

Motivation, metaphor and manipulation: the framing of public
debates and the shaping of public responses through leaders'
speeches during the evolving COVID-19 pandemic

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Abstract

“Motivation, metaphor and manipulation: the framing of public debates and the shaping of public responses through leaders' speeches during the evolving COVID-19 pandemic”

Thomas Stoeckle

COVID-19 is a *societal grand challenge* - a new quality of problem that is highly complex, unstable, difficult to predict, intractable and without simple solutions. These problems are also referred to as wicked problems. They challenge political leadership worldwide: as a new quality of problem, they require a new quality of solutions from leaders with a new quality of mindset. Established modern technocratic mindsets, or postmodern populist mindsets appear ineffective, whereas a proposed new metamodern empathetic mindset appears more promising.

During COVID-19, political leaders' public speeches impacted public responses such as compliance with health regulations. A core characteristic of societal grand challenges is their grounding in subjective perceptions and values, rather than objective facts. Leaders' speeches reach and impact diverse populations differently, and the recognition of a values-based discourse adds to the complexity of a research design fit to address the various dynamics at play between political leaders and the audiences they are addressing.

This is being explored through quantitative and qualitative software-aided text analysis of five speeches each by ten male and ten female heads of state during 2020/21 (total corpus 195,000 words).

Research questions address

1. linguistic styles on syntactic, lexical and semantic level
2. alignment with gender and established leadership types
3. discourse style and outcomes (health, economics)

Findings from digital text analysis through Sketch Engine (tagging and concordance software) reveal distinct syntactic and semantic patterns. Qualitative metaphor analysis explores this further and relates results to leadership types and conceptions of knowledge, such as the modern technocratic type, the postmodern populist type, and the newly evolving metamodern empathetic type which seems better suited to current and future societal grand challenges.

Creation and interpretation of new knowledge: an expanded political leadership type and communication concept for a world of wicked societal grand challenges proposes a metamodern conception of knowledge, distinct from modern and postmodern conceptions of knowledge. The corresponding leadership type is characterized by empathy, intellectual humility and collaborative sense-making. During COVID-19, this was more present in female, than in male leaders. There is some indication that this leadership and communication style resulted in overall better societal outcomes (measured in health and economic metrics).

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Author's declaration

I, Thomas Stoeckle, hereby state that my PhD thesis, titled

“Motivation, metaphor and manipulation: the framing of public debates and the shaping of public responses through leaders' speeches during the evolving COVID-19 pandemic”

is my own work and has not been submitted previously, in whole or in part, by me or another person, for taking any degree from Bournemouth University or anywhere else.

I, Thomas Stoeckle, further submit that all sources used in researching my PhD thesis are fully acknowledged and all quotations properly identified. I understand the ethical implications of my research, and this work meets the requirements of the Faculty of Media and Communication at Bournemouth University.

At any time if my statement is found to be incorrect, even after my graduation, the university has the right to withdraw my PhD degree.

Thomas Stoeckle

24th April 2026

1. Introduction

Where have all the graveyards gone
 Gone to flowers, every one
 When will they ever learn?
 When will they ever learn?
 (*Where Have All The Flowers Gone*, Pete Seeger,
 1955)

The *Spanish Flu* of 1918-19, that *Pale Rider* (Spinney 2017) which killed “50-100 million people, or between 2.5 and 5 per cent of the global population” (Spinney, p.3) gets described as the ‘*Modernists’ Pandemic*’ today (Outka 2020). It was made and shaped by the conditions of its time, as well as it made and shaped its time (Phillips and Killingray 2003; Spinney 2017). Much the same is said about the COVID-19 pandemic, and it remains unclear what the long-term impacts will be, from re-envisioning global healthcare systems (Almalki 2021; Soitu et al. 2022) to the rebalancing of work and life, including an increased desire to choose between working in an office, as opposed to from home (Fuchs 2021; Davies et al. 2022). Undoubtedly, no public health crisis in the last 100 years has drawn as much interest from as many academic disciplines, than the 2019 outbreak and subsequent global impact of a previously unknown strain of coronavirus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It was first reported in China, in Wuhan, Hubei province, in December 2019. Just a few weeks later, on 30th January 2020, the World Health Organisation (WHO) declared COVID-19 – the infectious disease caused by SARS-CoV-2 – a ‘public health emergency of international concern’ (Sachs et al. 2022). Another six weeks later, on 11th March, the WHO declared it a pandemic. According to the *WHO COVID-19 Epidemiological Update* from 16th February 2024 (WHO 2024), as of 4th February “over 774 million confirmed cases and over 7 million deaths have been reported globally” (p.2). COVID-19 has been described an infodemic (Cosentino 2023), a “syndemic of infectious disease and inequalities” (Bambra et al. 2021, p.XIV), and it has also been mooted that we may have entered the Virocene (Fernando 2020).

The comparisons that are being drawn between the modernist pandemic of 1918-19, and the COVID-19 pandemic of 2020-22 (Nichols et al. 2020; Liang et al. 2021; Simonetti et al. 2021) often lead to unfavourable conclusions: “both pandemics shared the same pattern of narration (e.g. scapegoating) and the same impact on minorities in high-income countries” (Simonetti et al. 2021, p.613). Public health historians call COVID-19 “eerily and unpleasantly familiar” (Nichols et al. 2020, p.642), pointing to “pushback and resistance to [these] directives as well as substantial mismanagement of resources and a flood of misinformation. Much health policy has been inconsistently set at the local rather than federal level. These responses to our modern pandemic closely mirror those to the pandemic 102 years ago” (ibid.). The pandemic historian Elizabeth Outka

concludes that we seem to have learned little from the days of *Viral Modernism* (Outka 2019), and “patterns of viral and human behavior threaten to make the past the present” (Outka 2020).

Overview of study: how everything is connected

This study is about the past, the present, and the future of political leadership communication during a global health crisis. It explores various leadership styles (Grint 2010; Iszatt-White and Saunders 2017), and addresses both the roles of populism (Brubaker 2021), and gender in political leadership (Windsor et al. 2020) during the COVID-19 pandemic. It does so by looking at the use of language, of rhetoric and metaphor (Charteris-Black 2018; Feldman 2020) in persuasive leadership communication (Boeynaems et al. 2017). It explores the concept of decision-making under uncertainty, and defines and distinguishes between *manageable uncertainty* (Covello and Mumpower 1985; Löfstedt 2005) which is quantifiable and addressable via established processes, and *unmanageable uncertainty* – in particular the concepts of wicked problems (Rittel and Webber 1973) and radical uncertainty (Tuckett and Nikolic 2017) which both describe a unique class of problems which cannot be quantified and for which no established management procedures exist. The COVID-19 pandemic has been widely characterised as such a wicked leadership problem (Sturmberg and Martin 2020; Auld et al. 2021; Lilleker and Stoeckle 2021; Witzel 2022a).

Finally, it brings together these perspectives on the discussion of political leadership, health communication, decision-making and outcomes in an understanding of “political construction with material consequences” (Remes and Horowitz 2021, p.4). Since widely discussed, partly anecdotal evidence “has related women’s leadership abilities to better outcomes during the COVID-19 pandemic” (Abrams et al. 2021, p.381), this is also an opportunity to assess such an assumption against factual evidence. Figure 1 illustrates the complexity of COVID-19 sense- and policy-making from different mindsets, or ideological perspectives. It is a representation of the author’s concept of the public COVID-19 discourse in the early stages of the pandemic as a contested narrative space where health-policy responses appear guided more by competing grand narratives, and less by shared epistemological clarity regarding facts and truth. This tangled and contested process of sense-making under conditions of uncertainty is addressed from a number of angles in this study: first, by outlining the main aspects of modernity, postmodernity and metamodernity as ‘grand narratives addressing grand challenges’ (section 2.2); second, by exploring political leadership as a performance in the context of ‘grand narratives addressing grand challenges’, specifically COVID-19 (sections 2.3 to 2.5); and third, by investigating linguistic characteristics of leadership discourse in

the speeches of male and female leaders of countries across the political spectrum during the pandemic (chapter 4).

A brief note on ideology and the traditional left/right spectrum: throughout this study, ideology and ‘political leaning’ are employed to explore how such leanings are understood to influence discourse, and why and how a metamodern approach transcends such binaries (see section 2.3.3 for a discussion of Zmigrod’s critique of ideology as a filter on how we see the world – and therefore also how we cannot see it). One sign of a contemporary polycrisis (Adi and Stoeckle 2025; Huntjens et al. 2025) – exemplified in the COVID-19 *syndemic* – is the destabilisation if not reversal of the classic left v right taxonomy (for example, Lewis and Lewis 2023): Bolsonaro in Brazil mixing cultural nationalism, disinformation and denialism with supporting redistribution and welfare economics (Nowak 2023), or generally health policies being turned into partisan political wedge issues (see example of US in Miller et al. 2022). Therefore, whenever political ideology and left vs right are being discussed in this study, they are reference points and not essentialist categories. Section 2.5.6 introduces Gelfand’s (2018; 2021) tight v loose culture model and Lakoff’s (2010) strict father v nurturant parent models as more useful categorisations of ‘ideological leaning’ – again, as reference points: directional, not fundamental.

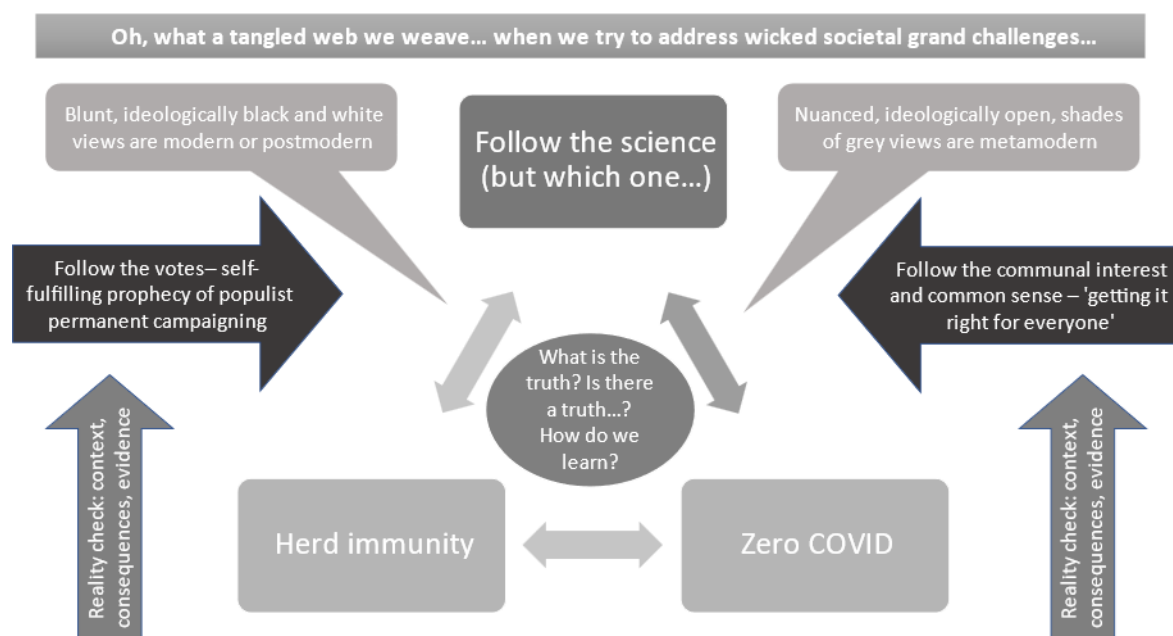


Figure 1 [own design]: Grand narratives, grand challenges and policy-making: COVID-19

