Statistical Inference of features in Trump’s speeches

Since all of the variables we have are continuous variables, there is not much in terms of dividing them between groups that we can do. Rather, we can look at the relationships between our predictor features and attempt to understand this rhetoric and message of the President. Due to overlap in the sentiment corpora, we want to be sure that the correlation has a meaningful practical interpretability, so we consider a significant correlation to be that greater than 0.3 (which is an alpha level = 0.00000001).

Our first analysis focuses on the sentiment features. We notice two particular clusters that emerge in which the variables all correlate with one another at this level or greater. The first is a positive sentiment cluster in which positive, joy, surprise, and anticipation are heavily correlated with each other. This means that Trump tends to talk about positive news with a sense of joy, anticipation, and surprise. This captures the interesting concept that when Trump discusses his accomplishments, he refers to them as to be expected (anticipation) and to be unexpected (surprise). The second is a more negative sentiment cluster that contains negative, fear, anger, disgust, and sadness. In facing opposition and obstacles in this administration, Trump reacts with these levels of additional sentiment. We can take notice that there is more complexity in the negative cluster with five features as opposed to the positive cluster’s four.

We can then examine the relationships between topics. Since we created the corpora for the topics, we attempted to limit the overlap between issues which we observe. We only see two significant relationships. The first is a positive relationship between women’s rights and healthcare. This could be due, in part, to the need for accessible reproductive healthcare for women, or rather, be an indicator of party lines with Democrats pushing for better gender equality and universal healthcare. The second significant relationship is a negative relationship between the U.S. economy topic and military and defense. This relationship is interesting because it entails that the more Trump speaks on one issues the less he speaks on the other. The reason this is interesting is because these seem to be the crux of the conservative agenda (strong military and strong economy), so we would think they should occur together. We might think that he has separate messages for each and wants to avoid any potential overlap, but we cannot be certain.

Finally, we wish to examine the relationships between sentiments and topics. Similar to the relationships between topics, we only see a couple of significant relationships. We see a positive relationship between fear and military and defense. This has been a common message of Trump throughout his Presidency, the enemies we fear should be taken care and eliminated; we need to defend the United States from all that we are afraid of, be it change, terrorism, or immigration. Fear, defense, and protection have been the message of this administration from the start. Moving on, we see significant negative relationships between the U.S. economy topic and fear and trust. Again, this is another interesting relationship because this correlation indicates that Trumps message on the economy is that it should not be fear but it also should not be trusted. It could be that when he talks about American jobs, he talks about how these horrible things have occurred to blue collar jobs and the promises that have been made to the American people have not been fulfilled; an interesting take on the American cynicism. Another take could be that we should not trust the government’s involvement because the fear that people have about the economy and business is unwarranted. Both seem equally likely, and further analysis might be needed to further tease apart these correlations.