IDB Analyzer on R coming soon...

General Assembly, 27 October 2021

Umut Atasever, Diego Cortes,
Sabine Meinck, Justin Wild

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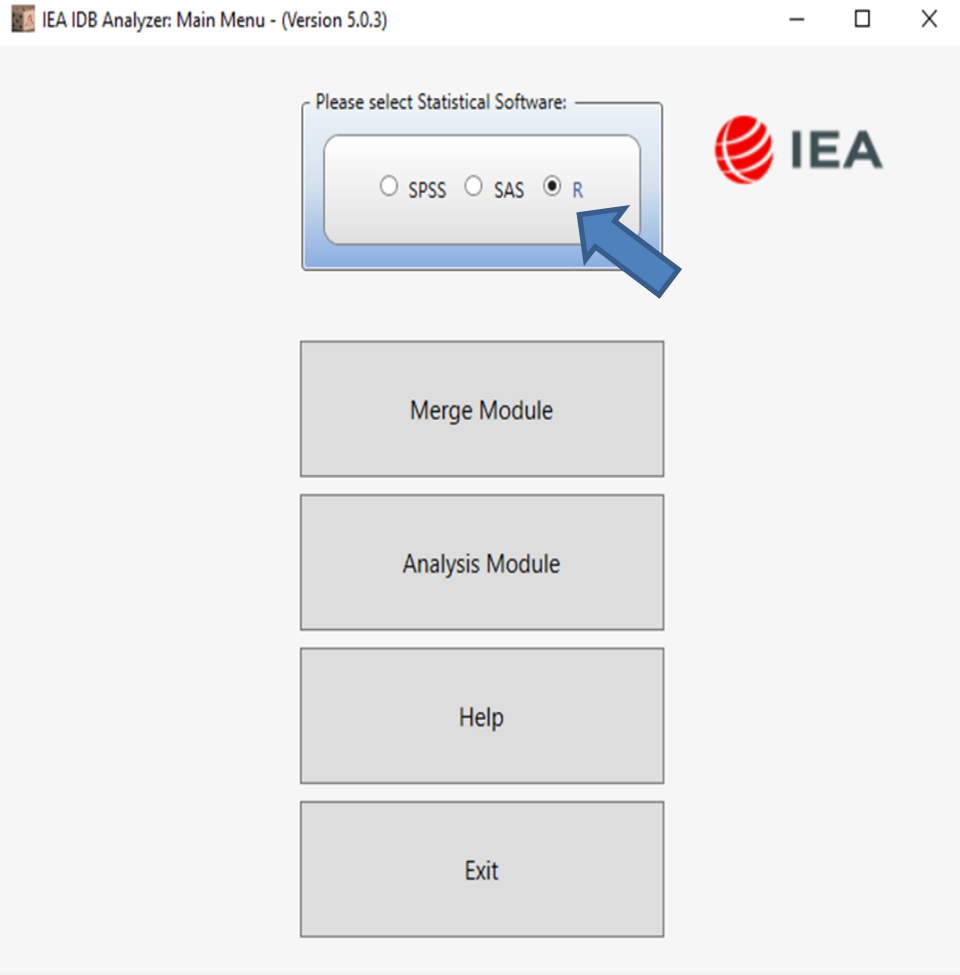
IDBAnalyzer
IEA International Database Analyzer

Introduction

- IEA's IDB Analyzer:
  - Combines and analyzes data from large-scale assessments
  - Works on SPSS and SAS
- For several years: desire of IEA community for an option to use R with the IDB Analyzer
- We are happy to announce that we will meet this goal in 2021!



What is special about R?

- Open-source statistical software
- Rapid implementation of new features/methods
- Produces publishable graphs
- Variety of Graphical User Interfaces (GUIs) for maximal customization
- **No-costs**

  Primary reasons for request of R integration with the IDB Analyzer

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Challenges of R

- Development of R integration with the IDB Analyzer came with additional challenges compared to integration with SPSS and SAS.
- R relies on community and improves its base functionality with packages that users develop for specific purposes.
- IDB Analyzer users will need to download some of these packages to work with R version.
- R has a steeper learning curve compared to SPSS and SAS and does not have a single source for help when issues arise.

What distinguishes our R software from other R packages on ILSAs?

- Monitoring and maintenance by IEA Hamburg guarantees…
  - Timely inclusion of new studies and new methodological developments.
  - Reliable results.
  - Software keeps working with data structure of several studies that get more complex every cycle.
- Its integration with the familiar IDB Analyzer user interface enables a user-friendly experience for persons not knowledgeable about R.
  - Workshops for basic use of R will be provided.
- IDB Analyzer on R produces Excel and html output mirroring the output of the SPSS and SAS version of the IDB Analyzer.