This study is grounded in examinations of the past – more specifically, the time around the *Spanish Flu* and its aftermath, the period of the early 1920s that is known as the *Jazz Age* or the *Roaring*

Twenties (Ciment 2015; Rennison 2021), as formative for modern, technocratic approaches to leadership and communication in a health crisis (Outka 2019, 2020; Lavezzolo et al. 2022). It looks at the present as a time of disruption and uncertainty (Kay and King 2020; Almalki 2021; Jasanoff 2022b), social acceleration (Rosa 2013), the erosion of trust in institutions (Jennings et al. 2021) and fragmentation of knowledge bases in what Bauman labelled a *liquid modernity* (2000). However, it does not centre on postmodern arguments to make the case against *grand narratives*, against modern beliefs in science and progress. Instead, it builds on an emergent concept of metamodernism/metamodernity as “a better model that rejects both modernist essentialism and postmodernist skepticism” (Josephson Storm 2021, p.3), that encourages “the sustainable development of social science as a social practice” (Pipere and Mārtinsone 2022, p.16), based on “pluralism as a possibility of telling one story in several ways” (Pipere and Mārtinsone 2023, p.21). This is a concept that, according to a seminal paper by Vermeulen and Van Den Akker, represents the “apparent rise of another modernism ... characterized by an oscillation between a typically modern commitment and a markedly postmodern detachment” (2010, p.1). Working from the assumption that today’s complex challenges cannot be comprehensively, satisfactorily addressed by either ‘modernist essentialism or postmodern scepticism’, Vermeulen and Van Den Akker’s ‘other modernism’ forms the theoretical foundation for the argument that not only are new and evolving conceptions of leadership communication and decision-making under uncertainty needed, but that they already exist and have proven effective during the COVID-19 pandemic. The linguistic, discourse-analytical quantitative and qualitative investigation of leaders’ speeches reveals leadership characteristics on the micro (text), meso (context) and macro (system) level that can be classified as either modern, postmodern or in fact metamodern. The leadership styles that will be explored on the micro, meso and macro levels correspond to three leadership archetypes which themselves loosely correspond to the outlined grand narratives (see also sections 2.5.1 to 2.5.3):

- the modern technocratic leader
- the postmodern populist leader
- the metamodern empathetic leader

The additional analysis of COVID-19 *outcome data* (public health indicators such as infection rates, excess deaths, or vaccinations; socioeconomic indicators such as employment rates, GDP) allows for correlative (but not causal) inference from leadership styles to health policy outcomes.

Structure and flow

The literature review (chapter 2) has three foundational blocks which rest upon each other: First, the importance of evolving *conceptions of knowledge* (Susen 2015) for our understanding of, and sense-making in a *world in disorder* (Ipsos 2023). Susen describes conceptions of knowledge as informing metadiscourses and metanarratives which, in the classic modern sense, result from the “collective pursuit of universal truths and principles” which is rejected by postmodern thought (Susen 2015, p.46). This study explores how modern, postmodern and ultimately metamodern conceptions of knowledge – which can also be understood as beliefs or “hypotheses about some aspect of the world that come along with the notion of accuracy” (Oeberst and Imhoff 2023, p.3) – differ and continue to inform contemporary thought and theory.

Second, the way in which conceptions of knowledge – paradigms representing the *zeitgeist* – determine the communication and decision-making of political leaders in the face of complex societal challenges (including the development of leadership traits and the role of gender). These complex societal challenges are generally referred to as *grand challenges* (Howard-Grenville and Spengler 2022; Oliver et al. 2022; Schoeneborn et al. 2022). Societal grand challenges such as climate change, poverty (or in fact specific global health crises such as COVID-19) are highly complex, unstable and thus very difficult to predict, and affect stakeholders with often conflicting values (Gehman et al. 2022). While occasionally, the term crisis is used, this is less about temporary, sudden and unexpected events, and more about intractable, volatile, uncertain, complex and ambiguous ongoing problems. This is defined and explored in more detail in the following sections of this chapter.

The third foundational block is formed by the learnings and insights from the exploration of political leaders’ communication and decision-making during the COVID-19 pandemic (focusing on the role of conceptions of knowledge, leadership traits, and gender), including – where possible – the assessment of their performance of leadership against health, social, economic and political outcomes. This is based on an understanding of political psychology that aims to explain how “decisions of those with the potential to assume such leadership positions [are] shaped by the nature of the political system, the recruitment process, current demographic trends, and the *zeitgeist* of the time” (Hermann 2014).

The first part, exploring conceptions of knowledge, focuses on *grand narratives* – in Lyotard’s sense of a “legitimation of knowledge” (Lyotard 1984, p.37f.) regarding worldviews and ideology. This is less about abstract theorising, and more about an understanding how dominant strands of theory and practice pertaining to political leadership during crises have evolved from the Spanish Flu to

COVID-19. In his discussion of *The Postmodern Turn in the Social Sciences*, Susen (2015) describes “three epistemological tensions: (i) truth versus perspective, (ii) certainty versus uncertainty, and (iii) universality versus particularity” (p.2). These are central in the discussion of the role of modern, as well as postmodern and, as will be described, lately metamodern readings of concepts including political leadership, communication and uncertainty, as discussed in depth in the context of addressing societal grand challenges in the second and third parts of this literature review. Working from Grint’s insight that “political leadership is constructed through narrative and the most successful political leaders are often the greatest storytellers” (2014, p.7), characteristics and traits of political leaders are discussed in relation to their communicative and decision-making performance. Of particular interest are the roles played by ideology and gender: there is evidence that populist leaders were less effective during COVID-19, than non-populists (Ringe and Rennó 2022), and that female leaders fared better than male leaders (Abrás et al. 2021).

From a general review of conceptions of knowledge related to a modern, postmodern or metamodern narrative, to conceptions of political leadership, communication and decision-making (especially in crises), the focus turns to evidence of (and reasons for) effective communication and governance during the COVID-19 pandemic. This helps identify political leadership styles and traits that correlate highly with positive outcomes, and it informs the concept of an ideal leadership style with ideal traits to operate successfully in a crisis characterised by radical uncertainty – or more generally, dealing with grand challenges which have the characteristics of wicked problems. At the same time, by considering extant conditions and other factors impacting communication, decision-making and outcomes, the “barriers that hamper the development of solutions to wicked problems” (Bowman et al. 2022, p.3), which might be found in conceptions of knowledge that are inadequate for the problems at hand, are identified and addressed. Finally, gaps in academic knowledge are identified that can be explored further via discourse and metaphor analysis of political leaders’ speeches, in particular during the early stages of COVID-19. Those findings are related to both political decision-making, and subsequent outcomes. The literature review concludes with the formulation of research questions which are operationalised through a quantitative and qualitative research design allowing the in-depth analysis of political leaders’ speeches.

The research and methodology section (chapter 3) first lays out the author’s research philosophy and approach, building on the premise that COVID-19 as a *syndemic* (Correia and Willis 2022) is both a manifestation, and a reflection of “complex, transboundary multi-crises” (Boin et al. 2021, p.V), and as such requires a transdisciplinary research philosophy and approach that can accommodate the intricacies of a societal grand challenge. It does so by drawing on theories and concepts relating to the social construction of reality, in particular Burr’s (2015) interpretation of questioning

established knowledge, the dependence of historical and cultural context, the emergence of knowledge as a social process (and thus the contingency of truth), and the coexistence of knowledge and social action based on power relations (p. 3-5). In this perspective, historical categorisations such as modernity, postmodernity or metamodernity, movements or narratives such as modernism, postmodernism or metamodernism, or indeed events such as the COVID-19 pandemic are themselves socially constructed. History itself, as Burr concludes, “is only one of many possible constructions of events” (2015, p.12)” and it is therefore essential that a study exploring political communication during the COVID-19 pandemic not only considers different interpretations and framings of events but also provides a framework for imagining a future based on reflection and learning. It is posited that the concept of metamodernism as an evolving form of social theory is well-suited to support a constructivist transdisciplinary approach. As a form of intellectually agnostic, sceptical and non-dogmatic inquiry (Næss 1968) grounded in curiosity, abductive reasoning and a humble approach to the generation of knowledge (Josephson Storm 2021), metamodernism aligns with grounded theory as a qualitative research method and critical realism as a social scientific concept that can help “reinvigorate and reinvent our shared sensemaking and meaning making” (Hedlund and Esbjörn-Hargens 2023, p.15). Bringing together all these elements, the research philosophy emphasizes the social construction of reality, the dynamic relationship between language and society, and the generation of humble knowledge to provide a comprehensive understanding of the interplay between the knowledge conceptions of political leaders and their framing of public health discourse during the COVID-19 pandemic.

The conceptual research framework for this study first looks at the cultural and socio-political conditions under which the COVID-19 pandemic occurred and then discusses processes of political decision-making and public discourse. It explores the question why so many countries appeared ill-prepared for the pandemic, and why some seemed better equipped to respond and adjust quickly to a fluid volatile environment of continuously changing information. Drawing on Hofstede’s (2010; 2011) cultural dimensions framework of uncertainty avoidance, power distance and individualism vs collectivism, as well as Gelfand’s (2011; 2018) cultural tightness vs looseness framework, the “potent role of national culture in impacting institutions” (Ashraf et al. 2022, p.1) is being investigated from the perspective of culture impacting pandemic responses and outcomes through its impact on conceptions of knowledge, which impact both the processing of information, decision-making and communication of political leaders, and the compliance and adherence to policies on the side of the public.

Political leadership is conceptualised as a form of political discourse (van Dijk 1997; Fairclough and Fairclough 2012; Fairclough 2015), and public speeches by political leaders are the manifestation of

this discourse in the specific context of the COVID-19 pandemic: since “discourses influence discursive as well as non-discursive social and political processes and actions” (Wodak 2001, p.66), social constructions of the pandemic and responses to it interact reflexively. This “contingent character” of pandemic discourse (Klopf 2023, p.126) can also be understood as an expression of different ideologies, grounded in different conceptions of knowledge and how the world is seen and understood. This leads to the choice of discourse analysis as an appropriate interdisciplinary, mixed-methods framework (van Dijk 2014). Due to its nature as a wicked problem, the COVID-19 pandemic requires a comprehensive and adaptive research framework, hence the use of mixed methods, integrating qualitative and quantitative data in a process of triangulation (Fuoli and Bednarek 2022; Altamimi 2023a). This is in line with Wodak’s (2001) call for critical discourse analysis in discourse-historical perspective to be “multitheoretical and multimethodical, critical and self-reflective” (p. 64).

Wodak applied this to legitimization strategies by governments and political leaders regarding restrictive pandemic measures in a 2022 paper and highlighted specific national perspective, socio-political contexts, identity politics, different forms of political rule and the personality of political leaders as critical factors (p.11). This study follows a similar path by applying the method of corpus-assisted discourse studies (CADS), which combines quantitative corpus linguistics with qualitative discourse analysis to elucidate how female and male political leaders frame pandemic issues. The CADS research design for this study considers Mautner’s five design challenges (2019, p.5ff.), as well as Baker’s (2023) seven stages of analysis (p. 42-47), as well as following suggestions that a researcher oscillate between quantitative and qualitative approaches on their investigative journey (Koller and Semino 2009; Mautner 2019, p.29).

