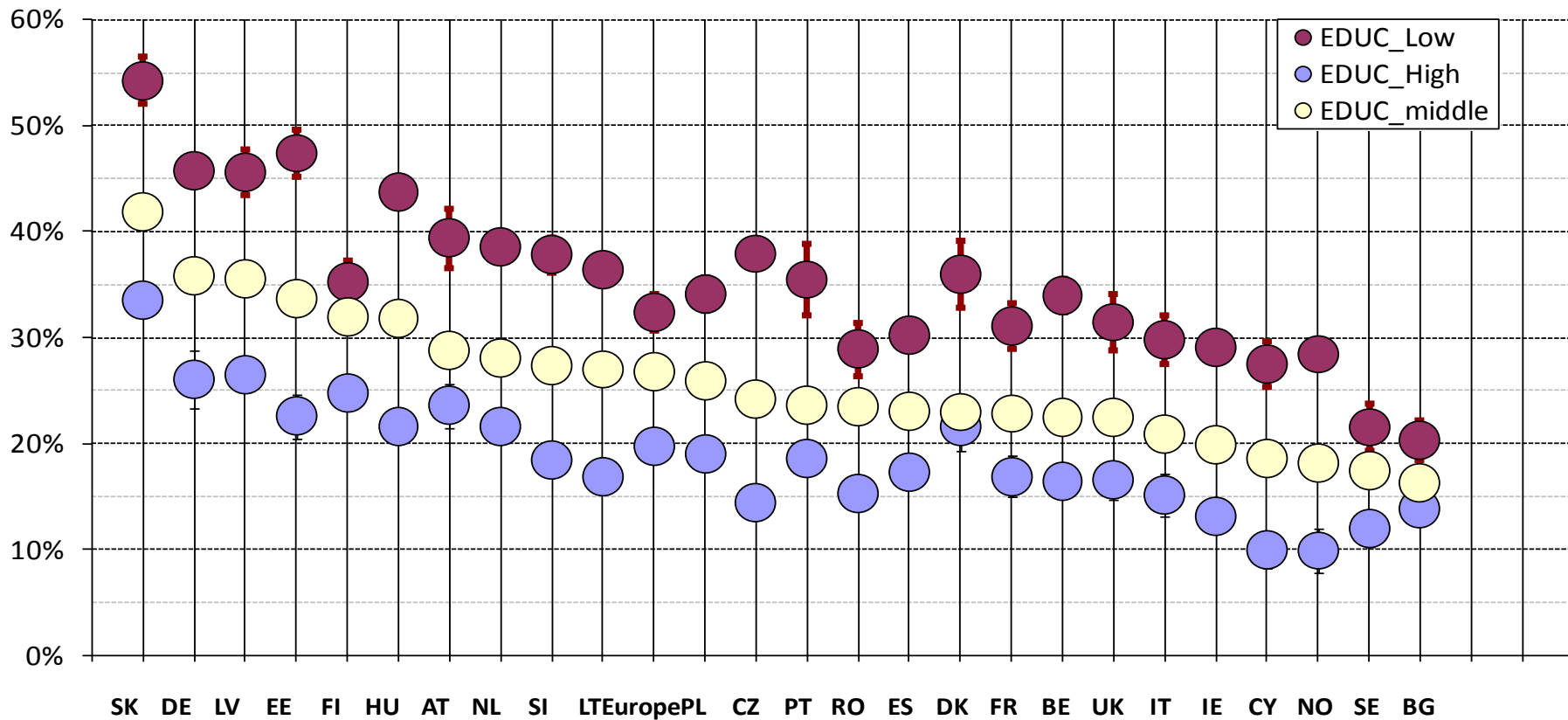
- Education does not mean the same across generation
- Social regime/economic situation changed over time



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Results

GALI prevalences in the 30-79 years old in 25 EU countries and Norway



➡ Wide spread levels of AL across EU from 16% in BG to 41% in SK

➡ Standardization in our models



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1) Estimation of the European average effect of education on health

