Session 1: Introduction to base R & RStudio

R Basics for Social Sciences

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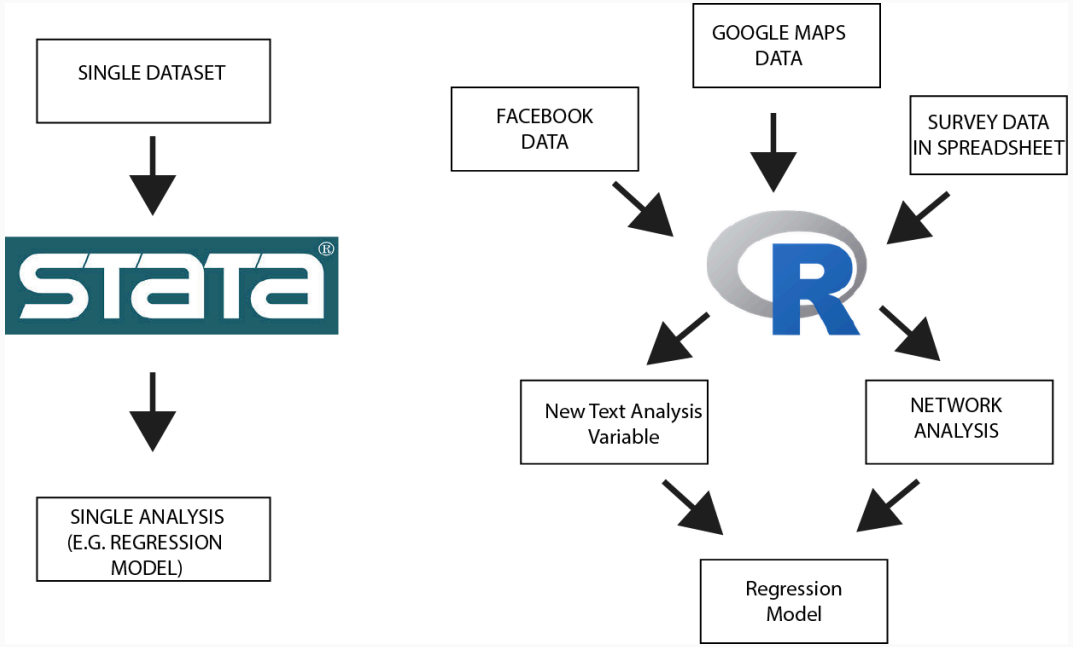
What is the goal of this course?

Help faculty in the social sciences
to start using the
statistical programming language R
in their
research and **teaching**.

Why R (& the Tidyverse)?



- Free & open-source
- Access to state-of-the-art statistics
- Impressive visualization capabilities
- Faster and more efficient than STATA/SPSS/SAS
- Fully fledged programming language that can interface with other powerful languages (e.g. Python, C++)
- R is becoming more and more widespread in the industry, which will help yous students on the job market

Learning (& Teaching) Statistics with R

Prerequisites

None*

*You'll need a laptop with R (https://cran.rstudio.com/) and RStudio (https://posit.co/download/rstudio-desktop/) installed.

Schedule

Date	Topic	Room
22/01	Introduction to base R & RStudio	5.1.01
29/01	Data Visualization using ggplot2 (1)	5.1.01
05/02	Data Visualization using ggplot2 (2)	5.1.01
12/02	Data Manipulation using dplyr (1)	5.1.01
19/02	Data Manipulation using dplyr (2)	5.1.01
26/02	Cleaning messy data with tidyr	5.1.01
05/03	Working with (generalized) linear models in R	5.1.01
12/03	Creating regression tables for latex, markdown/quarto, and word	5.1.01
19/03	Simulating & visualizing quantities of interest (1)	5.1.01
26/03	Simulating & visualizing quantities of interest (2)	5.1.01

Note: Schedule may be subject to change depending on our progress during the semester.

Resources

- **Getting Started:**
  - Posit primers: https://posit.cloud/learn/recipes
  - Posit cheat sheets: https://posit.co/resources/cheatsheets/
- **Introduction to R & Data Wrangling**
  - R for Data Science (2e): https://r4ds.hadley.nz/
  - R Cookbook (2e): https://rc2e.com/
  - Tidyverse Cookbook: https://rstudio-education.github.io/tidyverse-cookbook/
- **Basic Plotting & Data Visualization**
  - Data Visualization: https://socviz.co
  - Fundamentals of Data Visualization: https://clauswilke.com/dataviz/
  - R Graphics Cookbook (2e): https://r-graphics.org/
- **Statistical Modeling & Reporting**
  - `estimatr`: Fast Estimators for Design-Based Inference: https://declaredesign.org/r/estimatr/
  - `modelsummary`: Summarize statistical models in R: https://modelsummary.com/
  - `marginaleffects`: Simulate quantities of interest in R: https://marginaleffects.com/
  - R Markdown: The Definitive Guide: https://bookdown.org/yihui/rmarkdown/
  - Quarto: An open-source scientific and technical publishing system: https://quarto.org/

Any questions before we get started?