

Harmonizing education and occupation for comparative research

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Harmonizing age ...

- Define a common standard: years fully expired since year of birth in AD counting.
 - Convert all information (detailed ages, crude ages, birth years) to this common standard.
 - Problems (examples):
 - Sometime unclear whether information is age or year of birth.
 - Open categories in crude ages.
 - Korean ages start at 1.
 - Taiwanese calendar starts at 1911 = 00.
- Despite these problem we would still harmonize to years AD.

Harmonization political parties

- Don't
 - Don't translate the names of political parties.
 - Don't group political parties into major blocks.
 - Do: Provide information about the nature of party programs.
 - Do: Present parties in order of left/right dimension.
- We should never harmonize this information.

Occupation and education

- Occupations are like age
- Educations are like political parties.

Occupations: source information

- Detailed occupation code in national classification
- Status in employment:
 - Self-employment
 - Supervising status
 - Industry (includes public employment, farm)
- Crude occupational categories, often a mix of occupation title and status in employment.

Harmonisation

- Match local information with international standard ISCO: International Standard Classification of Occupations [ILO]. Many conversions available on: www.fsw.vu.nl/hbg.ganzeboom/ismf
- Self-employment and supervision status need to be separately harmonized.
- Then this information can be transferred into international standardized measures, such as socio-economic status [ISEI], prestige [SIOPS] or class typologies [EGP, ESEC]. There is no need to make this part of the harmonization process.

ISCO

- ISCO58
- ISCO68
 - Good separation of self-employed and managers
 - Not very good on supervisors / managers
 - Not good on skill distinctions
- ISCO88
 - Self-employed and managers together
 - Still not very good on supervisors / managers
 - Horrible on farmers
 - More skills oriented.

ISCO derivatives

- HISCO: historian's version of ISCO-68: for historical occupation titles
 - Unclear why we need this
 - National (census) classifications tend to be quite good on historical titles.
- ISCO(COM): European version of ISCO-88
 - This is more a set of interpretive notes than a different or more detailed classification
 - Useful, but unclear whether it makes a difference.

ISCO-08

- Conceptual changes are not very large.
 - Improved: management, supervisors
 - Improved: more new occupations, e.g. in ICT.
- Changes in practical use are rather larger: there is no 1:1 conversion of ISCO88.
- Derived status variables (ISEI etc.) are not yet available.

Questions and answers

- How much information do we lose by using conversions to create ISCO? VERY LITTLE.
- Do we need to use all four digits? NO, BUT IT DOES NOT TAKE MUCH MORE EFFORT THAN CODING TWO.
- How reliable is detailed occupation coding? AT BEST AROUND 0.80. ONLY A MINOR PART OF THIS IS PRODUCED BY THE CODERS.
- How do we know this? BY ASKING FOR MULTIPLE OCCUPATIONS TWICE. MTMM MODELS

Education – source information

- Short (6-14 categories) list of levels of education).
- Two questions:
 - Highest obtained level of general (academic) education
 - Highest obtained level of vocational training.
- Sometimes:
 - How many years of these programs have you completed?
 - Did you complete or not (only enrollment)?
- Sometimes a complete roster of the educational career is asked.
- The more questions, the more problems.

Differences with occupations

- Educations are planned institutions – they vary between societies and within societies historically.
- Fortunately, the information is often quite limited in details
- Fortunately, the information has a strong ordinal character along a single hierarchy.

ISCED

- ISCED = International Standard Classification of Education 1997.
- Maintained by UNESCO.
- Limited number of countries [OECD]
- Not historically sensitive.
- Not a classification, but a typology.
- Unclear, unreadable.

Harmonizing education

- There is no need for it. Simply use rank scores within countries / cohorts.
- It cannot be done: education is strongly locally arranged. Educational programs are like political parties.
- If you do it, do not use a common denominator approach with a limited set of categories, but scale towards an underlying dimension.

Scaling education

- Get unidimensional rank-order, using:
 - Institutional information about program order / requirements
 - Scale by validation criteria (occupation, education of spouse, parents)
- Choose anchor point between countries / educational system to establish a metric.
- Re-express the rank score of anchor point in this metric. You need at least two anchor points.
- Insert other programs on this metric in between anchor points, while respecting order.

Important rules

- Collect the information using locally interpretable wording.
- Do not use ISCED or any other typology as a coding frame and certainly not as a question format.
- Do not translate the titles of the educational programs, but give interpretive notes.
- Present the information in an ordered format.
- ESS and ISSP do this more or less correct.

Questions and answers

- IS EDUCATION A SINGLE HIERARCHY? Yes, it is by and large a hierarchy. This view is in line with a positional goods theory of education.
- WOULD IT BE GOOD TO HAVE AN HISTORICALLY SENSITIVE MEASURE? This could be, and more likely so than for occupations.
- IS DURATION AN ACCEPTABLE MEASURE OF EDUCATIONAL LEVEL? Hardly, measurement quality (invalidity) is often $< .80$. It is, however, a great parallel indicator and worth asking.

Table 1: Validation correlations between three measure of education and five criterium variables. 18 countries. ESS R3.e3 (April 2 2008)

	A	B	C	B/A	C/A
Criterion	optimal	isced	eduyrs		
FISEI	0,352	0,333	0,311	94,6%	88,4%
MISEI	0,368	0,345	0,322	93,8%	87,5%
FEDUC	0,450	0,436	0,413	96,9%	91,8%
MEDUC	0,428	0,416	0,393	97,2%	91,8%
ISEI	0,637	0,603	0,548	94,7%	86,0%
				95,4%	89,1%