This module will discuss a few approaches to generating frequency distributions and descriptive statistics in R. Different options for generating tables and plots are also discussed.

**Lines 7 to 24** provide a reminder about how to set your working directory and read in data. Variable and value labels for the items that are used in the demonstration follow **on lines 28 to 63**. We generate a dataframe that only includes the variables of interest at **line 66.**

**Lines 69 to 172** demonstrate how to use three functions to generate frequency distributions and descriptive statistics: table(), describe(), and count(). table() may look familiar, as we have used this function to examine variables in previous modules. As a reminder, the output of table displays the values of the variable and the associated frequency below. For example, the call to table() at **line 78** shows that around 21 thousand people have a value of 1 and around 10 thousand people have a value of 2. At **line 85**, the output of table() is saved as a dataframe for later use.

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table() can also be used to generate crosstabs, which display the overlap between two variables in a table. Values of the first variable entered as an argument are displayed on the y axis of the table and values of the second variables are included on the x axis of the table.

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The count() function from the plyr package produces output that is similar to what is returned y saving a call to table() as a data.frame. In some cases, count() will be faster and also produces output that is labeled more descriptively.

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The describe() function from the psych package can be used to generate descriptive statistics for a series of variables. The output of describe may include more information than is some times needed; at **line 171** we retain only the columns of the output that provide n, the mean, and the standard deviation.

**Lines 175 to 252** provide examples of how to usestargazer and sjPlot to generate and export tables and plots. sjPlot has a variety of specialized functions for generating tables and plots; for example the frequency table at **line 193** or the barplot at **line 213**.

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Plots can be exported by calling a graphics function. At **line 223** we export the bar plot as a .tiff file. Other options include jpg and png.

There are a variety of functions that can be used to generate tables and plots in sjPlot. These can be explored fruther using the command at **line 231**.

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stargazer can be used to export custom tables. Any table that is saved as a dataframe can be exported using stargazer, for a more flexible approach to formatting.

**Lines 255 to 339** introduce ggplot2**,** a flexible package for generating plots in R. The general syntax used by ggplot is presented at **line 264**.

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The syntax for a basic bar plot is included at **line 281**. A series of commands to reformat plots in alignment with APA format are included at **lines 294 to 300**. After running these commands, the object ‘apatheme’ can be appended to a plot to reformat it. A color-blind friendly color pallet is included at **line 305** that can also be appended to a plot.

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**Lines 324 to 331** demonstrate how to make a bar plot that includes these formatting elements. A title and axis labels are included at **lines 327 to 329**. The color pallet is incorporated into the plot at **line 330**. The apatheme object is appended to the plot at **line 331**. **Line 332** prints the plot to the Plots window in the lower right corner.

A link to a useful guide for other ggplot functionality is provided at **line 340**.