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HTML Output Example 1

- Check Analysis Variables
- Report
- Graphs

JB_PV_ICILS2018_01

IEA's IDB Analyzer

03 June, 2021

Check Analysis Variables

Unweighted Statistics

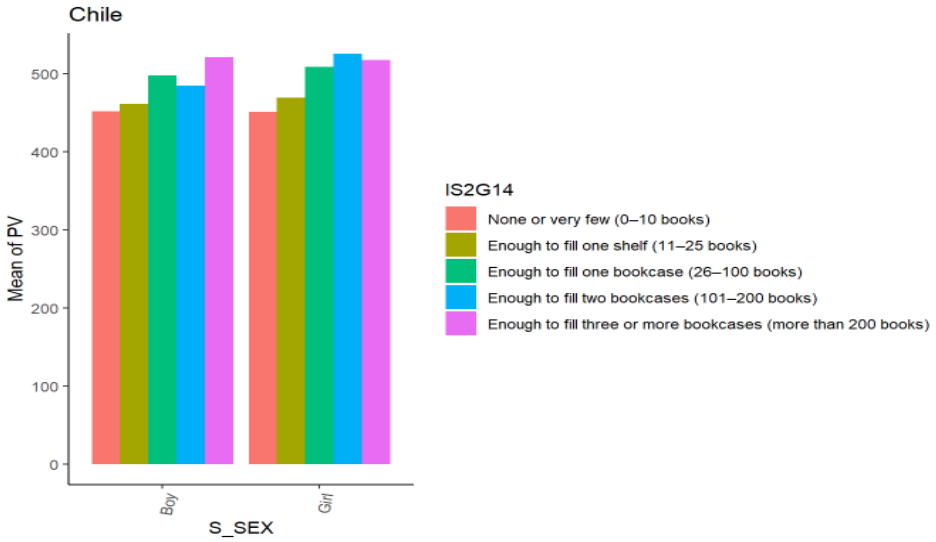
Unweighted Descriptive Statistics

Country ID - Numeric Code	Variable	N	Minimum	Maximum	Mean	Std. Deviation
Chile	Computer and Information Literacy- 1ST PV	3092	136.0	756.8	482.2	88.0
Chile	Computer and Information Literacy- 2ND PV	3092	110.7	717.4	482.4	87.4
Chile	Computer and Information Literacy- 3RD PV	3092	140.4	733.1	482.2	87.6
Chile	Computer and Information Literacy- 4TH PV	3092	20.3	704.3	482.4	88.7
Chile	Computer and Information Literacy- 5TH PV	3092	152.3	722.6	482.5	88.2
Denmark	Computer and Information Literacy- 1ST PV	2404	266.0	741.9	552.9	65.5
Denmark	Computer and Information Literacy- 2ND PV	2404	212.0	717.4	553.1	66.0
Denmark	Computer and Information Literacy- 3RD PV	2404	243.7	719.4	552.9	65.8
Denmark	Computer and Information Literacy- 4TH PV	2404	252.9	719.5	553.1	65.6
Denmark	Computer and Information Literacy- 5TH PV	2404	233.8	711.2	552.3	65.9
Finland	Computer and Information Literacy- 1ST PV	2546	42.6	758.8	526.8	82.0
Finland	Computer and Information Literacy- 2ND PV	2546	154.3	743.0	527.1	80.3

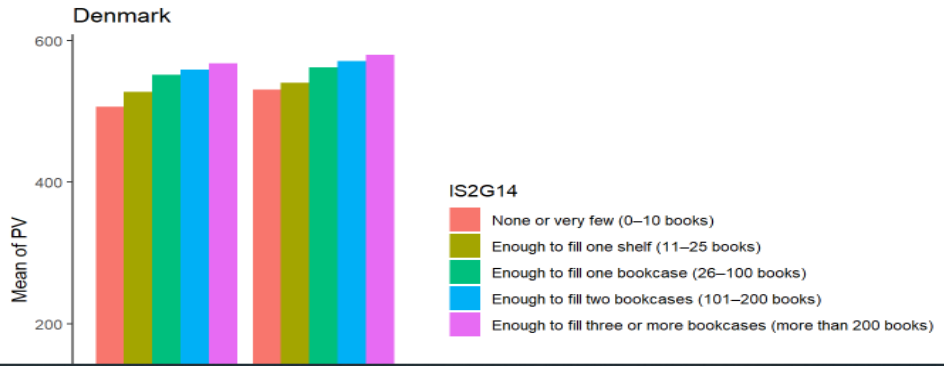
HTML Output Example 2

- Check Analysis Variables
- Report
- Graphs
  - **Chile Graph**
  - Denmark Graph
  - Finland Graph
  - France Graph
  - Germany Graph
  - Italy Graph
  - Kazakhstan Graph
  - Korea, Republic of Graph
  - Luxembourg Graph
  - Portugal Graph
  - United States Graph
  - Uruguay Graph
  - Russian Federation (Moscow) Graph
  - Germany, North-Rhine Westphalia Graph

Chile Graph



Denmark Graph



What has been implemented?

- We integrated our design with pop-up windows to allow the user to easily load needed updates before running our R programming scripts.
- We ensure that experience using the IEA IDB Analyzer with R will be much the same as using it with SPSS and SAS.
- The Alpha release will include the following functions:
  - It will **merge** data and translate datasets from SPSS to R format with **convert** module
  - It will conduct several descriptive analyses:
    - Percentages and means
    - Percentages only
    - Benchmarks
    - Percentiles
    - Linear regression
    - Significance testing
- We recommend to use R Studio, which is a free interface software and makes the use of R easier.

When and how it will be released?

- The **first release** is planned to coincide with the release of the IEA IDB Analyzer version 5 in **late November**.
- Complete functionality including correlations and logistic regression should come in the first quarter of 2022 with the Beta release.

Thank you!

Questions?
Feedback?

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