

Introduction to R Workshop

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Workshop Materials: charlescrabtree.com/r.zip (available on workshop date)

Workshop Goals

The first goal of the workshop is to teach the fundamentals of R, the [widely used statistical programming language](#). This means that the workshop is most useful to students who have limited or no experience with R. Students of all experience levels are welcome, though.

The second goal is to highlight several good coding practices. The idea here is to encourage readable, transparent coding. This is important because it can improve researcher efficiency. For example, programming errors are easier to find in accessible, well-documented code. Coding readability is also important because an increasing number of researchers are replicating published studies. The general idea here is that other researchers are less likely to encounter problems with your code if they can understand it.

The third goal is to show how researchers can use R to visualize the results of their quantitative analyses. This is important given that graphics are being increasingly used to present results across the social sciences. Plus, making plots is fun.

The workshop materials contain an R script and some example data that can be used to help with these goals.

Pre-Requisites

Please install the following software before the workshop begins and test that it works.

- R (cran.r-project.org)
- RStudio (rstudio.com)

Recommended Readings

- *The R Guide* (cran.r-project.org/doc/contrib/Owen-TheRGuide.pdf)
- *R for Data Science: Visualize, Transform, Tidy, and Import Data* (r4ds.had.co.nz)
- *Advanced R* (adv-r.had.co.nz)
- *R Packages: Organize, Test, Document and Share Your Code* (r-pkgs.had.co.nz)

Additional Resources

- Quick R (statmethods.net)
- R-Ladies Sydney 'RYouWithMe' course (rladiessydney.org/courses/ryouwithme/)
- Hadley Wickham's fantastic book on R's `ggplot` package, "ggplot2: Elegant Graphics for Data Analysis." (full text available at ggplot2-book.org/)
- Kieran Healey's excellent book on graphics, "Data Visualization: A practical introduction." (full text available at socviz.co/).
- Chart of R colors (research.stowers-institute.org/efg/R/Color/Chart)
- [Google](#) (for programming problems)
- [Stackoverflow](#) (for programming problems)