An Introduction to Meta-Analysis with R

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2021-10-26

Outline

1 Making Everything Ready

Visit this link to find out how to install R, RStudio IDE, and install R packages.

1.1 R

R is a free software environment for statistical computing and graphics. R software can be downloaded here. The most recent version of R is 4.1.1 (Kick Things) and has been released on 2021-08-10. However, some packages that I frequently use do not support the newest version of R. Facilitating this issue, I use version 3.6.3 on my system.

Nonetheless, you are able to install and use multiple version of R on your system and using RStudio you can switch back and forth to any version of R based on your needs.

To get help using R access their webpage here.

1.2 RStudio

RStudio's mission is to create free and open-source software for data science, scientific research, and technical communication. Inspired by innovators in science, education, government, and industry, RStudio develops free and open tools for R, and enterprise-ready professional products for teams who use both R and Python, to scale and share their work. RStudio Integrated development environment (IDE) can be downloaded here. We are using RStudio for this workshop.

2 What is a meta-analysis (MA)?

2.1 Definition

The definition by one of its founding father:

> "Analysis of analyses" (Glass, 1976)

> "Meta-analysis can be understood as a form of survey research in which research reports, rather than people, are surveyed." (Lipsey & Wilson, 2001)

3 Best packages to conduct a MA

The best packages are:

4 Data Preparation

5 Hands-on practice

Some text

References

Glass, G. V. (1976). Primary, Secondary, and Meta-Analysis of Research. *Educational Researcher*, *5*(10), 3–8. https://doi.org/10.3102/0013189x005010003

Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis.* SAGE publications, Inc.