



# Regional Variation in Inequality of Educational Opportunity across Europe

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## Abstract

A large body of literature documents cross-national variation in the level of inequality of educational opportunity (IEO) among children from different social backgrounds. By contrast, relatively little attention has been given to the extent to which IEO varies within counties and across regions. On the basis of data from the European Social Survey, the authors map variation in IEO across regions in Europe and show that IEO varies substantially within counties. This visualization of the heterogeneity of IEO within European countries highlights the need for researchers and policy makers to extend the current focus on cross-national differences and to investigate and address IEO at the regional level. The visualization raises important questions with respect to the contours, causes, and consequences of cross-regional variation in IEO.

## Keywords

inequality of educational opportunity, IEO, intergenerational social mobility, educational mobility, tertiary education, Europe

The relationship between the educational attainment of parents and that of their children is central to questions of fairness in society. Normative theories of social justice argue that a condition for equality of educational opportunity is that individuals have roughly equal chances to obtain a given level of education, independent of their social background (Rawls 2001).

A large body of literature compares and ranks countries according to the national average level of inequality of educational opportunity (IEO) (see, e.g., Narayan et al. 2018). Similarly, debates over the causes and consequences of variation in IEO often focus on the country as the relevant unit of analysis. By contrast, less attention has been given to the extent to which IEO varies within counties. This is problematic, as many of the factors that are likely to shape IEO can be expected to operate at the subnational level. In federal countries such as Germany, for instance, the prime responsibility for education policy rests with the federal states, and the institutional structure of the education system consequently varies substantially across states.

On the basis of data from the European Social Survey (ESS) (2020), we map variation in IEO across regions in Europe (see Figure 1). We measure IEO as the ratio of (a) the probability of obtaining a tertiary-level qualification for people who have at least one parent with tertiary-level attainment to (b) the probability of obtaining a tertiary-level

qualification for people for whom neither parent holds a tertiary-level qualification (the risk ratio). By way of example, in the northern region of Portugal, the probability of getting a tertiary qualification is about seven times higher for people who have at least one parent with a tertiary qualification, compared to people whose parents do not have a tertiary qualification. The black lines in Figure 1 mark country borders, and the gray lines mark the borders of the main subnational administrative regions within countries included in the ESS data. For each region shown in Figure 1, Table S1 in the supplementary material shows the region name, the administrative abbreviation, the IEO estimate, and the standard errors, ordered by country. Further details about the IEO measure and all code used to generate Figure 1 are available in the supplementary material.

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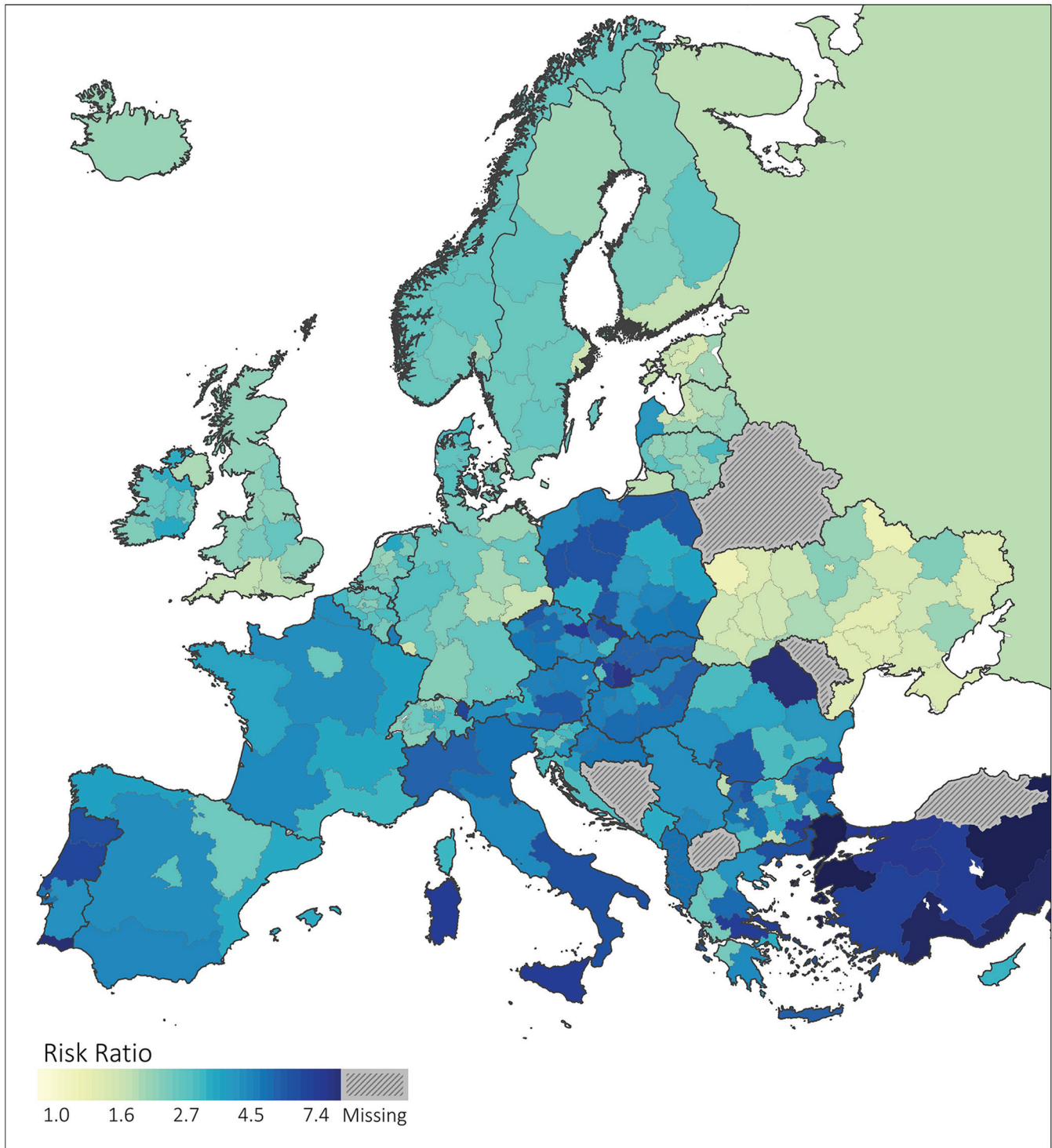
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**Figure 1.** Variation in inequality of educational opportunity across regions in Europe.