Category		Model 1 30-79	Model 2 30-49	Model 3 50-64	Model 4 65-79
Age	Add. Year	0.05***	0.04***	0.05***	0.06***
Sex (ref. Male)	Female	0.12***	0.13***	0.09***	0.15***
Low Education (vs. middle)	0-2	0.42***	0.52***	0.44***	0.31***
High Education (vs. middle)	5-6	-0.43***	-0.52***	-0.50***	-0.26***

COVARIATES: GALI positively associated with age, women

EDUCATION

LEd is significantly associated with a higher level of GALI

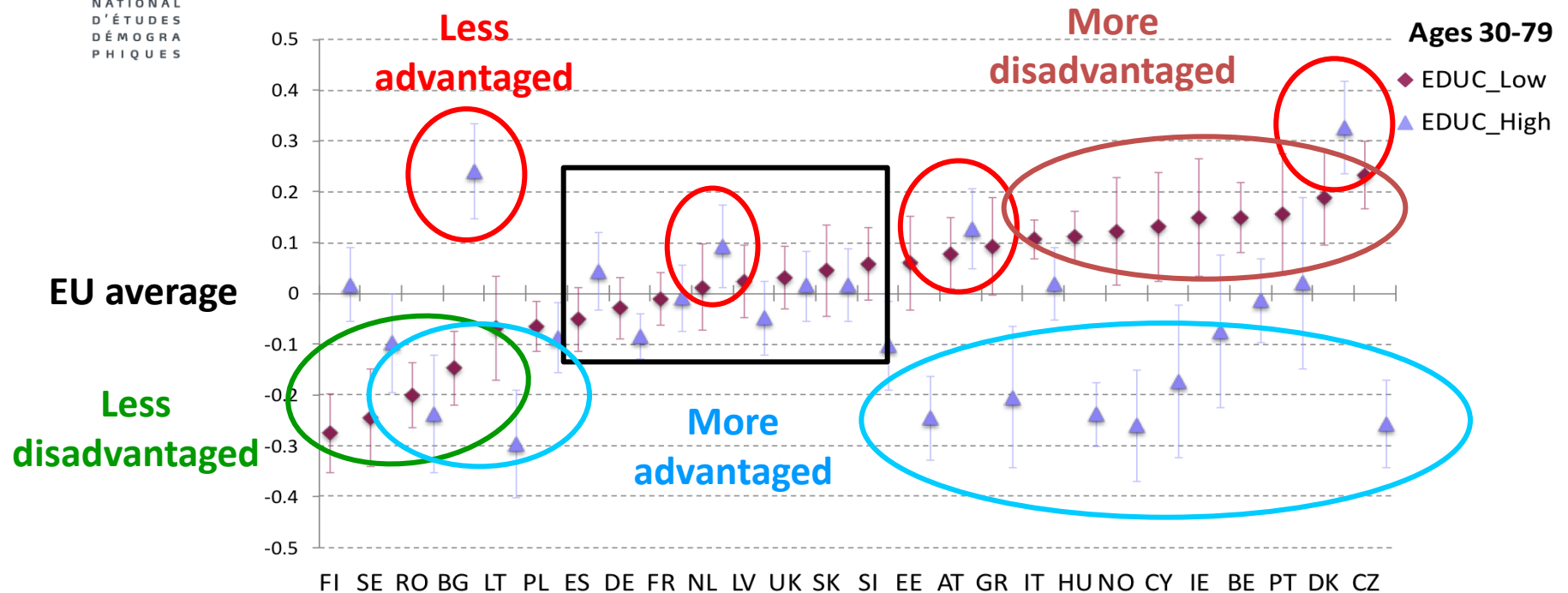
HEd is significantly associated with a lower level of GALI

