

Inconsistency of education data collected in surveys in Europe:

Comparing LFS, SILC, ISSP, EB, EVS, and ESS

Verena Ortmanns, Silke Schneider
GESIS – Leibniz Institute for the Social Sciences
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Overview

- Motivation
- Methodological background
- Data and method
- Results
- Discussion
- Summary and conclusions

Motivation

- Increase of cross-national comparative research and surveys
- Importance of comparable measurement
- Centrality of educational attainment as background variable
- Prior research (e.g. Schneider 2009) revealed discrepancies of harmonised education distributions across surveys
- Changes of harmonised educational variables in ESS (2010) and ISSP (2011) to improve validity (not consistency)
 - evaluate changes in ESS and ISSP
- ISCED implemented in EVS 2008 and 2 Eurobarometer studies (2010, 2011)
 - evaluate ISCED in EVS and Eurobarometer

Methodological background

- Translation impossible when national institutions involved
- Country-specific education certificates presented on show cards
- Output harmonisation to create comparability of background variables across countries
 - Ex ante: part of comparative survey design
- For education: International Standard Classification of Education
- Aim of ISCED: “serve as an instrument suitable for assembling, compiling and presenting comparable indicators and statistics of education both within individual countries and internationally” (UNESCO-UIS, 1997 [2006])
- Recoding of country-specific categories to ISCED after data collection

ISCED 1997 main levels

- ISCED 0: Pre-primary education
- ISCED 1: Primary education or first stage of basic education
- ISCED 2: Lower secondary or second stage of basic education
- ISCED 3: (Upper) Secondary education
- ISCED 4: Post-secondary non-tertiary education
- ISCED 5: First stage of tertiary education (not leading directly to an advanced research qualification)
- ISCED 6: Second stage of tertiary education (leading to an advanced research qualification)

Data

- Labour Force Survey (EU-LFS) 2008-2011
- European Union Statistics on Income and Living Conditions (EU-SILC) 2008-2011
- European Social Survey (ESS) 2008-2010
- European Values Study (EVS) 2008
- International Social Survey Programme (ISSP) 200
- Eurobarometer 73.2&73.3 (2010), Eurobarometer 75.4 (2011)
- Age group: 25-64, weighted data
- ISCED 0/1 and 5/6 aggregated, thus 5 levels

