

17.4: Uploading/Reading Data

R can handle a variety of different file types as data. The primary type that will be used for the book and accompanying course is a comma separated file, or .csv file type. A CSV is a convenient file type that is portable across many operating platforms (Mac, Windows, etc) as well as statistical/data manipulation softwares. Other common file types are text (.txt) and Excel files (.xls or .xlsx). R also has its own file type called a R data file with the .RData extension. Other statistical softwares also have their own file types, such as Stata's .dta file extension. R has built in functionality to deal with .csv and .txt as well as a few other file extensions. Uploading other data types requires special packages (haven, foreign, and readxl are popular for these purposes). These methods work for uploading files from the hard drives on our computers. You can also directly download data from the internet into R from a variety of sources and using a variety of packages.

For the purposes of the book, we will acquire our data by going [here](#). You will then type your e-mail where it says Request Data. You should then receive an e-mail with the data attached as a .csv file. First, you will want to download this data onto your computer. We recommend creating a folder specifically for the book and its data (and if you're in the class for your classwork). This file will be your working directory. For each script we run in class, you will have to set your working directory. An easy way to do this in RStudio is to go to the Session tab. Scroll about halfway down to the option that says ""Set Working Directory" and then click "Choose Directory..." This will open up an explorer or search panel that allows you to choose the folder that you have saved the data in. This will then create a line of code in the console of RStudio that you then copy and paste into the Code editor to set the working directory for your data. You then run this code by hitting Ctrl+Enter on the highlighted line.

Once this has been done, it is a good idea to check your directory. One easy way to do this is the `list.files()` command, which will list all files saved in the folder you have set as your working directory.

```
# list.files()
```

If you have done this correctly, the data you downloaded should show up as a file. Once you have done this, uploading the data will be easy. Simply write one line of code:

```
# ds<-read.csv("w1_w13_longdata.csv")
```

This line of code loads our data saved as a .csv into R and saves it as an object (remember the object oriented programming from earlier) that we call ds (short for dataset). This is the convention for the entire book. Now that we have the data downloaded from the internet and uploaded into R, we are going to briefly introduce you to some data manipulation techniques.

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