Slight change across age groups



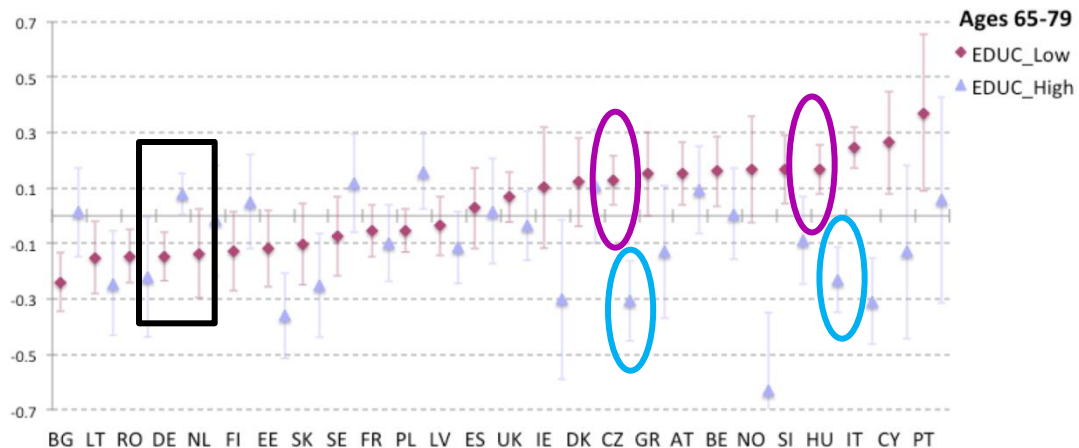
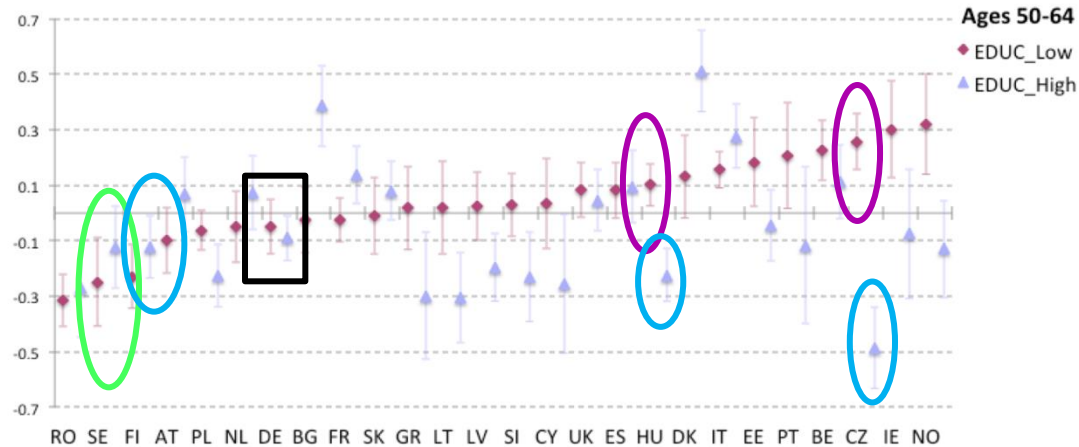
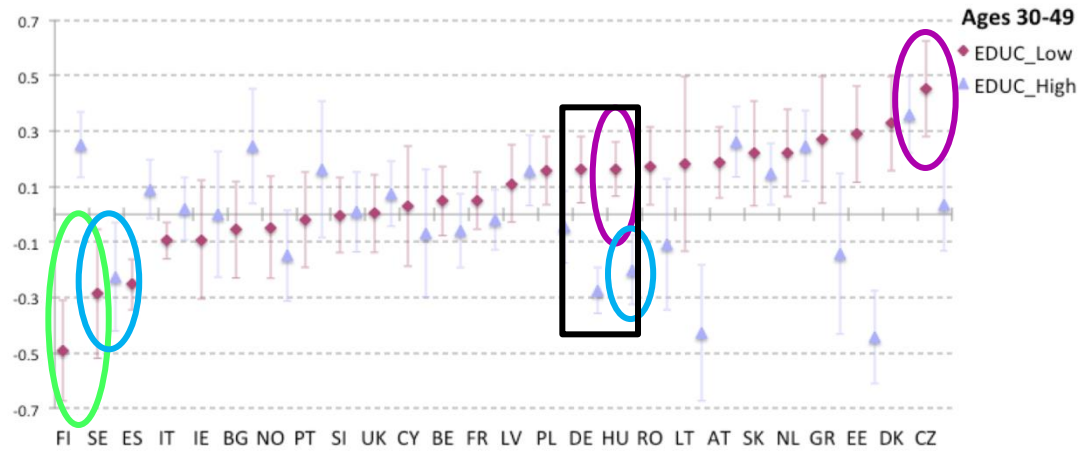
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2) Estimation of country specific patterns: more or less health advantage or disadvantaged?