Content collection and corpus-building involve the identification of five speeches each by ten female and ten male political leaders from the early phase of the COVID-19 pandemic (March 2020) to the latter stages of 2021. The speeches needed to have significant COVID-19 focus, cover different phases of the pandemic, be available as full transcripts in English translation, and the speakers needed to be elected leaders of their countries at the time of the speeches. Content was sourced partly from official government websites, partly from news and speech collection websites, and partly from YouTube (using the automated transcript function). Thus a corpus of 100 speeches with a total of almost 195,000 words was built. The choice of text analysis software was determined through a trial-and-error process, with Sketch Engine (Kilgariff et al. 2004; Kilgariff et al. 2014) being selected as the most appropriate tool for the purposes of this study.

Sketch Engine is a software tool used for corpus linguistics and computer-assisted text analysis with a range of features and functionalities that support researchers in their analysis of language data.

The key features of Sketch Engine include

- Word Sketches: one-page automatic, corpus-based summaries of a word's grammatical and collocational behaviour. Word sketches provide an overview of the salience and grammatical patterns of lemmas, parts of speech, or multi-word expressions;
- a corpus-based thesaurus that is created on the basis of common collocations. It generates usage-based synonyms, which are words that occur in similar linguistic contexts within the corpus;
- Keyness: a statistical measure that indicates whether and how an item appears significantly more or less often in one corpus compared to another. It helps identify items that are indicative of the topic and style of the content in a corpus;
- Concordancer: a tool that identifies all instances of a search term in a corpus and displays them in lists with the surrounding context. This allows researchers to explore how words or phrases are used in specific contexts and analyse their meaning and usage;
- Collocation: combinations of words that habitually co-occur in texts and corpora. It helps identify the associations and connotations of words and the assumptions they embody;
- Visualizations such as word clouds and graphs, to help researchers explore and interpret patterns in the data. These visualizations provide a representation of the frequency, dispersion, and distribution of words or phrases in the corpus.

Overall, Sketch Engine provides a comprehensive set of tools and functionalities CADS, allowing researchers to explore and analyse language data in a systematic and efficient manner, and provide pointers for a more in-depth qualitative investigation.

As an ethical consideration, Chilton and Schäffner's (2002, p.27) highlighting of the role of the researcher as social actor with interests and values, rather than being a fully objective generator of neutral data, is central and reflected in detail in section 3.5. Further ethical reflections concern the validity of COVID-19 related outcome data, as well as the added quality assessment required by the inclusion of pre-published, non peer-reviewed content, also further outlined in section 3.5.

Chapter 4 covers the analyses and insights derived from the CADS process, investigating the following main questions (translated into seven specific research questions, see section 2.6):

- How did political leaders construct the pandemic in their public speeches?

- What is their communicative style, characterised through distinct lexical patterns and choices?
- What can be inferred from those patterns and choices, regarding their ideology, their mindset and intention?
- How successful were these leaders in dealing with the pandemic, its immediate and longer-term medical impacts, but also regarding social, political and economic outcomes?

The analysis is carried out in stages: first, observations regarding the overall corpus are being discussed (section 4.2). This includes broad corpora and syntax comparisons such as word counts across the twenty sub-corpora (by individual leader), average word count per speech, average sentence length and overall readability (a measure of the approximate reading age required for comprehension, with lower reading age indicating more simplicity).

This is followed by comparisons of the prominence by frequency of word groups and semantic frames in the overall corpus and sub-corpora, based on Sketch Engine outputs (which are based on Sketch Engine's own part-of-speech tagging as outlined in section 3.3). Following Van Dijk's (1997) suggestion that indicators for political orientation and partisanship can be found in the interaction between syntax, semantics and pragmatics, the data views focus first on nouns, verbs, adjectives, personal pronouns, modal verbs and conjunctive adverbs, and then also on semantic clusters indicative of the use of frames and metaphors, including war, family, crisis and many more (section 4.2 Comparative views of framing). The comparisons use two main metrics: first, the percentage share of the observed data (the word group or the semantic cluster) relative to the specific leader's sub-corpus, and second, the distance in percent of each leader's score from the score in the overall corpus. The first score indicates the prominence of a data point in the sub-corpus. The second score shows the 'distance from the mean' and provides visual evidence of the strength of over- and under-indexing of a leader's score on any particular observation.

Section 4.5 describes a qualitative metaphor analysis exploring leader's performance of discourse in three stages through the Metaphor Identification Procedure (MIP, see Pragglejaz Group 2007), Critical Metaphor Analysis (CMA, see Charteris-Black 2018) and Discourse Historical Approach (DHA, see Reisigl 2017) analysis protocols.

In the concluding chapter 5, these quantitative and qualitative findings are set against macroeconomic and public health outcomes (section 4.6). While direct causalities are impossible to isolate and prove due to the tangled complexity of this syndemic (for an explanation of the complex unpredictable interactions of a pandemic with social, cultural, economic and other factors, see Fronteira et al. 2021), directional 'zetetic abductive' (see section 3.3.3) conclusions point to a

metamodern leadership style – characterized by intellectual humility and collaborative sense-making – is best suited for the successful navigation of contemporary grand challenges.

The fifth and final chapter of this study describes conclusions and recommendations, addressing the recognition of the “political and ideological nature of the future as a temporal domain and the consequential nature of discursive projections of the future” (Dunmire 2023, p.114) – in other words, the importance of how present and future grand challenges are being addressed from a socio-political discursive perspective.

It is suggested that the metamodern empathetic leadership style, which can also be characterised as humble, is more suited to grand challenges, than modern or postmodern styles. This aligns with Goode and Ghode’s (2017) *modest* (p. 126) concept of Critical Futures Studies, and their aim of “expanding the repertoire of potential futures available for public reflection ... motivated not merely by curiosity about the future, but also by a sense of urgency, fragility, excitement and hope” (p. 127). It is also in line with the kind of *glocal* initiative favoured by Khorram-Manesh et al. (2024), which brings together global expertise and local insights: “Such synergies amplify the effectiveness of interventions, ensuring that they are culturally sensitive, acceptable, and thereby more likely to be successful” (Khorram-Manesh et al. 2024, p.93).

2. Literature Review

[2.1 Introduction](#)

This literature review explores political leadership communication and decision-making during the COVID-19 pandemic through the lens of evolving grand narratives (or cultural codes) and their accompanying conceptions of knowledge, from modern to postmodern to metamodern. It posits that societal grand challenges, such as the COVID-19 pandemic, are social and discursive constructs, shaped by the prevailing zeitgeist and cultural codes. The review examines how different leadership types and traits align with these conceptions of knowledge, with a focus on whether there are systematic differences between leadership styles conventionally described as masculine or feminine. As with categories of political leaning such as left and right (or indeed masculine or feminine), which are understood as 'directional, not essential' (see Introduction), this study treats leadership 'archetypes' less as deductive taxonomies, ore more as abductive concepts for continuous exploration (see section 3.2.4 on 'zetetic abduction').

Three distinct pandemic leadership archetypes are identified and related to the grand narrative they are primarily associated with: the technocrat as an expression of modern leadership; the populist as an expression of postmodern leadership; the empath as an expression of metamodern leadership.

The effectiveness of each archetype is assessed based on their handling of the crisis in terms of public health communication, compliance, metrics, and economic performance.

The study argues that a metamodern perspective, which aims to reconcile the conflicting positions of modernity and postmodernity, offers a promising framework for addressing complex contemporary and future wicked problems or grand challenges. Metamodern leadership characteristics, more prevalent among female leaders and aligned with the empath archetype, are posited as potentially more effective in dealing with grand challenges such as the COVID-19 pandemic. The review highlights gaps in academic knowledge regarding the relationship between leadership, grand challenges, and grand narratives, as well as the potential of metamodernism/metamodernity as a new lens for assessing leadership performance. It proposes a triangulating research methodology, combining quantitative and qualitative approaches in a corpus-assisted discourse analysis alongside a three-step metaphor analysis of leaders' speeches, to investigate these questions empirically. Overall, the literature review sets the stage for an in-depth exploration of the role of conceptions of knowledge in shaping political leadership during times of crisis, and the implications for effective governance in the face of societal grand challenges.

Figure 2 below illustrates the flow of argument in this study across eight main building blocks, from a general understanding of grand narratives constituting culture, to leadership types and crises shaped by culture now and in future:

1. Grand narrative constitutes culture:

Grand narratives are central to the formation of collective identity, culture and mindsets in a society through the provision of overarching frameworks that give people a sense of purpose and meaning. This includes the reproduction of societal values as conceptions of knowledge. Grand narratives can also be understood as a cultural lens, as stories that inform how we interpret our experiences and our environment.

2. Culture informs attitude and behaviour

Culture in the learned form of conceptions of knowledge forms a guide for people's attitude, behaviour and choices, for example what constitutes the right behaviour in a pandemic (adhere to social norms, wear a mask, keep social distance, stay at home). Depending on local context and conceptions of knowledge, *the way things are done* politically can be more modern technocratic, or postmodern populist, or metamodern empathetic.

3. Leadership practice

Culture, conceptions of knowledge and *how things are done* determines political leadership and decision-making – based on various conceptions of knowledge (introduced and defined in Structure and Flow, p.3), i.e. modern, postmodern, metamodern, as outlined in section 2.2.

4. Adequate 'solution technologies'

Some conceptions of knowledge are more fit for purpose, than others. Fast evolving societal grand challenges need to be met by equally evolving conceptions of knowledge.

5. Culture and wicked problems

Different conceptions of knowledge lead to different decision-making regarding grand challenges, and decision-making impacts outcomes in a continuous loop: therefore, only metamodern transdisciplinary approaches can address higher-order challenges (such as the COVID-19 pandemic, or the socio-economic choices regarding climate change).

6. Complex problems and simple solutions

Contemporary grand challenges are by their nature too complex for simple (that is, modern technocratic, fact-based) or relativist (that is, postmodern critique-based, fragmented) solutions. Wicked problems cannot be solved with tame solutions.

7. COVID-19 as a leadership case study

The experience of the COVID-19 pandemic helps to identify conceptions of knowledge related to successful (as well as unsuccessful) political leadership types

8. Leadership for future grand challenges

We can describe the characteristics and identify them in speeches and subsequent behaviour/decision-making. We can also look at outcomes. And draw conclusions from it all.

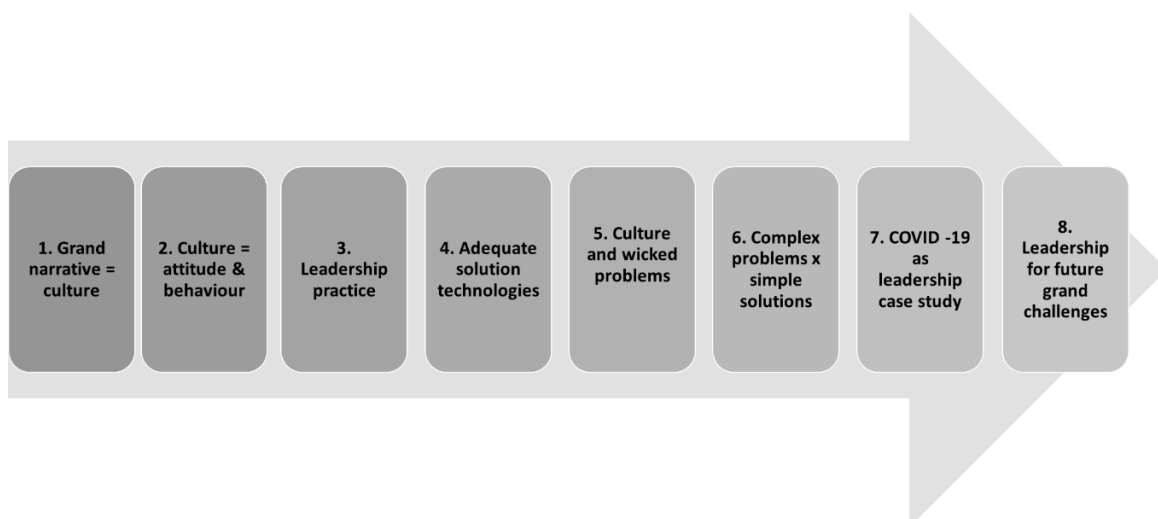


Figure 2: [own design]: Main building blocks and flow of argumentative framework

2.2 Grand Narratives and Grand Challenges – Introduction

Human beings make sense of the world through storytelling. Grand narratives are stories that purport to explain the world and our being in it. The phrase is said to have been coined by the French philosopher Jean-François Lyotard in his 1979 work *The Postmodern Condition: A Report on Knowledge* (Lyotard 1984). Storytelling is about change, since “change is endlessly fascinating to brains” (Storr 2019, p.1) and “stories change the world: ... The cognitive ability to share an abstraction facilitates cooperation among humans in large numbers” (Hull et al. 2020, p.87). Such

abstractions require “stable conceptions of knowledge and meaning” (Josephson Storm 2021, p.209) to turn into grand narratives.

