Validity and comparability of the education measures in the European Values Study 2008

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Introduction
Motivation

- Educational attainment:
  - Is a key socio-demographic variable
  - Reflects socialization, social stratification and individual life changes
  - Usually correlates with attitudes, beliefs, values, and behaviors
- Often, different measures of education are provided in a single data source
Previous research

• Prior research showed differences in comparability and validity of different measures of education:

  ➢ Braun & Müller (1997):
    • DV: political interest, gender-role ideology, cultural capital prestige, income
    • 4 countries using different datasets

  ➢ Schneider (2010):
    • DV: International Socio-Economic Index (ISEI)

  ➢ Schneider (2018):
    • DV: literacy skills
    • 33 countries, using PIAAC data from 2011/12 and 2014/15
Research question

How comparable and valid are the different measures of education of the EVS 2008 when analyzing attitudes?

Benefit of this study:

• Focus on analyzing attitudes
• Higher country coverage
• Different data source
Political interest and education

• Education is associated with more liberal attitudes towards many subjects apart from economic issues
• Education displays beliefs/attitudes prevalent in the education system
• Education shifts opinions mostly to the left side of political attitudes (Weakliem 2002)
• Political dissatisfaction and low education correlate with less political interest and abstention from voting (Allen 2017)
Data & Method
European Values Study (EVS)

• Covers respondents’ values, attitudes, beliefs
• 1st round: 1981; conducted every 9 years
• EVS 2017/18 is currently fielded
• Coverage: 47 European countries/regions in 2008, esp. Eastern Europe
• Huge improvement of socio-demographic variables in 2008:
  • Much information on partner and parents
  • Incl. many different education measures
Variables

• Dependent variable: Political interest – 4 cat (v186)

• Independent variables: Measures of education
  • Country-specific measures (v336_cs)
  • ISCED97 main levels – 7 cat (v336)
  • ISCED97 detailed – 15 cat (v336_3)
  • “CASMIN” main levels – 8 cat (v336_4)
  • “CASMIN” detailed – 11 cat (v336_5)
  • Broad ISCED measure – 3 cat (v336_r)
  • Age completed education (v335)
Country-specific (CS) education variable

• Displays the country-specific educational qualifications with their original names in the respective language

• Mirrors the national educational system, incl. idiosyncratic institutional differences
ISCED97

• International Standard Classification of Education, version of 1997
• Aims at achieving comparability in educational statistics
• Implemented using ex-ante output harmonization
• ISCED levels:
  0: Pre-primary education or none education
  1: Primary education or 1\textsuperscript{st} stage of basic education
  2: Lower secondary or 2\textsuperscript{nd} stage of basic education
  3: Upper secondary education
  4: Post-secondary non-tertiary education
  5: 1\textsuperscript{st} stage of tertiary education
  6: 2\textsuperscript{nd} stage of tertiary education
• Additional dimensions cover programme orientation, programme destination, and programme duration
CASMIN

• Project on “Comparative Analysis of Social Mobility in Industrial Nations”
• Analyzes relationship between education and the social mobility process in European countries
• Implemented using output harmonization
• CASMIN levels:
  1a: Inadequately completed elementary education
  1b: Completed (compulsory) elementary education
  1c: Incomplete secondary school: technical/ vocational type
  2a: Complete secondary school: technical/ vocational type/ secondary
  2b: Incomplete secondary: university-preparatory type/ secondary,
  2c: Complete secondary: university-preparatory type/ full secondary
  3a: Some university without degree/ higher education - lower-level tertiary
  3b: University with degree/ higher education - upper-level tertiary

• Additional differentiation on gen/ voc orientation
• In EVS 2008: CASMIN is derived from detailed ISCED variable
Further measures

- Broad ISCED measure (3 cat)
  - Simplest and commonly-used variable
  - Derived from ISCED measure:
    - Low: ISCED 0-2
    - Middle: ISCED 3-4
    - High: ISCED 5-6

- Age completed education
  - Measures the length of being in education
  - Continuous measurement
  - Close to measure of years of schooling
Methods

- Comparative construct validation of political interest using different measures of education
- Calculation of linear regression models
- Comparison of predictive power of the models (adjusted R²)
- Most education variables are included as dummy variables
- Country-specific measurements are used as benchmarks
- Not controlling for age and gender
Results
Predictive power (aR2) of country-specific measures
Some descriptives

- High adj R2 for Germany (16.2 %), Netherlands (15.5%), Belgium (11.5%)
- Low adj R2 for Montenegro (0.6%), Bosnia-Herzegovina (0.8%), Malta (1.1%)
- Average adj R2 is 5.4%
- Correlation main ISCED levels and political interest is -.22
Predictive power (aR2) of different education measures for Germany

- CS measure
- ISCED97 (15 cat)
- CASMIN (11 cat)
- CASMIN (8 cat)
- ISCED97 (7cat)
- Broad measure (3 cat)
- Age completed
Predictive power (aR2) of different education measures for Albania

- **CS measure**
- **ISCED97 (15 cat)**
- **CASMIN (11 cat)**
- **CASMIN (8 cat)**
- **ISCED97 (7cat)**
- **Broad measure (3 cat)**
- **Age completed**
Predictive power (aR2) of different education measures for Bosnia-Herzegovina

- CS measure
- ISCED97 (15 cat)
- CASMIN (11 cat)
- CASMIN (8 cat)
- ISCED97 (7 cat)
- Broad measure (3 cat)
- Age completed

The graph shows the predictive power of various education measures, with the Broad measure (3 cat) having the highest aR2 value, followed by CASMIN (11 cat) and CASMIN (8 cat).
Predictive power (aR2) of different education measures for Moldova

- CS measure
- ISCED97 (15 cat)
- CASMIN (11 cat)
- CASMIN (8 cat)
- ISCED97 (7cat)
- Broad measure (3 cat)
- Age completed
Conclusion
Summary

- Large variation of adj R2 when analyzing the influence of education on political interest across countries
- For most countries the CS-measures show the highest adj. R2 and age completed education the lowest
- Some countries show nearly equal adj. R2 for all categorical measures
- In single countries, age completed education shows the highest adj. R2
- Number of dummy has to be considered
- Be aware of losing information when deciding for a simpler education measure
Limitations

- Education is only one aspect that influences political interest
- Quality of the country-specific measurements sometimes insufficient
Next steps

- Look at certain countries more deeply
- Second analysis, controlling for the effect of the different education systems
Thank You!

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