Public health messaging by political leaders: a corpus linguistic analysis of COVID-19 speeches delivered by Boris Johnson

Emma McClaughlin, Elena Nichele, Svenja Adolphs, Pepita Barnard, Jeremie Clos, Dawn Knight, Derek McAuley, Alexandra Lang

Effective **public health messaging** supports the implementation and uptake of **public health measures**, by persuading the audience to follow guidance, countering any resistance, and resolving any confusion surrounding complex instruction.

The **Coronavirus Discourses** project addresses key challenges that the coronavirus pandemic presents in relation to understanding the flow and impact of public health messages in public and private communications. The wider project focuses on messaging around **geographical borders** and messaging related to **Black, Asian and Minority Ethnic (BAME) populations**.

The Study

In this part of the study, we analyse **the language of speeches** about COVID-19 **delivered by Boris Johnson**, the Prime Minister of the United Kingdom between 3rd March 2020 and 5th April 2021.

We use transcribed speeches to construct a digitised body of texts called a **corpus** (plural 'corpora') that we analyse linguistically. This approach, 'corpus linguistics' uses specialist software to identify **common patterns that occur in language**, including the frequency and usage of specific words.

The results reported here will further inform our investigation of the reception and evaluation of public health messaging and related measures which are of key concerns to our **project partners** Public Health England, Public Health Wales, and NHS Education for Scotland.

C19COMMS

Coronavirus Discourses

The University of Nottingham in collaboration with Cardiff University is working in partnership with Public Health England, Public Health Wales, and NHS Education for Scotland to investigate linguistic evidence for effective public health messaging.

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The Speeches Data

We gathered UK Government speeches delivered by the Prime Minister Boris Johnson between 3rd March 2020 and 5th April 2021.
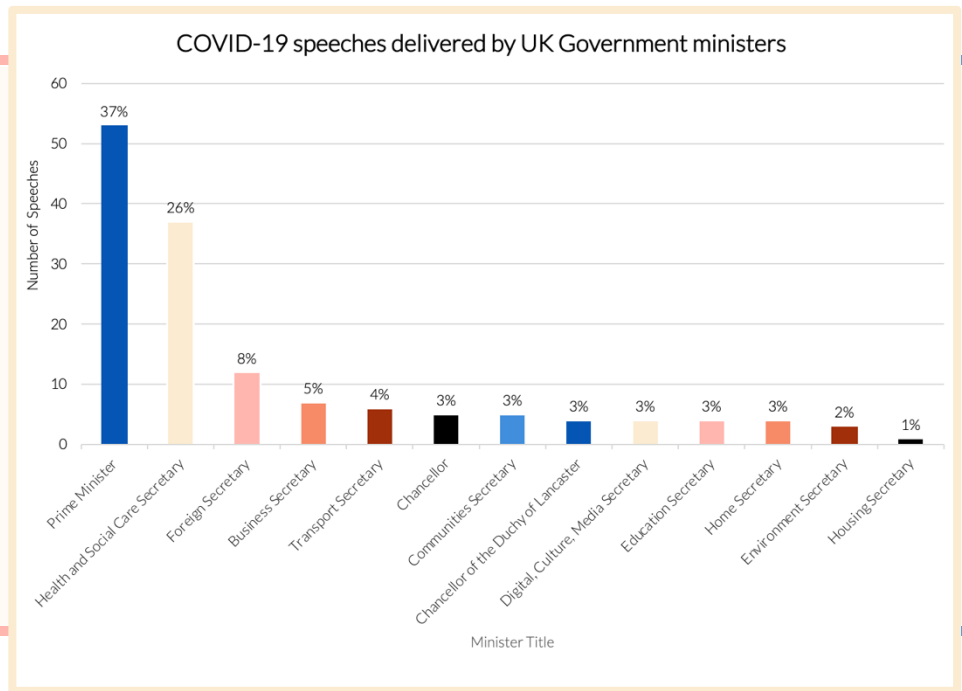
Number of speeches	Total types (unique words)	Total tokens (words)
53	4482	44605

Research Question

What are the prominent themes and linguistic patterns present in statements delivered by the UK Prime Minister relating to coronavirus?

This graph shows that of the speeches available in transcribed format on the UK Government website*, **37% were delivered by the Prime Minister Boris Johnson** between 3rd March and 5th April and these form the basis of the analysis presented here

*Data gathered on 15th April 2021

COVID-19 speeches delivered by UK Government ministers

Prime Minister 37%, Health and Social Care Secretary 26%, Foreign Secretary 8%, Business Secretary 5%, Transport Secretary 4%, Chancellor 3%, Communities Secretary 3%, Chancellor of the Duchy of Lancaster 3%, Digital, Culture, Media Secretary 3%, Education Secretary 3%, Home Secretary 3%, Environment Secretary 2%, Housing Secretary 1%

Common Language Patterns Analysed in Corpus Linguistics

Frequency	Collocation	Keywords (or 'Keyness')
The analysis of how often words feature in a corpus	The analysis of words that most frequently co-occur in the corpus	A comparison of frequencies between a target corpus (government speeches in this case) and a reference corpus of typical language use (we used The British National Corpus Spoken Sampler, a ~1-million-word corpus of transcribed spoken British English).