Susen (2015) discusses conceptions of knowledge as “profoundly influenced by what may be described as the *relativist turn* in epistemology” (p.2). This sets the scene for changing and conflicting conceptions of knowledge which can be described as modern versus postmodern, “based on on three fundamental tensions: (i) *truth versus perspective*, (ii) *certainty versus uncertainty*, and (iii) *universality versus particularity*” (Susen 2015, p.40).

In the discussion of political leadership in times of crises, in particular the public health crises of the Spanish Flu and COVID-19, the focus is on the first two of those tensions. The very different media landscape of the early 2020s means that narratives centred on truth versus perspective, as well as certainty versus uncertainty, played out very differently during COVID-19, than they did during the Spanish Flu, despite some similarities in the public discourse of both events (Nichols et al. 2020; Liang et al. 2021; Simonetti et al. 2021). A key driver of these differences is the shift in conceptions of knowledge between modernity, postmodernity and the emerging time for which a number of labels have been put forward – but which here are primarily being referred to as metamodernity (Andersen 2019).

The distinctions, overlaps and similarities, between the modern, postmodern and metamodern conceptions of knowledge, as well as their impact on processing information and making decisions regarding the COVID-19 pandemic, are at the heart of this study. The performance of political leadership through public speeches, and the discourse analysis thereof, require a robust theoretical framework to help understand why and how political leaders make certain discursive choices. Each concept is therefore being introduced and discussed in some detail below (2.2.1 discusses modernity; 2.2.2 discusses postmodernity; 2.2.3 discusses metamodernity).

Crises and paradigm shifts

Conceptions of knowledge underpin public discourse, and the concept of discourse constituting the social and cultural sphere – and thus public discourse in the context of global health crises (Horowitz and Remes 2021) – is central to the argument in this study. In *The Structure of Scientific Revolutions*, Thomas Kuhn (1996) describes history, in particular the history of science, as a form of selective storytelling where “science textbooks ... refer only to that part of the work of past scientists that can easily be viewed as contributions to the statement and solution of the texts’ paradigm problems” (p.138). It follows that orthodox positions are difficult to move, and thus paradigm shifts are rare

and often triggered by responses to crises, which are “a necessary precondition for the emergence of novel theories” (p.77). Accordingly the argument here is that COVID-19 is such a trigger event, and that shifting conceptions of knowledge will further evolve metamodernity.

First, however, in order to flesh out the argument about the fundamental importance of conceptions of knowledge, modernity and postmodernity must be defined and situated, and terminology must be specified. The nouns modernism and modernity, together with the adjectives modern and modernist (as well as their post- and meta- derivations) are often used synonymously in popular literature – but also in academic discourse. They are distinct and differ fundamentally in meaning (Susen 2015). For the purposes of this study, the focus is less on the cultural trends and artistic movements that are usually associated with the term *modernism* (Williams 1989), and more on the evolving cultural code (Andersen 2019) of *modernity*, which includes a focus on science, facts, a belief in understanding cause and effect through observation and data. This is being compared to the emergence and evolution of later cultural codes (or conceptions of knowledge, as for the purposes of this study, the concepts are almost synonymous) that deal with increasing societal complexity, namely the postmodern and the metamodern codes – as paradigm shifts in the social sciences (Pipere and Mārtinsone 2023). To clarify, and with reference to Stoev (2022), *metamodernism* can be understood as something emergent and becoming, in process. *Metamodern-ity*, then, is the result of that process.

Defining societal challenges as grand challenges

The main focus here is on the connection between the modern and the metamodern in a “world of hypercomplexity, hypermobility, and hypervelocity” (Susen 2015, p.122), with the postmodern seen as an intermezzo of sorts – an intellectual bridge in the sense of Waisbord’s vision for communication studies (Waisbord 2019). This follows the philosopher Josephson Storm’s argument, for whom “Postmodernism’s moment has passed” (2021, p.15). This matters because the foundations for public discourse were laid in the earlier stages of what is described as modernity, as outlined in *The Structural Transformation of the Public Sphere* (Habermas 1989). As a consequence, the challenges of contemporary society are being addressed by modernist means, often through postmodern reflection. For example, the modern(ist) ideal of the public sphere as a cohesive space of free and open deliberation seems no longer adequate as a concept, however the postmodern(ist) substitute of fragmented public spheres constituted across traditional and social media channels and platforms is proving not to work particularly well either, given the increasing polarisation of political discourse (West and Iyengar 2020) and the manifold impacts of disinformation and fake news

(Greifeneder et al. 2021). Characteristics of a metamodern leadership style beyond established modern and postmodern limitations will also apply to a wider societal discourse.

Over the last decades, observations of these evolving challenges – in particular those driven by technological innovation and impacts on the natural environment – have been given a variety of different labels, from *Risk Society* (Beck 1992) to *Liquid Modernity* (Bauman 2000) and more recently, the *Anthropocene* (Ellis 2018) to describe a world remade by humans, “a new narrative relating humans and nature and a bold new scientific paradigm – a ‘Second Copernican Revolution’” (Ellis 2018, p.30). This is a world of unprecedented, complex, multi-faceted and potentially unsolvable *wicked problems* (Rittel and Webber 1973), characterised by the unpredictable interplay of volatility, uncertainty, complexity and ambiguity for which the US Army War College coined the acronym *VUCA* in the early 1990s to describe a changing strategic environment in their leadership training (Barber 1992). This study uses the term *Grand Challenges* as a summative concept for the aforementioned developments and phenomena. Gehman, Etzion and Ferraro (2022) describe the “analytical facets of grand challenges” as “complexity, uncertainty, and evaluativity” (p.260). The authors concede that there is “overlap (at least superficially) with other perspectives such as wicked problems and volatility, uncertainty, complexity, and ambiguity” (p.261). While the argument that their concept provides a wider, more inclusive understanding of uncertainty requires critical exploration (and likely contains a misreading of the original premise of wicked problems), the general idea of grand challenges is the adequate complement to the idea of grand narratives as framing the evolution of societies under the influence of technological development and environmental impacts with often unforeseen consequences.

Modern and metamodern pandemics and the grand challenges of tomorrow

When comparing the Spanish Flu and COVID-19, then, the former is framed as a modernist pandemic (Outka 2019), whereas the latter is seen through, alternatively, modern (Outka 2020; Lupton and Willis 2021; Sinha 2021) and postmodern (Lindström 2020; Žižek 2021; Maddox and Creech 2022) lenses. As yet, only one exploration of metamodern concepts in the context of the COVID-19 pandemic has been found (Jovanović 2021), optimistically claiming in its conclusion that “metamodernism could potentially turn to the best, most efficient, and not purely necessary solutions” (p.69).

The argument presented here is less idealistic, though it rests on the core principle of metamodernism, namely the concept of being between, both-and, and both-neither modernism and postmodernism (Vermeulen and Van Den Akker 2010), a way forward on an unfinished path. This is

not a purely conceptual, or theoretical argument: such an understanding of metamodernism as metatheory is essential for addressing grand challenges, as outlined by Zimmermann (2023): “Scientific and technical knowledge alone cannot determine praxis; those who think otherwise are committed to technocracy. ... sound metatheory provides the multiple, overlapping perspectives needed to characterize wicked problems adequately, even while recognizing that some miscues and mistakes are inevitable in the process of wrangling with wicked problems” (p.xxiii).

The following sections discuss modernism-modernity and postmodernism-postmodernity separately, before synthesising the main points in metamodernism-metamodernity, as a metatheoretical foundation for a future-ready leadership communication model that can adequately address complex contemporary grand challenges (for metatheory to address complex crises, see Hedlund and Esbjörn-Hargens 2023, p.3). The three grand narratives help make sense of now and tomorrow on an individual (micro) level, an organisational (meso) level, and a systemic (macro) level. The three levels are interrelated, in that a macro-level modern technocratic system yields modern technocratic institutions and organisations which form modern technocratic individuals. Equally, these grand narratives and their underlying cultural codes shift over time, and individuals, groups, organisations and institutions can find themselves in transitional phases where structures and fabrics of societies appear differently to different groups in different contexts.

Figure 3 below shows the evolution, transition and blending of cultural codes from epochs or phases (modernism) into eras (modernity) of higher social complexity. The present era of modernity contains traces of previous (indigenous, premodern), as well as subsequent (postmodern, metamodern) codes, which helps explain tensions in public discourse arising from argumentation based on conflicting codes.

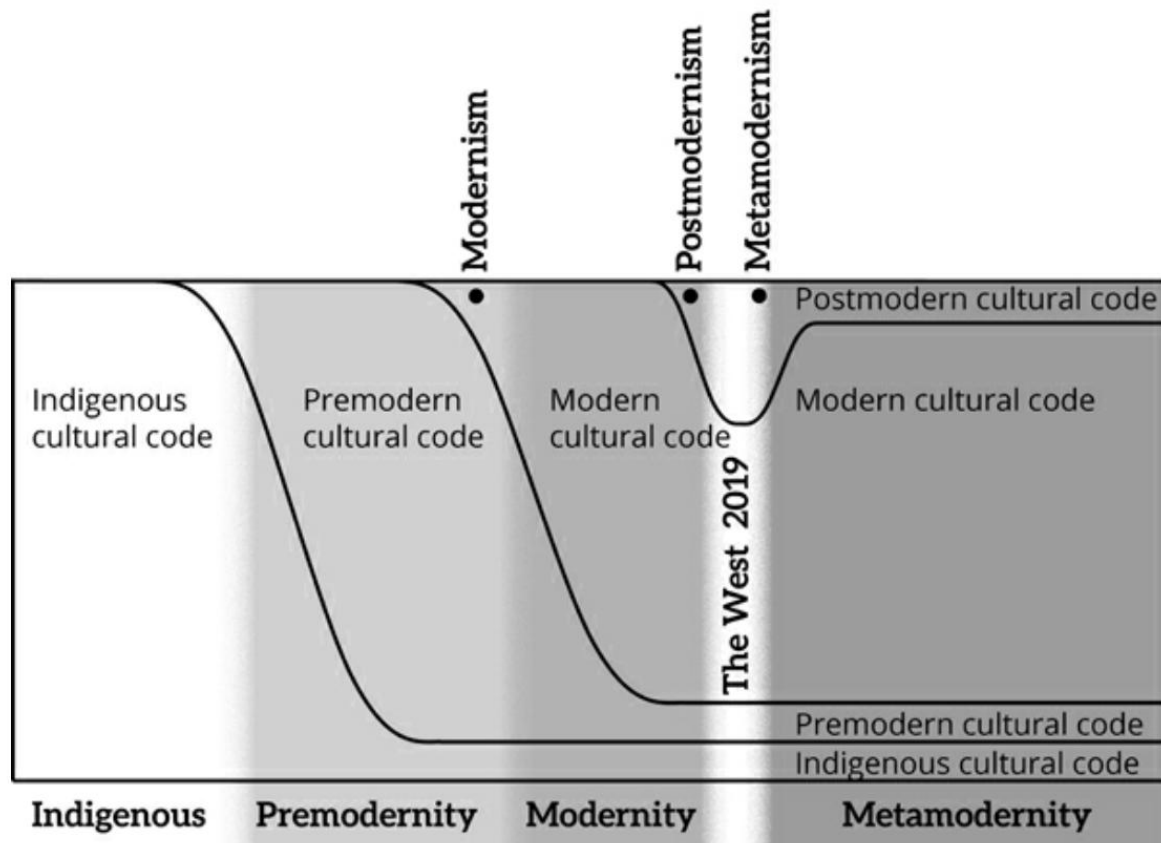


Figure 3: Development phases of cultural codes and conceptions of knowledge, from Andersen (2019, p.56)

