# Activities

1. Start by loading any necessary packages, the ‘tidyverse’ package is recommended.
2. Read in the data file "Mehr Song and Spelke 2016 Experiment 1.csv". Explore the data file using View(). Note, you will not analyze all of these variables. Try to find the variables that are relevant to the study description above.
3. This data file includes the variables for all 5 experiments reported in the paper. We only want to analyze the data for Experiment 1. Using the filter() function from the dplyr package, use the filter variable exp1 to select these cases (labeled Experiment 1 ONLY) into a new data frame. Check this data frame to ensure that only 32 cases are selected.
4. You first want to show that infants' looking behavior did not differ from chance during the baseline trial. In other words, the infants did not show an attentional bias prior to hearing the unfamiliar others sign the song. Perform a one-sample t-test to examine whether the proportion of time spent looking at the person singing the familiar song at baseline did not differ from chance (0.5). You'll need to use the t.test function, specify the column using $ notation, and specify the null proportion (mu).
5. Next, you want to demonstrate that infants attended equally to the two singers during the familiarization trials. Run a paired samples t-test comparing the Gaze to Familiar Song vs. the Gaze to Unfamiliar Song. This time, instead of a mu, you'll need to specify two columns and that the test is paired.
6. Now, perform a one-sample t-test to examine whether the proportion of infants' looking behaviour toward the singer of the familiar melody was higher than chance at the test phase (0.5).
7. Finally, compare looking behavior at baseline to looking behavior at test, using a paired-samples t-test.
8. Prepare an APA-style results section to describe each of the analyses conducted above.
9. Generate a boxplot to depict the proportion of time infants spent looking at the singer of the familiar song at the baseline and test trials. Because we need to represent the same cases (individuals) twice in the same graph, we need to reorganise the data first, so it has all of the gaze proportions as one variable, but with a seperate variable indicating whether we mean baseline or test. This can be achieved pretty easily with the gather function. From then it should be relatively simple to make a ggplot using the geom\_boxplot.
10. Generate a scatterplot (using the ggplot function and geom\_point) to depict the relationship between the estimated number of times the infants heard the song and their increased looking behavior from the baseline to test trials.