Main Themes in Boris Johnson's Speeches

We looked at keywords, which distinguish Boris Johnson's speeches from typical spoken English.
In the top 50 keywords, we found references to:

Coronavirus and healthcare	Preventative measures	Economy	Education
NHS, virus, coronavirus, disease, covid, symptoms, [clinically] vulnerable, spread, cases, peak	*measures, testing, vaccine, protect, test(s), restrictions, distancing, alert, advice, rules, set out [rules], lockdown*	*businesses, local [businesses]*	*schools*

Pronouns are Prominent Features of the Speeches

- The pronoun 'we' is the 5th most prominent keyword and the 4th most frequent word in the corpus after 'the', 'and' and 'to'.
- The pronoun 'I' was also important (13th most frequent), though it appears less than half as frequently as 'we'.
- Finally, the word 'our' is the 16th most frequent word in the corpus and the 7th most prominent keyword.

Bringing the Nation Together

Boris Johnson often uses these personal pronouns to refer to the public and leadership collectively, encouraging people to feel part of a single community.

- 'In England, *we* must therefore go into a national lockdown which is tough enough to contain this variant'

- '*Our* collective action, across the country, has brought the R number well below its natural rate of about 3. As a result, the virus is not spreading as quickly as it did in February and March'

- 'Because with every jab that goes into *our* arms, *we* are tilting the odds against Covid and in favour of the British people'

- 'The weeks ahead will be the hardest yet but *I* really do believe that we are entering the last phase of the struggle'

We also found that the word 'UK' co-occurs with 'across' and 'whole' and the word 'British' co-occurs with 'people' and 'public', which further contributes to bringing the nation together.

To explore further how the sense of collective action and responsibility is framed in the speeches, we looked at the 20 most frequent collocates for personal pronouns 'I' and 'we', which provides some insight into how Boris Johnson positions himself and his leadership in relation to the public.

Framing Future Action

One of the top 20 most frequent collocates for 'we' and 'I' is 'will' (LL 916.54, 159.34 respectively), indicating that future projections or actions are an important feature of Boris Johnson's speeches.

We examined instances where personal pronouns 'I' and 'we' co-occurred with the modal verb 'will' to explore future actions communicated by Boris Johnson.

Extracts showing examples of future actions (I/we + will)

- from Monday 12th April, *we will* move to Step Two of our roadmap – re-opening shops, gyms, zoos , holiday campsites, personal care services like hairdressers and, of course , beer gardens and outdoor hospitality
- And on Monday the 12th *I will* be going to the pub myself - and cautiously but irreversibly raising a pint of beer to my lips
- with every jab that goes in we are becoming more confident that *we will* reach our target of offering a first dose to everyone in the top four priority groups by the middle of February

'we' + 'will' often co-occurred with 'continue'

- *we will continue* on this roadmap
- *we will continue* to drive this virus down
- *we will continue* as far as we possibly can to adopt a pragmatic and local approach in the months ahead
- *we will continue* to work with the devolved administrations in Scotland, Wales and Northern Ireland to support and care for those at risk
- *we will continue* to remain cautious and measure the effect of the changes that we make
- *we will continue* as we have from the beginning to do the right thing at the right time and to follow the best scientific advice
- *we will continue* to provide, as soon as we have it, as much clear scientific and medical information as we can

●we ———— ●will —— ●continue

Tip: In these diagrams, line length shows the strength of the collocation (shorter lines show a stronger statistical association), and node (dot) density shows the frequency of occurrence (darker shades show higher frequencies).

Looking to the future has the potential to reassure the public that there is a plan of action, even if only in the short term.

The actions are vague and non-specific and there is little detail about practical implementations.

Trustworthiness and Reliability

'I' often co-occurred with 'can' and 'confirm'

- today, *I can confirm* that two weeks from today Monday 8th March we will begin step one and schools and colleges across England will re-open
- today, *I can confirm* that we are providing an additional 3 billion of funding to the NHS in England to get ready for winter
- *I can confirm* the government judges we have met the fifth test and we are therefore satisfied that all five tests are still being met
- today *I can confirm* that I do believe we will be in a position to move to step 2 of our plan
- *I can confirm* today for the first time that we are past the peak of this disease

- There is an immediacy to these confirmations ('today').

- Relaxing the guidance is presented as Boris Johnson's decision and he takes ownership of the announcement ('I can confirm' rather than 'we can confirm'). This is more striking considering that 'we' is twice as frequent in the speeches overall.