For example, when populist political positions clash with liberal progressive positions, they are clashes of a “system of values, symbols, meaning and behaviors that we express through words, actions, habits, rituals” (Andersen 2019, p.53): tribal, faith-based, uncertainty-eschewing positions might meet universal, science-based, uncertainty-managing positions on the one hand, and individualist, diversity-embracing, relativist positions on the other. In the reality of COVID-19 discourse, as well as any other grand challenges, all these positions are involved, and they can create a discursive impasse of claim and counterclaim, often resulting from a lack of understanding or acknowledging the other party’s conception of knowledge or cultural code. This study argues that the present time of perceived social acceleration (Rosa 2013) and radical uncertainty (Kay and King 2020) can be understood as a transitional phase from modernity via postmodernity to metamodernity, including a shift in cultural codes. This process is difficult to theorise from within the transitional phase, and its outcome is uncertain: “Suggesting Metamodernity as a code before it has manifested itself throughout any actual culture is thus a radical and unusual endeavor and, as previously stated, metamodernity is so far mostly an idea and a hope” (Andersen 2019, p.54). This study, therefore, is nothing more and nothing less than a contribution to this “radical and unusual

endeavor” of establishing the metamodern code. It does so by describing leadership characteristics derived from corpus-assisted discourse analysis that fit neither modern, nor postmodern characteristics, but include both and go beyond them in ways that help overcome the impasse of modern – postmodern claims and counterclaims.

Figure 4 below shows the evolution and relationship of cultural codes, and their impact on public perception and discourse (with earlier codes continuing to carry forward):

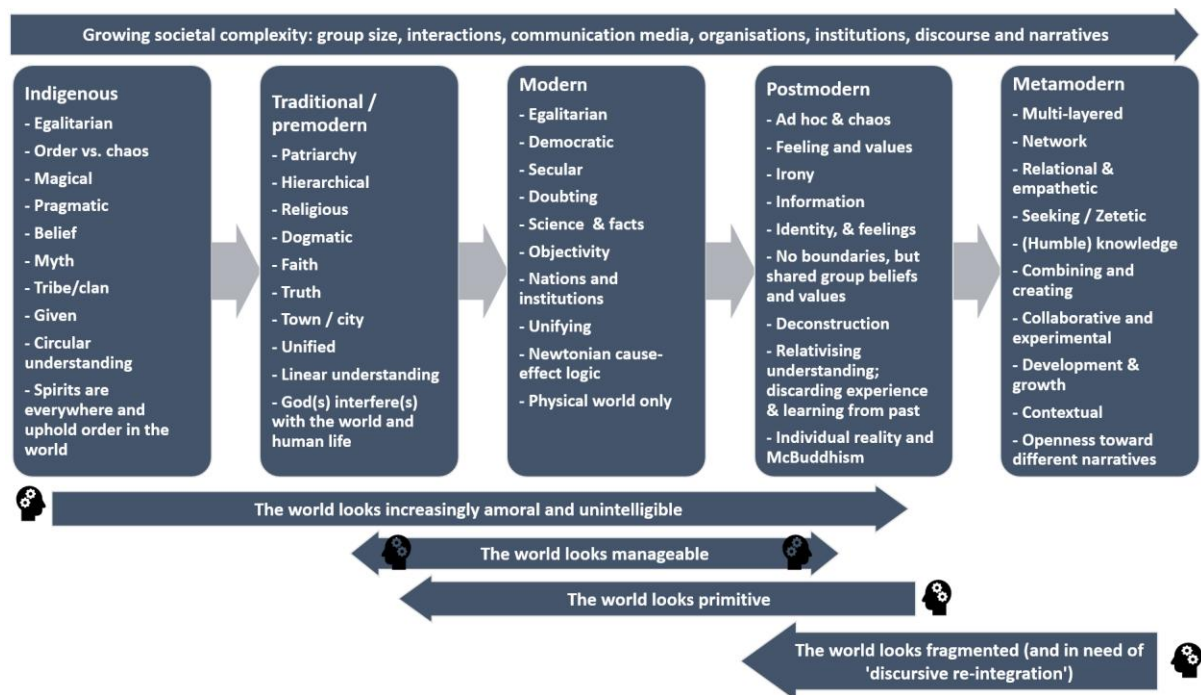


Figure 4: Evolution toward metamodern conceptions of knowledge and cultural codes, own design based on Andersen (2019, pp.77, 84)

Below, modernity, postmodernity and metamodernity as conceptions of knowledge are introduced in turn, before the core argument is made for a synthesis that is to yield “a new model for creating humble knowledge ... [for] the whole of the human sciences” (Josephson Storm 2021, p.ix) for the grand challenges of today and tomorrow. Admittedly, this can seem and sound grandiose, irrespective of its *humble* claim. However, this is a time when permacrisis – defined as “an extended period of instability and insecurity” – gets chosen as Word of the Year 2022 by Collins Dictionary (Jakobson et al. 2023, p.7), and thus perhaps the time is just right to question some fundamentals regarding our conceptions of knowledge or cultural codes in a *knowledge society* that is evidently struggling with the paradox that an increase in data (and thus knowledge) appears to have led to more and not less uncertainty (Rek et al. 2015).

2.2.1 Grand narratives grand challenges – Modernity

As outlined above, paradoxes related to cultural codes often stem from clashes between different developmental stages – with indigenous (chronologically the earliest stage), pre-modern, modern, postmodern and metamodern codes occurring simultaneously in today's world (Pipere and Mārtinsone 2022, 2023). In different social and cultural groups' responses to the challenges of COVID-19, the entire range of cultural codes is at play, from indigenous and pre-modern beliefs questioning the right of humans to develop and administer vaccines – a position instrumentalised by the populist anti-vaxx movement (Treichler 2022, p.11), to the modern trust in science and management (Linkov et al. 2021), postmodern deconstruction of pandemic politics (Röttgers 2021), to metamodern optimism regarding pandemic learnings (Jovanović 2021). Here the focus is on the dominant conceptions of knowledge of the 20th and 21st centuries and their respective periods, starting with modernity. The meaning and definitions of modernism and modernity vary widely – see Jervis (2018) for an expansive theoretical exploration of both concepts.

Modernity as it is understood in this study spans the time period from the invention of the printing press in the mid-15th century to today (Eisenstein 2005). It includes the Enlightenment, the shift from feudal agrarian societies to capitalist nation states, the emergence and constant evolution of a public sphere with its distinct places and forms of public communication (Habermas 1989). Modernity is the most recent and ongoing era of humanity (considering postmodernity and metamodernity at this point as phases rather than eras – though that might change over time), and the conceptions of knowledge underpinning it continue to form the predominant narrative to make sense of the world at present. This aligns with an understanding of the relationship between modernity, postmodernity and metamodernity put forward in Vermaelen and Van Den Akker's seminal paper on *Metamodernism* (Vermeulen and Van Den Akker 2010, p.2). Modernity is the foundation. Its post-, meta- and other versions build on these foundations, rather than replacing them.

Modernity challenged

It is instructive to look at the early 1920s as the dawn of an evolution of modernity with lasting impact on society to this day (North 1999). Comparing both periods reveals the respective experience of rapid, often disruptive, technological advancements, from the widespread adoption of radio from the 1920s and television from the 1940s (the BBC was founded in 1922) to the proliferation of artificial intelligence and smart digital devices in the 2020s. Both periods went through political and social upheaval affecting social trust, the social fabric. Modern societies in

general were challenged by events toward the end of the second decade of the 20th century. Until then, the world had seen an unprecedented surge of discoveries and inventions in science, technology and engineering. Curry Jansen (2017) refers to historian Henry Adams in 1918 discussing the “bewildering changes that took place in the second half of the nineteenth century, contending that “in the concepts of all science, except perhaps mathematics, the American boy of 1854 stood nearer the year 1 than the year 1900.” (Adams 1918, as cited in Curry Jansen 2017, p. 27). The early 1920s evolved under the impression of World War I and the Spanish Flu, the Russian Revolution, the Irish War of Independence and the rise of fascism in parts of Europe (Jackson 2012; Rennison 2021), which also brought changes in societal norms and attitudes towards issues such as gender roles, race relations, and civil rights. This sense of unprecedented, disruptive change is something that we are familiar with in an age where microtechnology and artificial intelligence advances lead to predictions that “by 2020 knowledge would double every 12 hours” (Chamberlain 2020). In the early 2020s, we experience COVID-19, growing evidence of the impact of global heating, wars in Ukraine and Gaza (among other places), democracy under threat and a range of social justice movements including Black Lives Matter, Me Too and Fridays for Future. Observers discuss these grand challenges in the context of wicked and super wicked problems (Auld et al. 2020), if not outright *Doom* (Ferguson 2021).

Modernity's conceptions of knowledge and the challenges of uncertainty

Conceptions of knowledge have always been impacted (if not shaped) by technology: the invention of the printing press in the 1440s “sent the world in an entirely new direction” (Andersen and Björkman 2017, p.77), namely modernity. The focus here is less on modernity in a wide conceptual sense as “modes of social life or organisation which emerged in Europe from about the seventeenth century onwards and which subsequently became more or less worldwide in their influence” (Giddens 1991, p.1), and more on practical and institutional features (as well as technology) shaping modern – especially Western – societies from the early 20th century onward.

These features of modernity include

- a belief in steady, if not linear, progress and growth;
- public discourse in a public sphere – generated by, as well as generating communicative rationality;
- the primacy of reason and scientific method to generate knowledge (and thus the belief in objective, data-driven probabilities)
- an emphasis on the individual as the constituent of society;

- the organisation, if not engineering of social, economic, political life through application of rational processes and principles;
- bureaucratic and technocratic expert-led organisations (such as governments and corporations) operating on rational and hierarchical principles of management and decision-making.

Modernity structures the world and makes it predictable. More information creates more knowledge. Since everything is calculable, more data means more predictability. For the German sociologist Luhmann, the transformation of premodern dangers into modern risks is a characteristic of modernity. Where dangers are attributed to the environment, risks are the consequence of decisions (Luhmann 1993, p.21f.). The probability and extent that risks can be calculated, becomes “a measure for mathematical processes” (p.19). In this perspective, uncertainty becomes something to be absorbed through risk assessment and management (Covello and Mumpower 1985). In theorising modernity’s approach to grand challenges, this focus on calculability and manageability is central (Scoones 2019).

