Demographic Exploration and Discovery (with R): Setup

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Getting set up

Reference book

We will make reference to the book "Data Visualization: A practical introduction" by Kieran Healy. You can buy it online if you want, or you can refer to the open version at https://socviz.co. There are also links to purchase the book at that site, if that's your intent. This book is so fresh, well written, and useful: it's the only book that gives both *theory* and *code* for visualization, and it's also using the newest *tidy* programming paradigms, which is probably the best way to get started nowadays.

If you already are an R user but are not a *tidyverse* freak, then you and I are in the same boat. If you actually already are a *tidyverse* freak then I expect you'll still enjoy this course.

Software

Inkscape

This is a free vector graphics editor. If you happen to have Adobe Illustrator then that is fine too, but I personally use Inkscape. It's quite capable and easy enough to figure out. https://inkscape.org/

R

You don't need any background in R to take this course. I don't even assume you know yet where the fancy keys on the keyboard are yet. But I assume you can manage to get the latest version installed. https://cran.r-project.org/

RStudio

This is the best way to *use* R. It will be our work environment for this course. Unless you're already using something else that works for you. https://www.rstudio.com/

Start using R and RStudio

First you need to decide where (a directory) you'll keep all your course materials. Make a good decision. Some place stable that won't disappear part way through the semester. Choose File - New - R script , and call it something like *setup.R*. Then you'll want to type in the stuff in these code blocks, select it, and press ctrl + enter. We'll do this together in class.

R packages to install

packages used in socviz book

```
my_packages <- c("tidyverse","broom","coefplot","cowplot",
                 "gapminder","GGally","ggrepel","ggridges","gridExtra",
                 "here","interplot","margins","maps","mapproj",
                 "mapdata","MASS","quantreg","rlang","scales",
                 "survey","srvyr","viridis","viridisLite","devtools")
install.packages(my_packages, repos = "http://cran.rstudio.com")
```

the *socviz* package

This package belongs to the book

```
library(devtools)
install_github("kjhealy/socviz")
```

R packages for doing demography

We will likely use at least some of these at some point during the course, so best get them installed early in case there are issues.

```
random_demog_packages <- c("MortalitySmooth","ungroup","HMDHFDplus",
                           "DemoDecomp","MortalityLaws")
install.packages(random_demog_packages, repos = "http://cran.rstudio.com")

library(devtools)
install_github("mpascariu/MortalityEstimate")
install_github("timriffe/DemoTools")
```

Rstudio addins

```
install.packages("addinslist")
library(devtools)
install_github("seasmith/AlignAssign")
```