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Computer Assisted Measurement and Coding of Educational Qualifications in Multicultural Surveys: a new set of survey tools

Topic 7 – Better statistics for a globalised world

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Introduction

No survey today is conducted without the support of computers. Especially the use of computers for data collection itself, i.e. computerized questionnaire administration, is the state of the art: routing through the questionnaire is automatic for the interviewer or respondent, some consistency checks can be performed "on the fly", and there is no need for separate data entry. Another example is adaptive testing, widely used in educational studies, where items are administered depending on performance on earlier items. However, the survey community is not even close to exhausting the opportunities offered by computer-assisted interviewing (whether on the web or in person). The use of technology could help us both standardizing survey questions, better adapting items for cross-cultural surveys, and data harmonization. We will showcase potential improvements using measurement instruments for educational attainment. Education is one of the most frequently used variables in social science research. Research on the reliable and valid measurement of an individuals' educational attainment is accordingly of vital importance for high quality research using survey data. Traditionally, educational attainment is measured using one or a few closed questions employing showcards listing a country's educational attainment categories.

Methods / Problem statement

Because of complex institutional differences between educational systems across the world, educational attainment is notoriously difficult to measure in a cross-cultural survey context. So far, surveys have only offered measurement instruments referring to the educational system of the survey country, which is not necessarily the country the respondent was educated in. Between 2013 and 2016, GESIS has therefore developed context-sensitive tools for measuring educational attainment in cross-cultural computer-assisted surveys – e.g. surveys of migrants, or cross-national surveys. This presentation will give an overview of the project and present its rationale, which is based on 3 assumptions:

1) There is a lack of consistency and thus comparability across surveys and countries in the measurement processes and outcomes concerning the core variable of educational attainment.

2) Due to rising differentiation of educational systems, showcards used for education questions either become more abstract or get very long, both resulting in increasing item difficulty for respondents.

3) Populations are increasingly mobile, leading to small but significant numbers of respondents with foreign qualifications among survey populations in many countries.

4) More and more surveys are conducted using computer administrated questionnaire, with or without interviewer (CAPI and CAWI surveys respectively).

Results / Proposed solution

In order to improve the measurement quality of this core survey variable, the project has thus developed and tested an international database of educational qualifications, a universal coding scheme for educational attainment, a questionnaire module available in (at least) 5 languages, and a software interface to allow database searches in the questionnaire and provide context-sensitive (i.e. corresponding to the country in which respondents received their education) response categories to respondents. This will improve measurement quality for the (pivotal) education item in several ways, for example by allowing migrants to report the educational qualification they have actually achieved rather than guessing at some face value 'equivalent' in the survey country| by measuring at a detailed level so as to not confuse respondents with abstract aggregations of educational qualifications on long show cards and losing a substantial amount of information for analysis| and by standard coding routines for harmonization into various comparative education coding schemes during data processing, which could improve cross-survey consistency.