As a footnote on the power of prevailing conceptions of knowledge, it must be stated that seminal work on the understanding of risk, probability and uncertainty which challenged the “Cartesian, mechanical, linear worldview” (Scoones 2019, p.29) was published in the early 1920s by leading economists (Keynes 1921; Knight 1921). An in-depth discussion of Keynes’ and Knight’s positions vis a vis more orthodox, neo-classical concepts of economics as initially conceived by Vienna economists led by von Mises and Hayek in the 1920s (Slobodian 2018), and then further developed in particular through University of Chicago economists as well as the Mont Pelerin Society (Mirowski and Plehwe 2015), is beyond the remit of this study. However, the notion of different conceptions of knowledge shaping different approaches to perceiving and managing risks and uncertainty is critical: for example, in his study of the 1921 works of Keynes and Knight on risk, probability and uncertainty, Sakai (2019) argues that non-measurable uncertainty, as opposed to measurable risk, is at the heart of both economists’ theories.

This distinction of measurable risk as a modern concept, versus unmeasurable uncertainty as a concept exceeding and evading modern certainties, is part of the core argument of this study. When the field of risk management and risk communication started in earnest in the late 1960s and early 1970s (Covello and Mumpower 1985; Fischhoff 1995), the thinking of Keynes and Knight barely featured. Instead, as Rittel and Webber (1973) highlight in their seminal study of wicked problems, a modernist paradigm of problem-solving is increasingly inadequate for the problems it faces: “professionalized cognitive and occupational styles that were refined in the first half of this century, based in Newtonian mechanistic physics, are not readily adapted to contemporary conceptions of

contemporary open systems and to contemporary concerns with equity” (Rittel and Webber, p.156). Therefore, throughout this study, the distinction is between manageable risk and unmanageable uncertainty. The former is reflected in VUCA approaches to leadership and problem-solving (Horney et al. 2010; Codreanu 2016; Elkington et al. 2017; Elkington 2018; Kok and van den Heuvel 2019a), as well as an entire canon of risk and crisis communication studies grounded in the modern objectivist belief in better data for better solutions (Covello 2006; Heath and O'Hair 2010; Coombs and Holladay 2012; Coombs and Claeys 2020; Coombs and Holladay 2023).

The latter is more closely aligned with Keynes and Knight, as well as Rittel and Webber's wicked problems, for which there is no “enumerable (or an exhaustively describable) set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated into the plan” (p.164). This matters because the comprehension as well as the management of the COVID-19 pandemic were mostly led by long-established modernist principles (Tafakori 2021). Unfortunately, the “complexity of the interconnected crises has shown conventional crisis management and the rules and norms of crisis communication ill-equipped for the challenges” (Lilleker and Stoeckle 2021, p.2), when a more adequate reading would be of wicked (Angeli et al. 2021; Grint 2022), if not super-wicked-problems (Auld et al. 2020; Auld et al. 2021). Before addressing COVID-19, however, the Spanish Flu, the global influenza pandemic of 1918-19, is being discussed as the first “modernist pandemic” (Outka 2019).

Spanish Flu, reflexive modernity and risk society

Assessing the world and its challenges in the late 20th century, Giddens writes of “new forms of world interdependence ... [which] create novel forms of risk and danger” (1991, p.175). This thinking is further developed in the related concepts of reflexive modernity (Beck et al. 1994) and the risk society (Beck 1992). Reflexive modernity begins when society becomes aware of and engages with the generation of its own risks and uncertainties, how to manage and mitigate them and how to actively question and reflect on its own structures and practice (Beck 1992; Beck 1999). This occurs as a result of the increasing complexity and interconnectedness of modern society, as well as the proliferation of new forms of knowledge and communication. This process of reflexivity allows individuals and societies to adapt and respond to changing circumstances, but also creates new risks and uncertainties that must be managed.

The idea of a reflexively modern risk society, devising bigger solutions for bigger challenges and in turn – often framed as unintended consequences – further increasing the challenges, is in many ways epitomised by the Spanish Flu. Its spread was helped by a form of globalisation in the

concentrated movement of many people across continents in the latter stages of World War I. Ferguson (2021) observes that “The influenza pandemic of 1918–19 shattered the illusion of inexorable medical progress as completely as the war that preceded it (and perhaps caused it) had shattered the illusion of inexorable economic and political progress” (p.193). Outka (2019) explains that, since its first and second outbreaks coincided with the latter stages of the World War I, the political management of the Spanish Flu was not prioritised as “national governments at the time remained invested in structuring the moment around the war” (2019, p.3). Most governments involved in the war, therefore, struggled to respond adequately to a fast evolving public health crisis: “The war was well established as the central story, and the flu became an unreal disruption” (Outka 2019, p.23). A similar framing of the COVID-19 pandemic as a secondary concern can be observed, for example, in the British government’s early response, which has been characterised as a “failure to break out of a narrow permanent campaigning mindset which saw the pandemic as a brief interlude during a period when the focus was on delivering Brexit” (Lilleker and Stoeckle 2021, p.1).

Ferguson describes the impact of the Spanish Flu in Britain, where “the ineffectual response of the medical authorities—under the Local Government Board since 1871 –shattered the myth that Britain led the world in public health. It is no coincidence that a Ministry of Health was created in June 1919” (Ferguson 2021, p.194). Shortcomings of political leadership in response to the Spanish Flu negatively affected the social fabric in many countries, with long-lasting consequences. In a study of longitudinal impacts of the Spanish Flu on social trust, Aasvee et al. (2021) conclude: “Observing the failure of institutions and society to cope with the crisis (a failure whose most visible result was the widespread mortality) is what, we believe, led to significant and persistent consequences on individual's social trust” (Aasvee et al. 2021, p.843).

Spanish Flu to COVID-19: the pandemic century

With the global pandemics of 1918/19 and 2020-2022 spanning a *Pandemic Century* (Honigsbaum 2020), a number of questions arise where historical comparisons regarding actions and outcomes seem instructive, including “parallels between the two pandemics in terms of general unpreparedness, attitudes of the community and government” (Tambolkar et al. 2022, p.1644). In their comparative analysis of public health measures and outcomes, Tambolkar et al. conclude that “All the measures to be implemented in 2020 are the same as those implemented in 1918–1919, with the same trend, uncertainty, early relaxing, and rapid reversals” (p.1644). At the same time, they point to major differences such as the ability and capacity to develop vaccines, the media landscape enabling health education and awareness as well as disinformation, as well as technology

enabled tracking, remote consultancy and treatment (p.1645). So much has changed in the course of a hundred years, and yet many observers are worried that mistakes of the past are being repeated. Honigsbaum (2020) illustrates this point when he prefaces his historical account by quoting Camus' 1947 *The Plague*: "There have been as many plagues as wars in history; yet always plagues and wars take people equally by surprise." Outka (2020) echoes this point when she concludes that we have not learned from the Spanish Flu and are thus in danger of repeating the mistakes of the past in the COVID-19 pandemic.

From the perspective of public health communication, both media infrastructure and landscape, and public attitudes toward authorities, including trust in institutions, are critical. The comparison between the two pandemics again unveils similarities and differences. For example, there is evidence of misinformation and the spread of conspiracy theories during the Spanish Flu (Ashwell 2023, p.53), and as Oswald et al. point out in introducing *The Pandemic of Argumentation* (Oswald et al. 2022), "to attentive analysts of pandemics, the problems of public communication over COVID-19 were easily predictable and expectable" (p.2). Taylor's pre-COVID account of *The Psychology of Pandemics* reads timely and prescient, for example in the context of governments downplaying dangers and risks during the Spanish Flu "to quell public anxiety" (Taylor 2019, p.21). His insight that "Beliefs and fears about diseases, just like diseases themselves, spread through social networks. Beliefs also influence the spread of infection" (p.69) ring true both for the Spanish Flu, and the COVID-19 pandemic.

Lack of learning means repetition of mistakes

On a number of comparisons, both the Spanish Flu and COVID-19 appear as 'modernist pandemics', with expectations of institutional protection being disappointed by perceived failures of government institutions and public health services. In her pre-COVID-19 analysis of the Spanish Flu as a modernist pandemic, Outka makes some salient observations regarding the lack of institutional learning:

"As scientists and researchers continually remind us, we are not ready for the next severe global pandemic, which— as they also remind us— is most assuredly coming. ... On the one hand, the last one hundred years have seen dramatic advances in disease treatments, and efforts are made every day to monitor and prevent outbreaks and to develop new vaccines. On the other hand, as I write this coda, dramatic cuts are proposed in the United States to some of the very programs that might prevent or respond to future global pandemics. ... It would be more than possible to build and augment effective global response systems that

would greatly reduce the impact of a deadly pandemic– but first far more people have to see the threat and be willing to act. The works I investigate remind us that even a modern catastrophic pandemic that has already happened can be hidden, unless we learn to read for its presence” (Outka 2019, p.254)

As the COVID-19 experiences appear to prove, we have not learned, we have not adjusted. We repeat the mistakes of the past, in spite of clear-sighted analyses of the problem, and the suggestion of practical solutions (Hindmoor and McConnell 2013; Davies et al. 2022; Crow et al. 2023).

2.2.2 Grand narratives grand challenges – Postmodernity

In the introduction to *The ‘Postmodern Turn’ in the Social Sciences* (Susen 2015), the author approaches the description and the definition of the concept of the postmodern from a variety of angles and sources, concluding that “it is striking that various critical commentators insist that, owing to its eclectic intellectual roots and its diversified relevance to different areas of study, it may be *pointless to try to define the term ‘postmodern’ in a clear and unambiguous manner*” (p.20f.). This study does not attempt a singular definition, but neither will it focus on all the different ways in which researchers and commentators might characterise and interpret postmodern positions. It does, however, identify unifying characteristics (see Susen’s ten points below), rather than differences and variety, and thus postmodernism is understood as a complex and multifaceted movement that emerged in the 1970s as a reaction to modernity and its associated mindsets, paradigms and ideologies.

Features of postmoderniy

While perhaps not historically accurate, the formal beginning of postmodernism is generally associated with the original French publication of Jean-Francois Lyotard’s book *The Postmodern Condition* in 1979. Lyotard argues that postmodernism marks a break from the grand narratives of modernity, such as the Enlightenment and Marxism, and instead embraces a fragmented and skeptical view of knowledge. He also emphasizes the role of language and representation in shaping our understanding of reality: “the society of the future falls less within the province of a Newtonian anthropology ... than a pragmatics of language particles. There are many language games – a heterogeneity of elements” (Lyotard 1984). The idea of communication in general, and language in particular constituting social reality is central for this study (Berger and Luckmann 1966). Equally, Susen’s (2015, pp.6-11) description of postmodern social theory as

- interdisciplinary (in the sense that there are no boundaries between disciplines),
- foundationless (in the sense that there is no singular, homogeneous explanation),
- directionless (in the sense that there is no one right way, no “teleological spirit”),
- public (in the sense that it is not exclusive, elitist and self-referential),
- situationist (in the sense that it operates from “life-wordly realities” rather than objective truths),
- pragmatic (in the sense that it concerns itself with discourse and relationships between “ordinary human actors” rather than systems),
- ethno-conscious (in the sense that all conceptions of knowledge are local and “cultural specific” rather than universal),
- socio-conscious (in the sense that actors have “relational contingency”, that is, they play different roles in different contexts at different times based on different rules and values, rather than operating from universally valid principles),
- pluralist (in the sense that it is grounded in the recognition of multiple identities as well as group affiliations of actors, rather than postulating a single truth), and finally,
- historicist (in the sense that it doesn’t seek a universal definition “for all times and all places”, but rather a time-, place- and context-dependent sense-making framework)

is considered an appropriate framework to theorise political leadership communication about societal grand challenges in general, and the COVID-19 pandemic in particular.