- ➔ No significant additional country-effect towards the *HEd* or *LEd*
- ➔ **LEd** : Less disadvantaged in some countries -> two Scandinavian (FI, SE)
More disadvantaged in some others -> Eastern countries
- ➔ **HEd**: More advantaged for a large number of countries
Less advantaged in BG, NL, AT and DK

Coefficient of the country-education effect by age groups



→ **Hungary and Czech Republic** (large health gaps)

- *LEd*: more disadvantaged across ages
- *HEd*: more advantaged across ages

→ **Finland and Sweden**

- *LEd*: less disadvantaged in the younger
- *HEd*: more advantaged in the younger

→ **Germany**

Older Ages { less disadvantaged for the *LEd*
less advantaged for the *HEd*

- no significant effect in middle ages
- a reverse effect in younger ages



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Discussion

- Country-specific effects on high and low-educated
- Scandinavian countries (Small health gaps in Sweden and large in Denmark):
 - LEd are less disadvantaged** than EU average (FI, SE)
 - Protection system? Composition of the groups?
 - HEd are less advantaged** than EU average in DK (and NL, AT, BL), especially in the younger age group
 - Composition of the groups? Health behaviors (smoking)?
- In some Eastern European countries
 - LEd are less disadvantaged** in older age group although few/selected
 - Mortality selection effect?
- Changing patterns across age groups (country history, economic development over time and generations, education, public policies)
 - Example:
 - older Germans => *HEd* are less advantaged / *LEd* are less disadvantaged
 - young Germans => *HEd* are more advantaged / *LEd* are more disadvantaged



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Discussion

○ **Limitations:**

- Varying response rates across countries (poor health? – non response due to survey design)
- Under-representation of some education groups (because of health?)
- Sample size (CI 95%), separate by gender => pooling several years
- SILC does not account for people living in institutions
- GALI may be reported different across Europe
- Different socio-economic composition of the educational groups

○ **Future lines:** Analysis of the structural and contextual patterns



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Objectives

- Looking not only at the variation of the size of the gaps but
 - variation of the health disadvantage of the low educated
 - variation of the health advantage of the high educated
- Highlight country specific association of education & health
 - Which country deviates from the average health-education patterns (controlling for the level of poor health, age and sex structure)?
 - Deviations for low-educated AND/OR high-educated?
 - Stable pattern across age-group/generations?
 - Association with welfare regimes?
 - Do Scandinavian countries protect low-educated? What about high-educated?
 - Do patterns in Eastern-European countries change across generations?
 - Do Western-European countries exacerbate the low-educated disadvantage and the high educated advantage?
 - ...

- **Future lines:** To better understand the health gaps, we need to further understand the various structural and contextual patterns
 - Composition effect = macro variables on social composition of the educational groups (economic return or type of occupation)
 - Policy effect = macro variables on health system or health behaviors, social benefits, pensions...

“Information on health gaps is not sufficient in terms of policy implications”

