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Measuring and Modelling Education Levels in European Societies

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Any cross-national social survey contains at least one harmonized measure of educational attainment. These measures tend to be derived from countryspecific educational categories. In the European Social Survey (ESS) countries have the liberty to include this usually more detailed national education classification next to a standard seven-category post-harmonized version of the International Standard Classification of Education (ISCED-97). Besides these two measures, ESS data contain another, alternative indicator of educational attainment, namely the duration of the entire educational career, as calculated by the respondent. We exploit the presence of multiple indicators to assess the quality of the existing education measures and further improve on measurement practices. Employing a Multiple Indicator Multiple Cause (MIMIC) perspective, we examine how the respective country- specific education categories are related to each other with regard to influences of inputs (in particular parental occupations and education levels) and effects on outputs (in particular the acquisition of occupation and partner) and derive an optimal scale for level of education, that we label ISLED: the International Standard Level of Education. We then estimate an elementary status attainment model, using ISCED, the duration measure and our derived optimal scale respectively as multiple indicators to model the true level of education. This allows us to assess the performance of the three individual indicators in terms of lost information. We conclude that any combination of measures produces better results than each of the measures on its own. ISLED performs best, but still falls short of perfect measurement by about 6%. ISLED scores may be readily used to optimize the existing country-specific measures with the aim of yielding less biased regression coefficients in situations when only a single indicator is available, but our final recommendation is to improve measurement by multiple indicator modelling.

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