# TEXT MINING & SENTIMENT ANALYSIS OF BORIS JOHNSON'S LOCKDOWN ANNOUNCEMENTS

This study explored Boris Johnson's language in the three UK coronavirus lockdown announcements by applying text mining and sentiment analysis on the transcripts.

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## Background

The covid-19 pandemic has been a very novel type of national emergency, with the public and leaders learning day-by-day. This report investigates whether there are any changes in language across Boris Johnson's lockdown announcements, that might reflect a change in leadership style throughout the pandemic.

## Data

Transcripts of Boris Johnson's announcements of the three lockdowns on 23rd March 2020, 31st October 2020 and 4th January 2021 were found on the gov.uk website. They were copied into simple text format and stored in a folder to create a corpus. A document-term matrix was created from the corpus.

## KEY WORDS AND PHRASES

Top words in lockdown announcements one, two and three (left to right).



The word 'will' featured strongly across all three speeches, occurring with the highest frequency in all of them. This may be quiet revealing of Johnson's decisive language/ leadership style, as opposed to a more gentle vocabulary of 'should'/ 'could'. There are also some changes in vocabulary across the announcements. The lockdown one announcement focusses on 'people', 'home' and 'lives'. The lockdown two announcement contains 'can', 'now' and 'local'. This reflects a more action-oriented positive tone in which the lockdown was described as a temporary and shortterm measure. Finally the third announcement has the most virus oriented vocabulary with 'covid', 'new', 'variant' and 'schools'. This was probably to emphasize the scientific reasoning for why it was occurring, now that the public had become more familiar with concepts like 'new variants'.

Words that characterize each lockdown announcement as selected by tf-idf weighting.
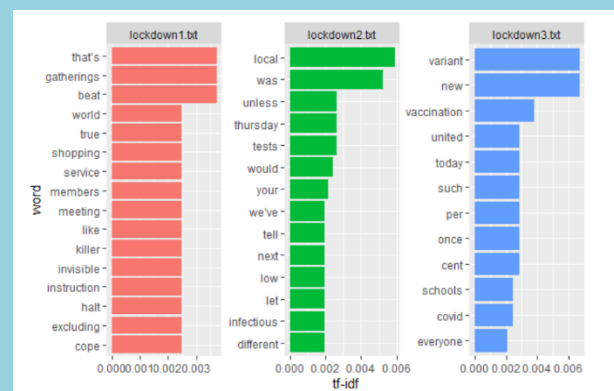


The tf-idf term weighting took into account term frequency and inverse document frequency to identify rarer terms that occurred frequently in a particular announcement (Figure 3). The difference between lockdown one and three was most interesting. Johnson's first announcement features characteristic words such as 'invisible', 'killer', 'beat', 'cope', 'halt', 'instruction'. This almost war-like language fits the idea that Johnson had a Churchill-like style of leadership at the beginning of the pandemic. The words characteristic of the third lockdown speech have a far more scientific and communal tone to them: 'new', 'variant', 'covid', 'vaccination', 'everyone', 'united'. The shift in language accompanies a leadership style in which Johnson became more reliant on delegating power to experts and acted more as a symbolic leader.

## SENTIMENT ANALYSIS
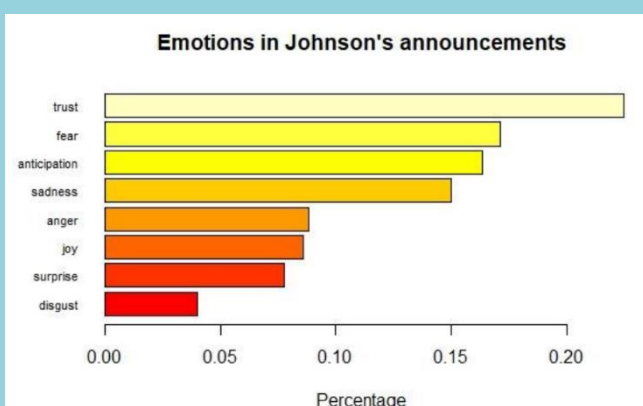


Sentiment analysis using NRC dictionary with sentiment categories

The predominant emotions in Johnson's lockdown announcements were trust, fear and anticipation. The emotions in the bar plot paint quite a negative picture, with sadness featuring strongly as well. This is feasible but in contrast to results using the bing dictionary, which indicated an overall 'positive' sentiment rating. The findings suggest that lexicon libraries can be prone to misclassification.