Socio-economic inequalities in all-cause mortality in Europe: an exploration of the role of heightened social mobility

Audrey M. W. Simons, Daniëlle A. I. Groffen, Hans Bosma

Introduction

Egalitarian countries, such as the Nordic countries, often show better health outcomes as compared with countries with wider income distributions. Nonetheless, they do not necessarily have smaller socio-economic health inequalities. The expected greater social mobility in these egalitarian countries is hypothesized to leave behind an increasingly homogeneous group of people that lack the physical and mental characteristics needed for getting ahead; this might underlie the wider than expected socio-economic inequalities in health. This hypothesis of country-level social mobility underlying socio-economic health inequalities has, however, not yet been empirically tested. Therefore, we examined (i) the patterns of association between social mobility and socio-economic health inequalities and (ii) the association between social mobility and income inequality.

Methods

Country-level data of 12 European countries were collected on socio-economic inequality in mortality, income inequality and social mobility. We sought data on hypothesized causes that—in time—were preferably measured before the data on hypothesized outcomes. Former communist countries were excluded because of their confounding contexts and histories, particularly in the early 90s, and because of missing data. Relative and absolute socio-economic inequality in mortality were measured by, respectively, the relative index of inequality and slope index of inequality regarding educational differences in all-cause mortality in the 90s. These data were only available for men and women separately. Income inequality was measured by the Gini coefficient (after taxes and transfers) in the mid-90s. Social mobility was measured by 1—the correlation of participant’s and father’s International Socio-Economic Index of occupational status score.
Results

Social mobility correlated positively with relative and absolute educational inequalities in all-cause mortality, particularly in women (Figure 1A and B). Income inequality was negatively correlated with relative and absolute educational inequalities in all-cause mortality (Figure 1C and D). The association between income inequality and social mobility was negative ($r = -0.700$); the more egalitarian Nordic countries were more socially mobile than less egalitarian countries, such as Belgium, France and Spain.

Discussion

Our findings suggest that egalitarian countries were more socially mobile, and that these more egalitarian and socially mobile countries had larger relative and absolute socio-economic inequalities in all-cause mortality, especially in women. The finding that country-level income inequality is not positively associated with socio-economic health inequalities confirms previous findings of Mackenbach and colleagues.\textsuperscript{3,4} However, to our knowledge, we are the first to show that, at country-level and particularly in women, heightened social mobility is associated with larger relative and absolute socio-economic health inequalities in all-cause mortality.

One could have expected smaller absolute socio-economic health inequalities, given the better general population health in egalitarian countries, such as the Nordic countries,\textsuperscript{1,2} but our findings were...
about similar for absolute and relative inequalities in all-cause mortality. Hence, even though more egalitarian and socially mobile countries have a shiny side of better general population health, as indicated by, for example, lower infant mortality rates and better self-rated health, there might be a shadier side of larger socio-economic health inequalities. These findings might be two sides of the same medal; in more egalitarian and socially mobile countries, all socio-economic status groups might have on average enjoy good health, but the highest groups might enjoy even better health, resulting in larger than expected socio-economic differences in health. Noteworthy is that, using Mackenbach’s data on average all-cause mortality and similar data from the European Detailed Mortality Database as an indicator of general population health, we could not confirm better population health in the more socially mobile and egalitarian countries (not tabulated). The higher general all-cause mortality in more egalitarian and socially mobile countries might be the result of their successful prevention of infant mortality, resulting in an increased group of ‘vulnerable’ people surviving childhood.

The larger than expected socio-economic health inequalities in more egalitarian and socially mobile countries might be explained by ‘unhealthy homogenization’ and class-related stigmatization. First, when upward and downward social mobility depend on health and health-related determinants, such as personal characteristics like intellectual abilities, it might result in an ‘unhealthy homogenization’ of the lower status groups. Second, perhaps because of their heightened social mobility, egalitarian countries may promote the meritocratic belief that being upwardly mobile is primarily determined by a person’s efforts and abilities and less by the socio-economic position of the parents. This might result in stigmatization of people who stay behind in the socio-economic ranking: they are blamed for not getting ahead owing to their low efforts and poor abilities. Feeling stigmatized or discriminated against may have serious (stress-related) health consequences. Future studies should try to unravel the relative contribution of ‘unhealthy homogenization’ and class-related stigmatization to the association between country differences in social mobility and socio-economic health inequalities.

Some limitations of this study must be considered. First, the sample size was small and varied between analyses; this had its implications for significance testing. The small sample size also limited the possibilities to correct for possible important confounders, such as region and country differences in (health) policy (i.e. welfare state), gross domestic product, lifestyle (e.g. Mediterranean diet) and phase in the epidemiological transition (e.g. cardiovascular disease epidemic or smoking epidemic). Second, the measurements of socio-economic health inequalities had some limitations. We combined measures based on different indicators of socio-economic status; we used occupation (social mobility), education (health inequalities) and income (income inequality). Using different indicators of socio-economic status may have biased our results to an unknown extent. More in-depth analyses with social mobility, based on education, showed the same pattern of results as social mobility based on occupation.

Conclusion

This study shows that more egalitarian countries are associated with heightened social mobility, it suggests that social mobility and income equality, beside their shiny side of improving population health, might have a shadier side of increasing socio-economic health inequalities. The findings emphasize the importance of taking into account country-level social mobility when interpreting between-country differences in socio-economic health inequalities.

Acknowledgements

The authors thank Professor Dr J.P. Mackenbach and Dr A. Kunst for their useful comments on a previous draft of this article. A.S., D.G. and H.B. formulated the hypotheses. A.S. performed the statistical analyses and drafted the manuscript. D.G. and H.B. helped to interpret the data. All authors (A.S., D.G., H.B.) edited and approved the final manuscript.

Funding

The position of A.S. is funded by the Netherlands Organisation for Scientific Research (NWO).

Conflicts of interest: None declared.

Key points

- Social mobility might have a shady side of increasing socio-economic inequalities in all-cause mortality.
- This might underlie that egalitarian countries with better population health also face socio-economic health inequalities.
- Social mobility should be taken into account in future studies on between-country differences in socio-economic health inequalities.

References