**Lab Exercise:**

Now you do it. Download the “Lab 8 Data.csv” file from Canvas. Using what we learned today and last week, tell me:

1. How many factors there are in these items.

1 factor.

I have decided that the best solution for this is a **1 factor** model. I decided on this because of many reasons. First, I plotted a scree plot. Visually, I could tell that the eigen value for 1 factor was sufficiently higher than if we added another factor into the model. Additionally I generated a factor analysis on a random dataset and compared it with the eigen values I generated from a scree plot with 1 factor and 2 factors. Viewing this, it was possible to see that an EFA on a set of random values explains more than if there were 2 factor.

1. Which items load on which factors (report the factor loadings).
2. What process and decision rules you used to reach that conclusion.

I have decided that the best solution for this is a **1 factor** model. I decided on this because of many reasons. First, I plotted a scree plot. Visually, I could tell that the eigen value for 1 factor was sufficiently higher than if we added another factor into the model. Additionally I generated a factor analysis on a random dataset and compared it with the eigen values I generated from a scree plot with 1 factor and 2 factors. Viewing this, it was possible to see that an EFA on a set of random values explains more than if there were 2 factor.

Next, I compared the fit indices across each model. The fits did rise, across them, however, not by much.

You can choose whether to do the analyses in R or Mplus – you should come to the same overall conclusions either way! Turn in (a) a Word doc with your answers to the above and (b) relevant output. By now, you should have a good idea about what will support your answers.