

# EDUCATIONAL DIFFERENTIALS IN DISABILITY AND WELFARE REGIMES: ARE LOW-EDUCATED SCANDINAVIANS RELATIVELY LESS DISADVANTAGED THAN OTHER EUROPEANS?

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## SUMMARY

Closing social gaps in health and disability is a priority in public health, meanwhile policies implemented to achieve this goal are pluralistic, even within similar welfare regimes, impacting differently the various SES groups. This study explores the country specific association between education and disability by assessing the variation in the relative advantages/disadvantages of the educational groups. Based on a European dataset and a selection of 26 countries (EU-SILC 2009), logistic models allowed quantifying the average education-disability association and country-specific interactions. Disability is measured by "activity limitation due to health" (AL) and education is broken down in three groups. We found a substantial variation across countries in the AL advantage of the high-educated and disadvantage of the low-educated groups, with changing patterns across ages and within welfare regimes. Evidences of country specificities in the association between education and disability are useful in understanding country policy implications.

## EXTEND ABSTRACT

### CONTEXT

While increased longevity has been experienced in most European countries, a significant part of life is lived with diseases and disability. Large variations in this proportion of life lived with disability are observed across Europe<sup>1,2</sup> and within countries according to socioeconomic status (SES). Closing social gaps in health and disability is a top priority in public health and could constitute an avenue for increasing healthy aging at the population level. Meanwhile the policies implemented to achieve this objective are pluralistic across the European Union (EU), with uneven impact on the different socioeconomic groups. This diversity translates into country variations in the extent of the health disadvantage of the lower SES groups and health advantage of higher SES groups.

Indeed, country specific context and policies at a given time may alter individual's life conditions and pathways<sup>3</sup>. Firstly this may occur through the availability and quality of health care, prevention and protection throughout the national territory. Secondly, protective regimes may compensate for individual's lack of resources, promote universal children's well-being and access to education, and facilitate access to health care for all. Finally, the country's economic conditions and resources, the efficiency of protective regimes and the economic returns of free education might play a role. Therefore, not only the health care system impacts health outcomes but the whole social welfare system driving people's individual and collective resources to manage own health<sup>4</sup>.

Based on the social and political context of the countries, multiple policies have been implemented to reduce SES health differentials: universal policies aim to protect the whole population from identified risks and provide unrestricted access to care; proportional policies balance efforts proportionally to existing inequality gradients; while specific policies target the most deprived<sup>5</sup>. These policy schemes are likely to vary in their impact for the different SES groups, leading to variations both in the health disadvantage of the lower SES and in the health advantage of the higher SES.

A number of studies have shown variation in SES differentials in health across different welfare regime, but also within these regimes<sup>6-8</sup>. While Scandinavian regimes have the highest individual protection levels and should reduce the health disadvantage of the low-SES groups, the question is whether this pattern applies to every countries concerned and whether the high-SES groups also benefit from this protection, increasing their health advantage (and therefore the health differential). And indeed, Scandinavian countries did not display the smallest SES differentials and the size of the differentials varies between them. The extra-advantage of the higher educated might be an explanation<sup>9-11</sup>, as well as different country context.

In a context of complex associations between policies and health inequalities, this study aims to further document the country-specific interaction between disability and each of the SES groups. Our approach aims to highlight the variation in the patterns observed across and within welfare regime groups by comparing the European and the country-specific disability advantage of the high-educated groups and disadvantage of the low-educated groups.

## **METHOD**

We used the 2009 European Union Statistics on Income and Living Conditions (EU-SILC), a data set harmonized across EU member states. It comprises the *Global Activity Limitation Indicator (GALI)* which measures functional disability similarly across Europe in response to a standardized question on the extent to which people are "*limited for at least six months in activities people usually do, due to health problems*"<sup>12,13</sup>. Individuals with activity limitations (AL) are those who answered being moderately or severely limited. Three educational groups, based on the level of education achieved according to the International Standard Classification of Education, are used: 0-2 for the low-educated (primary and lower secondary education), 3-4 for the middle-educated (upper secondary education) and 5-6 for the high-educated (tertiary education) group.

Our study is based on a subset of 26 European member states aged from 30 to 79 years old. Computations use baseline sample weights. We first described the prevalence of AL by country and education group, as well as educational differentials in AL; over all ages and in three age bands 30-49, 50-64, and 65-79 year-olds (standardized by the 5-year age group distribution of the pooled weighted sample) to illustrate changes across birth cohorts. We assessed the interaction between country and education in the prevalence of AL using logistic regressions; first we measured the EU average pattern associating AL and Low- and High-educated group, controlling for age, sex. Then we measured the interaction term between country and education to allow the educational differentials in AL to vary by country. Comparison of the country specific situations with the EU average allows pointing out countries which significantly deviate for the EU average pattern. We discussed similarities and discrepancies between countries being part of similar welfare regimes.

## **RESULTS**

Beyond country variations in AL and beyond a common educational association with the prevalence of AL, our analysis disclosed country specific interaction between AL and each of the educational groups. It translates into a variation in the AL advantage for the high-educated group and a variation in the AL disadvantage for the low-educated group around the European mean patterns. This affects the variation in the size and in the nature of the AL differentials across EU.

Most countries significantly deviate from the mean European pattern in the extent of AL advantage of the high-educated and/or of the AL disadvantage of the low-educated groups. Our results confirm that some welfare regimes tend to reduce the health disadvantage of the low-educated (Scandinavian or Eastern European regimes for the oldest cohorts). None of the countries from the other western welfare regimes showed a significant reduced AL disadvantage for the low-educated groups in the 30-79 year-old population, compared to the EU average pattern. A larger relative disadvantage of the low-educated groups was even found in several countries, along with an increased advantage for the high-educated group.

Our results pointed out country-specific patterns within the welfare country groupings. In the Scandinavian countries, Danish and Norwegian low-educated groups are relatively more disadvantaged (as referred to middle-educated group) than they are in the Swedish context. In the youngest birth cohorts, the high-educated Danes and Fins are relatively less advantaged than what is observed on average in Europe. More generally, patterns are not uniform across similar welfare regimes. Changing patterns were also found across age bands for several countries. In addition to possible selection effect, this suggests that country specific social, economic and health situations interact with the policy context across Europe but also over time or birth cohorts.

## **DISCUSSION**

Although the study has a number of limitations, among which the self-reported nature of our indicator of activity limitation and possible country variation in the propensity for reporting disability, the study confirms that SES differentials, although broadly similar, differ between countries, resulting from country variation in educational group composition, health and social policies in a proportion that still needs to be documented. These results suggest a benefit in further exploring macro-level variables to specify the country effects; using both variables that could better characterize the different educational groups in each country and variables that could characterize country specific social policy patterns. Complementary to analyses focusing on the gaps between extreme SES groups, our results disclose the extent of country variation in the relative disability advantage and disadvantage of the different SES groups, which is useful in understanding social and health policy implications. Europe offers a wealth of similar but somehow different policy regimes which can be studied as empirical experiments of policies aiming at reducing SES health differentials; our approach aims further exploring policies reducing the disadvantage of the low SES groups and policies impacting high SES groups.

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