Note: Based on a sample of adults aged 30 years or older in the European Social Survey (ESS), waves 1 to 9, collected between 2002 and 2018;  $n = 270,789$ . Darker shades indicate a higher level of inequality of educational opportunity. The color shade corresponds to the risk ratio (RR), which is the ratio of (a) the probability of obtaining a tertiary-level qualification for people who have at least one parent with tertiary-level attainment to (b) the probability of obtaining a tertiary-level qualification for people for whom neither parent holds a tertiary-level qualification. All estimates are based on poststratification weights provided in the ESS data. Black lines mark country borders, and gray lines mark regional borders. The average within-country standard deviation in regional relative risk ratios is 1.16, and the between-country standard deviation in national relative risk ratios is 1.56.

As shown in Figure 1, IEO varies significantly across regions in Europe. The average within-country standard deviation in regional relative risk ratios is 1.16. This is only somewhat smaller than the between-country standard deviation in national relative risk ratios of 1.56. Substantial within-country heterogeneity of IEO can be observed not just in federal states, such as Germany, but in all European societies. This suggests that in addition to factors that are at play at the national level, variation in IEO is strongly shaped by factors operating at the subnational level.

Our visualization of the heterogeneity of IEO within European countries highlights the need for researchers and policy makers to extend the current focus on cross-national differences and to investigate and address IEO at the regional level. Indeed, the substantial within-country variation in IEO that we show raises important questions with respect to the contours, causes, and consequences of this variation. One promising avenue for future research will be to systematically examine different institutional and structural factors that may shape regional variation in IEO. For instance, research can leverage cross-regional variation in education policy to examine its causal role in shaping the level of IEO, using quasi-experimental research designs (see, e.g., Betthäuser 2017).

Another important avenue for future research is to examine the consequences of regional variation in IEO. By way of example, research could examine whether the extent to which (educational) (dis)advantage is transmitted across generations in a given region constitutes a point of reference, in relation to which people evaluate their own intergenerational mobility experience (cf. Kaiser and Trinh 2021). Similarly, research may examine the extent to which regional variation in IEO shapes peoples' political attitudes and election results at the regional level.

We hope that this visualization will inspire new research and policy debates on the determinants and consequences of within-country and cross-regional variation of IEO in Europe.

### Author's Note

The authors contributed equally and are listed alphabetically.

### Acknowledgments

We are grateful to the respondents of the ESS for sharing the data that forms the basis for this data visualization, and to the Scientific Team of the ESS for making this data available to researchers. We thank the Editorial Team of *Socius* and Per Engzell for excellent comments on earlier drafts of this piece. We also thank the John Fell Fund for supporting the research for this data visualization.

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### Data Availability Statement

The data used for this data visualization can be accessed online at <https://www.europeansocialsurvey.org>. All code used to generate the data visualization is available in the supplementary file.

### Supplemental Material

Supplemental material for this article is available online.

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### Author Biographies

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