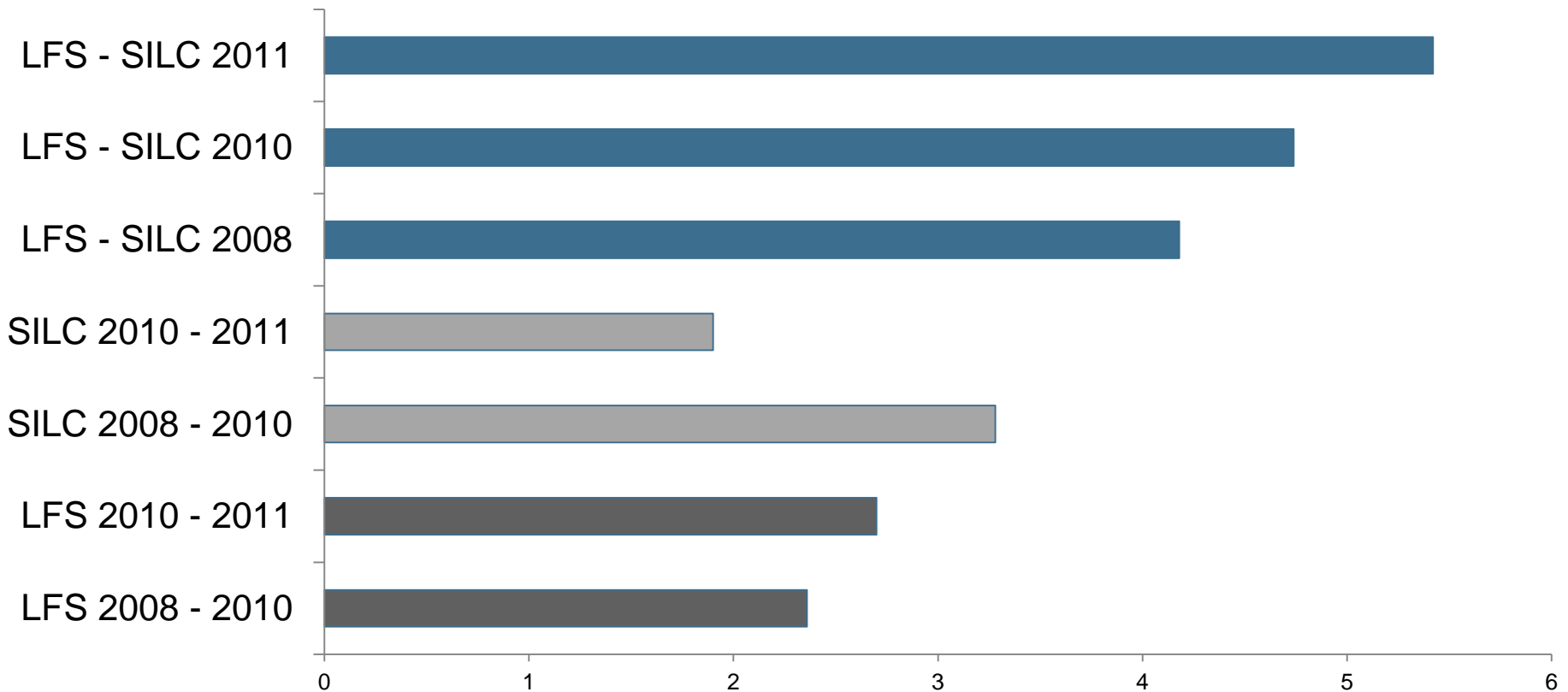
Duncan's Index of Dissimilarity

- Origin: measuring residential segregation
- Generalised: measures differences of distributions on categorical variables across two sources
- rescaled to range from 0 to 100
- Interpretation: Percentage of cases that would have to change categories in order to achieve equal distributions across sources
- Formally defined as:

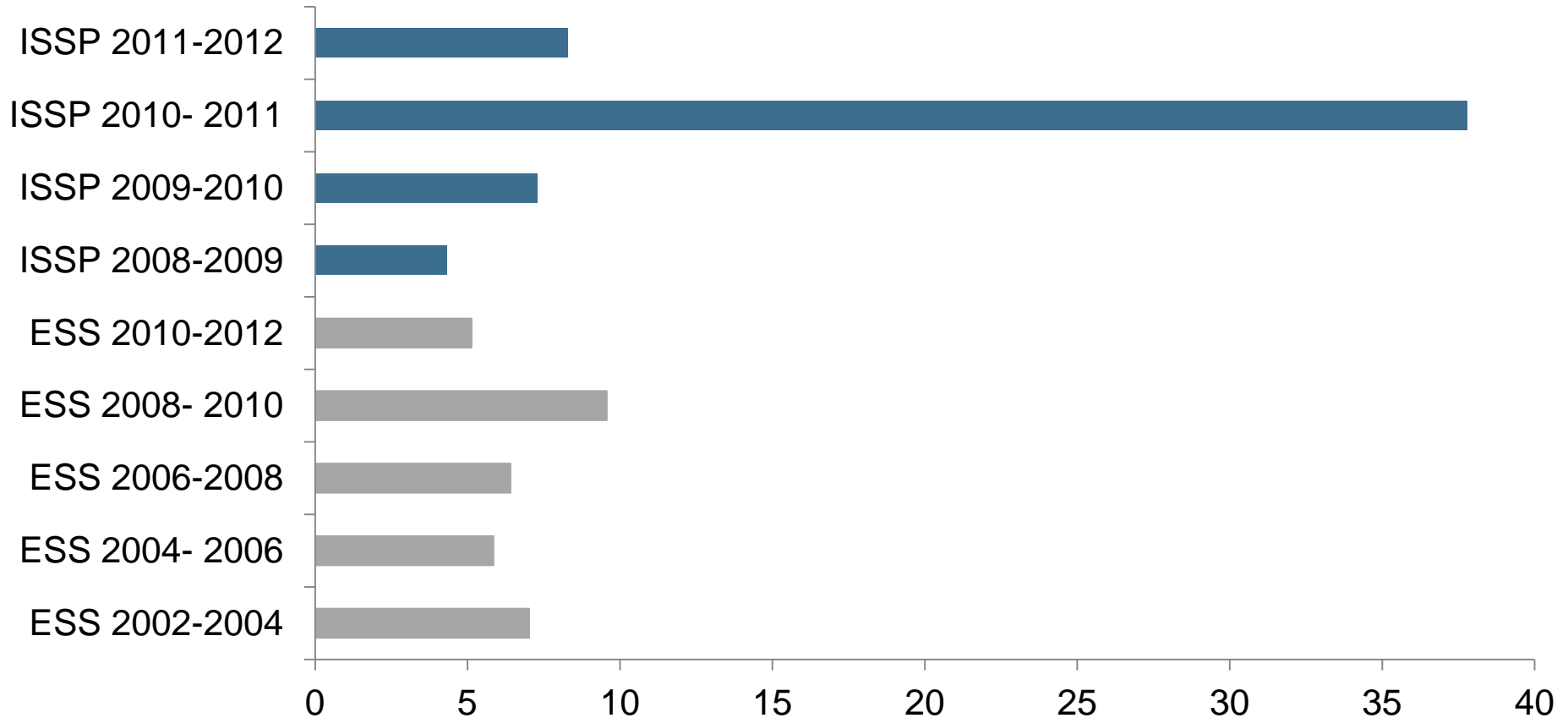
$$D = \frac{1}{2} \sum_{i=1}^k |x_i - y_i|$$