However, while elements of postmodern thinking inform the argument presented in this study, it is not an attempt at a comprehensive critical account of all the stages, perspectives and conceptual currents of postmodernism or postmodernity regarding societal grand challenges. This is not a deep exploration of postmodern perspectives of dealing with wicked problems (Wright and Monsour 2020), but rather a recognition of postmodernity as a critical bridge between the 1920s and the 2020s, between classic modernity and its contemporary incarnation. Again, the role of language and narrative is central. In his discussion of knowledge, narratives and social discourse, Lyotard (1984) finds “transformations in the context of the crisis of narratives. Science has always been in conflict with narratives” (p.xxiii). Lyotard thus defines and critiques the ‘grand narrative’ as a “legitimation of knowledge [which] has lost its credibility, regardless of what mode of unification it uses” (p.37). However, his definition of “*postmodern* as incredulity toward metanarratives” is in itself a metanarrative. Josephson Storm states that “[m]uch of the postmodern canon was even rooted in its own pessimistic grand narratives about the fallenness of Being, colonialism, the death of God, or disenchantment” (2021, p.13). In conclusion, “the death of metanarratives was celebrated prematurely” (ibid.). Not least since during “the postmodern period, the grand narrative of human

progress had been forgotten” (Surwillo 2017, p.22), it is judged to be of lesser importance for a study of leadership communication styles in the context of COVID-19, which is put into historical context through comparisons with the Spanish Flu pandemic more than 100 years earlier.

Postmodern conceptions of knowledge and grand challenges

There are, however, some strands of postmodern theory that lend themselves to critical exploration in the context of societal grand challenges, and the performance of leadership in addressing them. These are Deleuze and Guattari’s concept of the rhizome, and Judith Butler’s idea of gender identity being a performative and fluid construct. In their book *A Thousand Plateaus* (1987), Deleuze and Guattari develop the concept of the “rhizome” which challenges traditional notions of linear and hierarchical social structures. They argue that the rhizome represents a more fluid and dynamic understanding of social and political organization, and that it allows for multiple connections and possibilities. More recently, digital technology inspired concepts of a *Network Society* (Castells 2011) or *Platform Society* (van Dijck et al. 2018) build on these ideas. In her book *Gender Trouble* (Butler 1990), Butler critiques the idea of a fixed and stable gender identity and argues that gender is a performative and fluid construct. She also explores the ways in which power and discrimination are inscribed in our understanding and construction of gender. This argument requires elaboration and is explored in more detail in the context of political leadership, especially regarding the performance of leadership during COVID-19, where female leadership appears to have yielded overall better outcomes (Park 2021; Baider and Constantinou 2022; Oliver et al. 2022; Davidson-Schmich et al. 2023). Butler’s concept of gender as a performative and fluid construct is critical for understanding leadership associated with feminine traits.

In her study of the Spanish Flu as a modernist pandemic, Outka (2019) refers to Butler’s work on “grievability” to explain how the vast number of deaths caused by the influenza pandemic carried less meaning, than the deaths incurred in the war. *Frames of War* (Butler 2009) describes how framing choices construct narratives that create reality – as evidenced in the ‘war discourse’ of the COVID-19 pandemic (Benzi and Novarese 2022; Hanne 2022; Musolff 2022a). Outka transfers the argument to the peculiar narrative ‘disappearance’ of the Spanish Flu: “The frames Butler describes are shaped primarily by governments and institutions focused on controlling the discourses surrounding war and conflict” (Outka 2019, p.36). Government and institutional communication in 1918, certainly in countries involved in the war, were preoccupied with war propaganda. That left little narrative space for the Spanish Flu: “At the political level, the pandemic’s dead needed to be forgotten; they needed to become ungrievable– silenced, left out– to make room for the war’s

already uncountable dead” (ibid.). Outka’s interpretation of Butler’s framing concept shows postmodern political communication as a result of the ‘modernist pandemic’. The links between literal war and pandemic war metaphors were discussed in a linguistic study of post-Yugoslav crisis discourses in Croatia and Serbia during the COVID-19 pandemic, where Bogetić (2022) noted the “historicization of crisis, a selective, nationally-oriented analogizing with real wars of the past, where literal and metaphorical senses of WAR relate and blend” (p. 5). Evidence of this will be discussed in section 4.5.

The postmodern path to post-truth

An analysis of, and reflection on the present public and political discourse inevitably raises questions as to “whether the substitution of fact by other considerations (e.g. emotion) and the apparent willingness to accept lies and deceit on the part of leading political figures indicates the coming of an era in which the truth has indeed lost its symbolic authority” (Conrad and Hálfðanarson 2023, p.4). Newman describes how truth has been devalued in contemporary political discourse by politicians who do not seem to care when they are caught lying, and who appear to be more common on the further right of the political spectrum:

“They do so openly and blatantly, without repercussion or scandal. What is striking is the complete shamelessness of these lies and manipulations, as if power today makes a show of its own mendacity, perhaps as a demonstration of its indifference to any ethical norms of political discourse, and even to any external standard of veracity, coherence or integrity. ... Power has absorbed the threat posed by truth, not by repressing or censoring it—as in the old totalitarian regimes—but by relativising it, transforming it into mere opinion, drowning it out in a cacophony of competing perspectives and narratives. Today it is the superabundance of information—made possible through the Internet—that coincides with the erosion of the value of truth” (Newman 2023, p.14)

This combination of ‘postmodern nihilism’ (Josephson Storm 2021, p.307) with the capabilities of an increasingly fragmented environment of political communication where shouting louder, especially on social media, becomes a key differentiator and organising principle in group formation. Bouguetta et al. (2022) describe a *Pandemic of Blame* which is “especially toxic as it further separates people, when unity is needed against the COVID-19 threat and beyond” (p.5).

Postmodern argumentation thus feeds into populist framing and struggles to counterargue populist positions since the “critical impulse of postmodernism, in deconstructing dominant discourses and

hierarchies of knowledge, in unmasking “regimes of truth”, has today left it foundering in the face of post-truth discourse, fighting the wars of today with the weapons of yesterday” (Newman 2023, p.19). Postmodern thinking appears to have been hijacked in a relativist market of ideas and attention where truth and untruths are competing, and populists “reveal themselves as cynical political manipulators and entrepreneurs engaged in a power game; more like the sophists of the ancient world” (Newman 2023, p.25). In the context of public discourse regarding societal grand challenges, where fact- and data-based arguments need to be considered alongside values- and emotion-based arguments, it is critical to understand how quasi postmodern populist positions are primarily ideological, rather than epistemological. They seek power, rather than truth. Therefore, as Newman concludes, the “the only way truth itself can be preserved is by opening it up to a critical interrogation of its relationship to power” (Newman 2023, p.28).

COVID-19 and postmodern society

There appear to be few theoretical explorations of COVID-19 as a ‘postmodern pandemic’. Where the adjective postmodern is used in the context of the pandemic, it is mainly to characterise the present in a negative way: “The novel coronavirus pandemic is both shaped by and an agent of the postmodern, posttruth, utilitarian times we live in” (D’cruz 2021, p.49). Röttgers’ critique of (presumably) German pandemic politics moves beyond modern unity and postmodern plurality, announcing the destruction of “the postmodern society with its achievements of freedom and plurality” (2021, p.25). Where Vermeulen and van den Akker describe metamodern conceptions of knowledge in terms of a positive both/neither dynamic: “at once modern and postmodern and neither of them” (2010, p.6), Röttgers only sees the neither in his philosophical reflections on pandemic politics: “The perversion of postmodernity by the pandemic politics gives up both, the unity and the plurality and replaces it by the pure Zero, of autonomous subjectivity as well as that of the plurality of intersubjectivities” (ibid.). Other researchers posit that the COVID-19 pandemic

“indicated weak points of postmodern civil society such as the lack of global solidarity and global cooperation, the lack of global health equity, the increase in poverty, social insecurity and deep inequality, the lack of support for the liberal international order, the lack of coordination mechanism for responding to the pandemic” (Duliba et al. 2022, p.436).

Lindström’s work discussing Sweden’s early COVID-19 response provides a more in-depth analysis (Lindström 2020, 2021). He describes Sweden’s initial pandemic strategy as much less restrictive than that of its Scandinavian neighbours, with much worse outcomes (Lindström 2021, p.2). Lindström ascribes Sweden’s less restrictive strategy to its post-materialist and postmodern

mentality, putting emphasis on individual responsibility and freedom. Referencing Inglehart's World Values Survey, he calls Sweden "the most non-traditional, secularized, post-materialist and postmodern country in the world" (Lindström 2020, p.2). Given Sweden's adverse health outcomes, he posits that "COVID-19 epidemiology and postmodernism may be a dangerous combination" (Lindström 2020, p.1). Lindström's conclusion is not favourable for postmodern conceptions of knowledge:

"Overconfidence in herd immunity, overconfidence in individual responsibility in solving a pandemic which calls for contextual and societal solutions, overconfidence in evidence-based medicine, neglect to coordinate with the WHO and other countries, and failure to instantly react to protect its own population may be associated with post-materialist values and postmodernism including opposition against modern authority, rationality and science, and an anti-traditionalist stance towards the experience of older generations" (Lindström 2020, p.4)

Sweden as the postmodern policy outlier in the Nordics (Saunes et al. 2022) raises questions from the perspective of metamodernism as a 'Nordic conception of knowledge' (Andersen and Björkman 2017; Freinacht 2019). This is further explored in section 4.5, as well as in the conclusion in section 5.2 (which also addresses the proximity between a metamodern political concept, and the 'Nordic way' of contemporary democracy). The following section introduces both the idea of metamodernity as a grand narrative, and its potential for addressing societal grand challenges.

[2.2.3 Grand narratives grand challenges – Metamodernity](#)

If Josephson Storm is right and postmodernism's declaration of the death of metanarratives was indeed celebrated prematurely, then it is justified to explore the significance and usefulness of such metanarratives, and how metatheory – the systematic theorising about theories across disciplinary boundaries - helps us navigate wicked times of multiple, overlapping and interacting grand challenges (Gehman et al. 2022; Oliver et al. 2022). Grand narratives help explain how paradigms form and change (Kuhn 1996), and are manifested through specific conceptions of knowledge. In loosely comparing two pandemics that bookend the last 100 years, one must proceed cautiously, since there is limited comparable data and many conditions are simply incomparable. Nevertheless, as outlined, there are relevant structural similarities that allow us to juxtapose the mindset and paradigm (that is, the conception of knowledge) of the 1920s with those of the 2020s, particularly regarding public health communication, adherence to scientific expertise, and concepts of risk and uncertainty. One insight from the exploration of grand challenges as wicked problems during this

time is the realisation that “the modernist instinct for mastery, planning, optimization, and control is no longer an appropriate paradigm for living in the world of the 21st century” (Hulme 2020, p.310). Equally, there is ample evidence that the grand narrative of modernity addressing grand challenges established a “widespread misunderstanding on the part of publics, propagated by dominant political (and scientific) discourses, that scientific and technical knowledge can provide clear and unequivocal answers to policy problems” (Hulme et al. 2020, p.2).

