

Introduction to



## Sociological Research Methods

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# Why R we here?!?

- **R is a (computing) language and an interpreter that turns commands into...**
  - data manipulation, statistical analysis, graphics, & programming
  - [R Studio IDE](#) (Integrated Development Environment)
- **Large Community of Users**
  - free software (in both senses)
  - [Comprehensive R Archive Network](#) (CRAN)
  - Google / Stack overflow / Jason
- **Make Your Research Accessible**
  - [Dynamic Documents](#)
  - [Shiny Apps](#)

# Agenda

- Tuesday
  - basic setup & syntax
  - finding help
  - data types & structures
  - working with data
- Thursday
  - statistical analyses & exporting results
  - plotting & data carpentry
  - programming
  - dynamic documents
- GitHub: [https://github.com/buckipr/r\\_intro\\_srm](https://github.com/buckipr/r_intro_srm)

# Let's get started

Work with a script for a while

# Data Types & Structures

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- A few types of data in R
  - `logical` - TRUE or FALSE
    - `NA` - missing data
  - `character`
    - `NA_character_` - missing data
  - `numeric` - `integer`, `double`, `complex`
    - `NA_integer_` & `NA_real_`
  - `NULL` - empty object (place holder)

- R has different structures for holding data, which can be organized by...
  - how many dimensions does it have?
  - do the types of data need to be the same?

- **Vectors**

1. 1 dimension
2. same data type
  - special case: **factor** (predefined categories)

- **Matrices**

1. rows and columns
2. same data type

- **Arrays**

1. any number of dimensions
2. same data type



- **Data Frames**

1. rows and columns
2. different data types

- **Lists**

1. 1 dimension
2. different data types (and structures)