Instructing the Population

'we' often co-occurs with 'must'

'we must' co-occurs with 'act' or 'stay'

- *we must* act (5 instances)
- *we must* stay [alert] (2 instances)
- *we must* continue
- *we must* protect the NHS
- *we must* fix it [PPE as a global problem]
- *we must* make sure
- *we must* have a world beating system
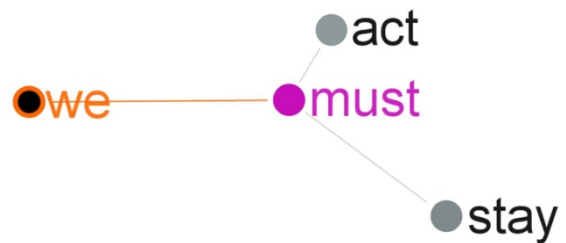
- Boris Johnson's instructions are presented as a collective obligation.

- This juxtaposes a current perceived lack of activity with forceful instructions for future action.

Expressing Gratitude and Awareness

'I' often co-occurs with 'thank', 'stress', 'update', and 'know'

- I want to say to everyone right across the United Kingdom that *I know* how tough this is, *I know* how frustrated you are, *I know* that you have had more than enough of government guidance about defeating this virus

- Everyone from the supermarket staff to the transport workers to the carers to the nurses and doctors on the frontline. But in this fight we can be in no doubt that each and every one of us is directly enlisted. Each and every one of us is now obliged to join together. To halt the spread of this disease. To protect our NHS and to save many, many thousands of lives. And *I know* that as they have in the past so many times, the people of this country will rise to that challenge

- Thank you for your sacrifice, *I know* how tough it must be. And I can tell you again that this government will be standing behind you behind British business, behind British workers, employees, self-employed throughout this crisis
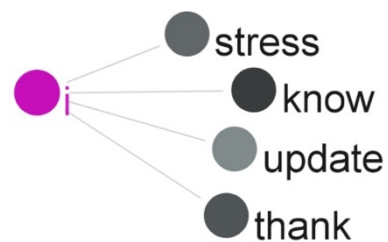
- The speeches feature gratitude for public effort alongside awareness of, and sympathy for, the widespread challenges that people faced.

- Boris Johnson invokes war metaphors ('defeating', 'frontline', 'fight', 'enlisted') to inspire public co-operation (see page 5 for discussion).

- At times, the government is said to be working collectively or together with the public, and at others, it is 'standing behind' the public.

Key Points

■ UK Prime Minister Boris Johnson's public coronavirus briefings and statements are underpinned by a sense of unity, shared experiences, and preventative measures. His frequent use of future tense conveys confidence, perseverance, and hope for the future at a time when a vaccine was still in development and coronavirus cases were high.

■ The speeches attempt to persuade the public to follow guidance through strategies of collectivisation (bringing the nation together), conveying gratitude, looking to the future, expressing awareness and sympathy, and giving instructions. Each approach contributes to reinforcing a sense of unity.

■ There are some discrepancies between the approaches recommended in health communications literature and the language used by Boris Johnson when he communicates with the public about COVID-19.

■ Personal responsibility is emphasised in the language Boris Johnson uses to persuade and inform, through the use of personal pronouns (e.g., 'I', 'we') and metaphors of war (e.g., 'defeating', 'enlisted'), for example. Though acknowledgment of personal responsibility is said to be important to increase comprehension and usability of healthcare communications,[1] over-reliance on such features is not recommended. According to the Institute of Medicine, 'audiences are likely to reject messages attributing health outcomes mainly or exclusively to personal responsibility'.[2] For this reason, researchers in health communications recommend aligning communication with societal values (such as fairness, equal opportunity, economic security, and military readiness in the US context) to increase support for public health objectives.[3][4]

■ Similarly, the use of war metaphors to inspire public co-operation in this context can be controversial and even counterproductive. It can increase anxiety and feelings of guilt and fear, particularly when a patient or population does not or cannot 'win'. Communication that causes such feelings can lead audiences to judge activities to be of high risk and low benefit.[5][6] The war framing is thought to affect the public's willingness to act in self-limiting ways, directly contradicting public health messaging, which instructs the public not to meet in large groups and to stay at home, for example.[7] Nevertheless, this metaphor has also been used by social media (Twitter) users to discuss the COVID-19 pandemic.[8]

■ Recommended best practice in health communications includes the use of simple language.[9] One positive aspect of Boris Johnson's communication reported here is that he generally limits his use of jargon (with the exception of the 'R' number), but this sometimes comes at the cost of vagueness, as the examples show (see pages 3 and 4). In risk-based communications, it is said that 'audiences are more likely to pay attention to messages that are succinct, relevant, and timely' [10] and 'the majority of audiences, regardless of literacy level, prefer health materials that are clear and concise'.[11] Boris Johnson's sentences are sometimes complex and long, which can be a barrier to comprehension for some audiences.

■ By examining the persuasiveness and inclusivity of government public health messaging, the findings can be used to test further the effectiveness of the underlying communication strategies used here.

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