(Duncan & Duncan, 1955)

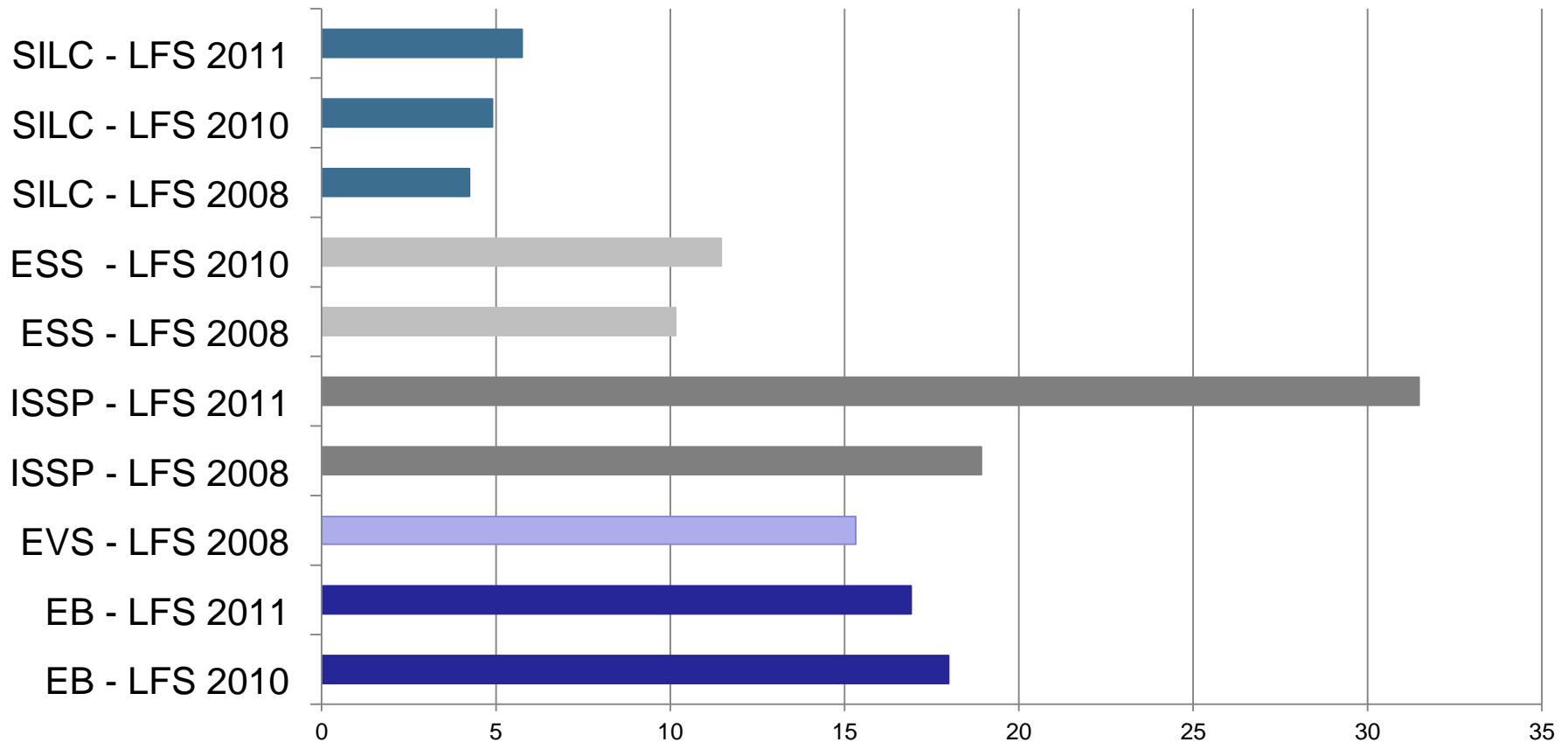
Inconsistency across time and surveys in EU-LFS and EU-SILC



