

## Handout for providers of large scale assessment data

Last update: September 2019

### Which variables must be supplied by default in order to enable re- and secondary analyses?

Please note that the background characteristics submitted should allow for replication of research reports or central publications. This means that all variables used should be submitted in the form (e.g. recoded, adjusted, imputed) in which they were used in central analyses. In addition, variables should be documented in such a way that they are also comprehensible for researchers who were not involved in the collection and evaluation of the research project.

### Checkliste for data handover



#### ID variables in all subsets of data

ID variables must no longer contain features that allow direct identification of persons, institutions or locations.

#### Variables

- ID variables at all levels that are unique and correspond between sub-records and are suitable for linking sub-records.
  - Each level included in the sampling should have its own ID variable (e.g. student ID, class ID, school ID, teacher ID).
  - Corresponding ID variables should have the same designation across sub-records.
  - Corresponding ID variables should be coded across sub-records in such a way that a unique reference is possible (e.g. school ID = 1 should index the same school in each sub-record).

#### Documentation material

- Material (if applicable, syntaxes) on the possibilities of linking and obstacles to linking the sub-records (in cross-section and, if applicable, in longitudinal section).



## Competence estimators and associated imputations

### Variables

- **scaled competence estimators** (e.g. Weighted Likelihood Estimates (WLEs) and/or Plausible Values (PVs) and associated standard errors) **and/or**
- **Overall Scores** (e.g. number of correct answers) **and/or**
- **Single items** coded (true-false-missing) and/or uncoded raw items (e.g. answer A, B, C, D)

### Documentation material

- when handing over **scaled competence estimators**
  - Specifications of the imputation model (if missing values were imputed)
  - Information on the background model (documentation of the variables used for the background model in the PV draw)
  - Scaling model (if scaled capability estimators are handed over; e.g. Rasch model, 2-PL model etc.)
  - Reliability estimates (EAP reliabilities, WLE reliabilities)
  - Information on the handling of missing values in the competence estimation
- when handing over **Overall Scores**
  - Number of items submitted
  - Information on the handling of missing values
  - Reliability estimators
- when transferring **single items**
  - Detailed **documentation material** (preferably as syntax) with the **coding of correct answers** (if uncoded raw items are handed over).
- General documentation material
  - Test procedure and study design (e.g. time of testing, test duration)
  - Sources of all tests used (e.g. own design)
  - Test items or sample items (if possible)
  - Information on the test design (e.g. multi-matrix design, parallel test design)
  - a summary of the information in the form of a technical report is recommended



## Population weights

- at student level
- if necessary, also school or class weights or adjustment factors
- variables for adjusting the standard errors (e.g. Balanced Repeated Replication Weights according to Fay, Jackknife variables)

Please also hand over documentation material on sampling if this is not described in detail in the report or scale manual.



## Background characteristics of individuals

Please indicate origin (e.g. student, parent, school) and - if available - include imputed variables.

The FDZ at IQB checks once again that data protection conditions are met!

- a continuous **age variable** (the exact date of birth of the persons must be recoded/deleted for data protection reasons)
- **Sex**
- **Social background** (e.g. HISEI, HISCED)
- **Immigration background** (mother's country of birth, father's country of birth, student's country of birth, language at home, definition of immigration background used in the report)
- **School grades**
- **school type**
- **special educational needs** or test adaptations (e.g. accommodations)
- **Regional information** (e.g. federal state)