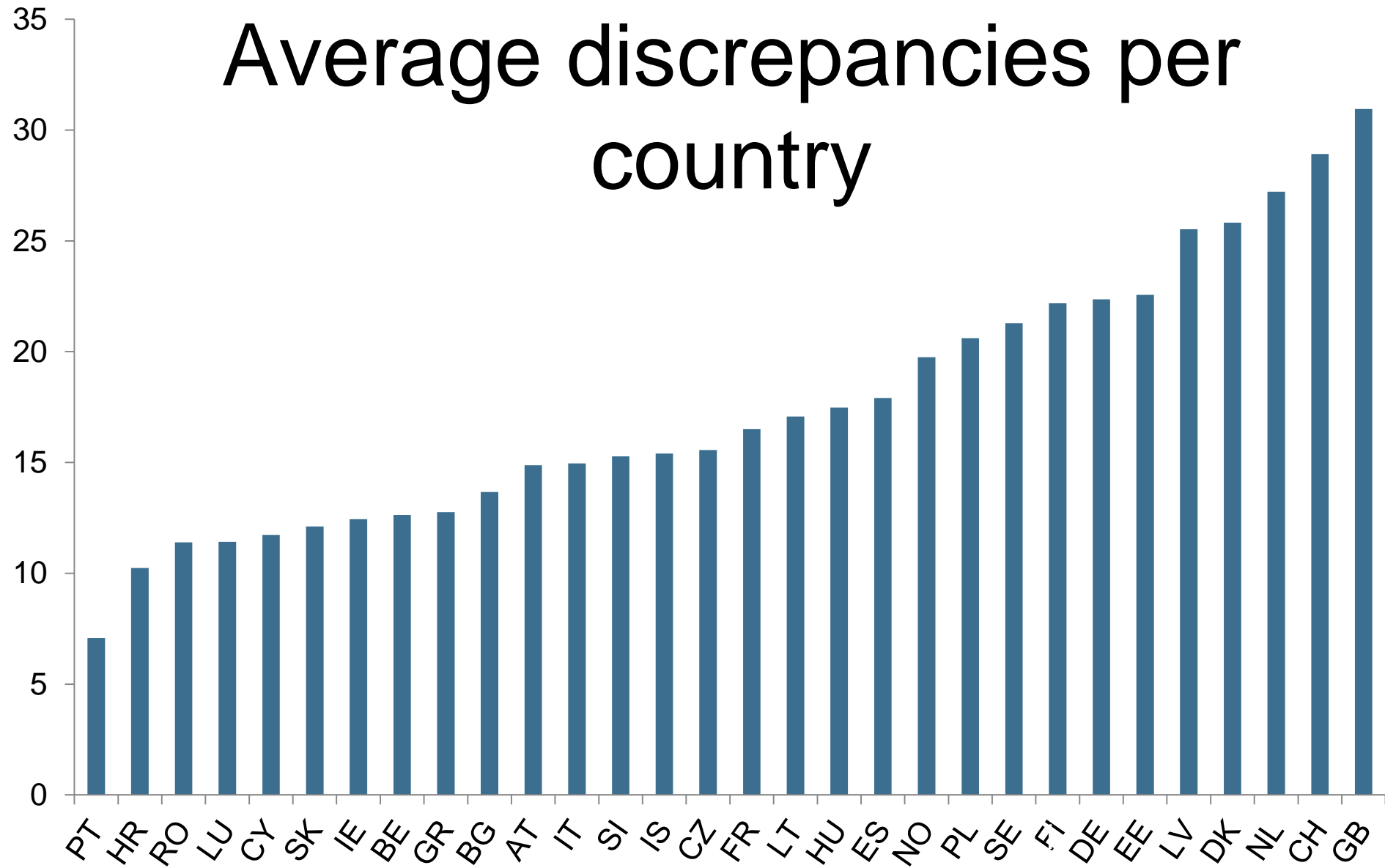
Inconsistency over time in ESS and ISSP



Inconsistency between LFS and other surveys



Average discrepancies per country



Discussion: Reasons for inconsistencies

- Actual changes over time/differences across surveys?
- Nonresponse error (unit and item) differs across surveys
- Measurement error differs across surveys
 - Validity of data collection instruments
 - Social desirability bias
- Processing „error“:
 - Misclassifications and ad hoc mapping to ISCED
 - Deliberate deviations from official ISCED mappings when mappings are doubtful
 - Different treatment of missing data across surveys

Summary and next steps

- Harmonisation of education data in surveys is still failing
- Major reasons:
 - Lacking documentation and standards
 - Lacking analytic value of main ISCED levels
- Next steps: Detailed analysis of ISCED-coding in EVS and ISSP

**Thank you
for your attention!**

Contact

Silke.Schneider@gesis.org

Verena.Ortmanns@gesis.org