The metamodern grand narrative as a theoretical revolution

It is important at this stage to reiterate that modernity’s institutions, paradigms, values and mindsets continue to play a prominent role in public discourse in particular with regard to grand challenges. The same is true for postmodernity and its juxtaposition with modernity. The same is also true for the evolving *new grand narrative* of metamodernism. First, however it is necessary for a better understanding of the pandemic discourse in general to revisit the critical role that the *postmodern condition* plays in our understanding of how the COVID-19 pandemic played out, and what its longer-term impacts and consequences are likely to be. Surwillo (2017) summarises the seemingly dead-end dynamic of the modern v postmodern grand narrative specifically in the US:

Politically, the ramifications of each individual “bowling alone” did not offer us leadership by the way of the grand narrative of universal human progress. ... The overarching sentiment of the postmodern period was the loss of political power to the subtle but effective big-business themes of consumerism fed by the privatization of the media as entertainment, rather than civic responsibility. Fear was the product that was sold (p.190)

The role of postmodern fear (as opposed to modern optimism and metamodern hope) gets explored further in the following sections. What is important here is a realisation of a need and desire for a new way of thinking about the world, society, the environment, the individuals within – Vermaelen and Van Den Akker called this “another structure of feeling, intimating another discourse. History, it seems, is moving rapidly beyond its all too hastily proclaimed end” (Vermeulen and Van Den Akker 2010, p.2). However, while a *structure of feeling* is an intriguing aesthetic concept, it is not a sufficient base for rethinking and reframing some of the central aspects of modernity and its critical postmodern reflection. For that, better metatheory is required as “Without a better metatheory of what makes a good theory, we don’t know the value or utility of own scholarly efforts” (Josephson Storm 2021, p.268). Josephson Storm’s metatheoretical considerations thus focus on metamodernism as “a theoretical revolution ... a revaluation of the place of values in the human sciences ... a new model for producing humble knowledge” (p.ix).

With this perspective in mind, metamodernism is understood as a metatheoretical framework that aims to reconcile the seemingly conflicting and ossified positions, if not ideologies, of modernity and postmodernity vis a vis contemporary grand challenges. There is a sense that “the dialectic is once more in motion or, indeed, as is its unstable nature, in constant oscillation, continuously overcoming and undermining hitherto fixed and consolidated positions” (Akker and Vermeulen 2017, p.20). Is metamodernism a grand narrative, then? Is this a relevant question? Pipere and Martinsone, in their analysis of the significance of metamodernism for the future of social sciences (Pipere and Mārtinsone 2022), come to the conclusion that it is “not a grand narrative, but it creates the space allowing for beliefs in grand narratives, though it does not require them” (p.9). They explain further that “[a]lthough the features and principles of metamodernism are now beginning to unfold in philosophy, humanities, art, and architecture, they are not much theoretically reflected or digested in the field of science and social science” (2022, p.12).

At present, therefore, metamodernism is in a development and trial phase, and there are only a handful of serious efforts to position a metamodern perspective as a metatheoretical social science concept to escape the discursive dead end of modernist positivism and postmodernist relativism when it comes to addressing contemporary *metacrisis*. A metacrisis is understood as “the underlying crisis driving a multitude of crises” (Pipere and Mārtinsone 2022, p.1). Corsa argues that “we ought to embrace a polyphonic, metamodernist, environmentalist grand narrative” (2018, p.267), whereas Josephson Storm declares that “Metamodernism is a postapocalyptic philosophy of the human sciences” (2021, p.279), emerging out of an academic crisis driven by “economic factors—the defunding of public education, the assault on tenure and rise of adjunct faculty, the corporatization of the university, the ascent of a new administrative middle management, the prioritization of STEM and business degrees—that has led to understandable distress” (ibid.). Perhaps, then, one should conceive of metamodernity as a shared space where previous stages of cultural evolution converge and synthesize (Andersen 2019).

Metamodern thinking and theorising are still experimental, and attempts to establish it as an academically credible evolutionary step beyond modern-postmodern takes on social questions are still both fresh, and rare (Josephson Storm 2021; Pipere and Mārtinsone 2022, 2023). Narrative and discourse are less well-established and sceptical views of its validity and relevance must be addressed and countered with convincing arguments. The discussion and application of metamodern thinking in this study is a step on this journey, in the spirit of Pipere and Mārtinsone (2023, p.22):

“science changes and develops in self-determined ways, which amazingly aligns well with the paradigm and principles, oscillating together with global and local life events, sometimes in very unexpected and unpredictable ways.”

To overcome the polarising clash that occurs when societal grand challenges are addressed through modern institutions and political processes in an environment where public discourse is being conducted in a postmodern zeitgeist and via postmodern communication styles and channels, perhaps an openness to metamodern thinking and theorising is worth the risk. In the context of education, for example, Bowman et al. (2022) use the concepts of wicked problems and metamodernism to conceive of innovative approaches for the “development of student sensibilities, empowering them to challenge the growing wickedness with which they must do battle” (p.1). Their framework of pedagogical orientations, based on modern and postmodern principles and reflected through the lens of metamodernism (see Figure 5 below) points to a new way of thinking about, as well as practising pedagogy based on “three interwoven sensibilities necessary for the fourth industrial age: growth, humility, and resourcefulness” (p.14).

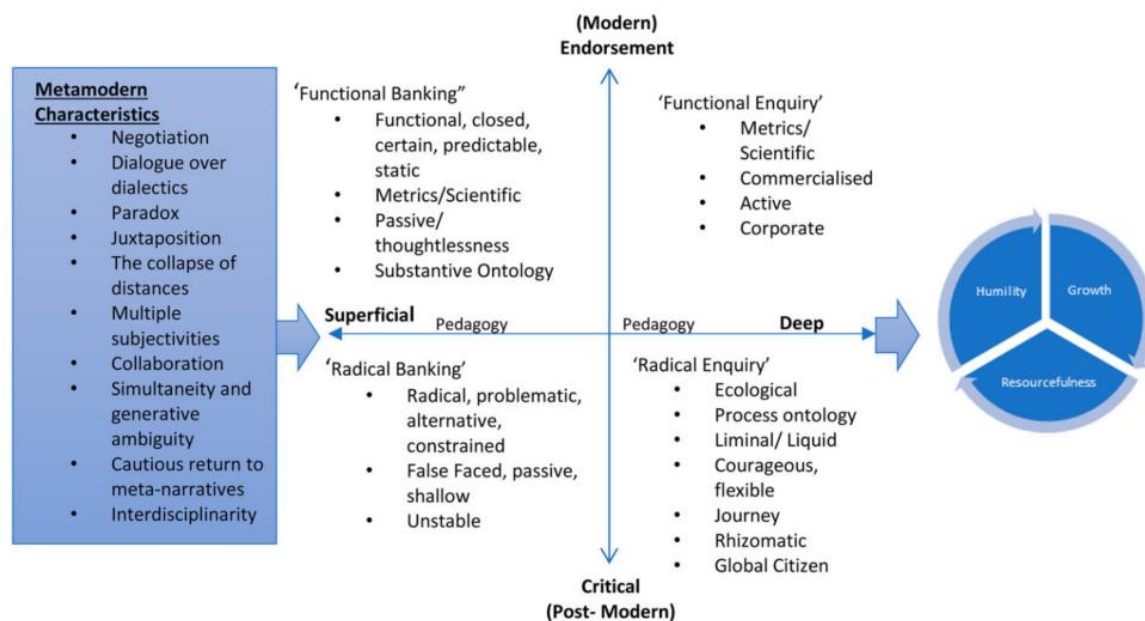


Figure 5: characteristics of education, taken from Bowman et al. (2022, p.15)

Those same sensibilities can be applied to political leadership. The empirical part of this study shows how and where representations of these sensibilities are evident (or not) in leaders' speeches.

Pipere and Martinsone (2023, p.8) identify four *Principles of Metamodernism*:

1. a participatory worldview that allows positivist and constructionist perspectives
2. deliberative engagement with different groups and positions claiming truth
3. negotiation between hierarchical and rhizomatic social models
4. research as pluralism, allowing the possibility of telling a story in a number of ways

These principles overlap with Surwillo's (2017) seven values of metamodern leadership:

1. Art and ego – participation, i.e. experience and production (chapter 9, p.105ff.)
2. Social theory and cooperation – partnership, i.e. sharing economy (chapter 10., p.116ff.)
3. Psychology and motivation – personalization, i.e. know thyself (chapter 11., p.127ff.)
4. Philosophy and education – pedagogy, i.e. teach through problem-solving (chapter 12., p.138ff.)
5. Ecology and capitalism – purpose, i.e. exceed narcissistic self-interest (chapter 13., p.149ff.)
6. Mythology and leadership - power shift, i.e. leading from behind and within, understanding complex natural systems (chapter 14., p.161ff.)
7. Globalization and democracy - planetary shift, i.e. more inclusive, compassionate leadership (chapter 15, p.174ff.)

Pipere and Martinsone's four principles, as well as Surwillo's seven values, inform the creation of analysis categories for the metamodern leader (chapter 4). The principles will be revisited in the conclusion (chapter 5).

Is COVID-19 a metamodern pandemic?

If, as previously stated, the Spanish Flu was the modernist pandemic, one might ask whether COVID-19 is the epitome of risk society (Beck 1992), reflexive modernisation (Beck et al. 1994), and liquid modernity (Bauman 2000) combined, since "rising populations, closer contact between people and virus-incubating animals such as birds and bats, and above all the growing mobility of human populations have amply set the stage for recurrent pandemics" (Jasanoff 2022a, p.12).

In addition to being a devastating pandemic, COVID-19 "has proven to be a highly communicable disease" (Oswald et al. 2022, p.2), triggering not only an infodemic (Yoon et al. 2021) or disinfodemic (Posetti and Bontcheva 2020) of fake news (Puig et al. 2021), mis-, dis- and malinformation (Love et al. 2020; Spitzberg 2021; De Angelis et al. 2022), but also generating a huge wave of academic research. A topic search of the Web of Science Core Collection on 4th February 2023 for "COVID-19 OR SARS-CoV2" returned a total of 363,700 results, with almost 83,000 published in 2020, almost 153,000 published in 2021, and more than 125,000 published in 2022. For a comprehensive

literature review, this requires a high level of selectivity and specificity with regard to the topic areas to be reviewed.

This study adds to a canon of work where, in Diers-Lawson's words, "hundreds of thousands of journal articles and book chapters produced on the COVID-19 pandemic will converge into a new field of study that focuses directly on societal-level crises and tries to help people, organizations, and governments prepare and respond to these wicked problems" (Diers-Lawson 2023, p.298). Where it diverges is in its focus on metamodernism. To date, there appears to be only one other study exploring COVID-19 from a metamodern angle (Jovanović 2021). As a contribution to the development of theory and methodology, this study posits that evolving contemporary societal problems, often characterised as grand challenges and of which COVID-19 is an example, can no longer be adequately addressed by scientific approaches that are based either on modern, or postmodern mindsets and principles. Neither objective truth-based modern frameworks, nor postmodernism, whose "infinite deconstruction has led to mindless relativism" (Pipere and Mārtinsone 2022, p.9), have proven sufficiently successful in addressing grand challenges such as COVID-19, climate change, or the UN's Sustainable Development Goals (van Zanten and van Tulder 2020; Grant and Wunder 2021). As an alternative, a metamodern perspective is presented as a way of thinking and theorising, not least in the social sciences, which are "just making their first steps to probe the relevance and validity of metamodernism in theoretical and practical discourses both in monodisciplinary and inter-/transdisciplinary studies" (Pipere and Mārtinsone 2022, p.16). Metamodernism, as the *Future of Theory* (Josephson Storm 2021), is thus the lens through which COVID-19 as a grand challenge of contemporary society is explored with regard to the epistemological principles of its modernist and postmodernist science and methods that underpin most of the responses to the COVID-19 challenges in communication as well as governance.

Humility and empathy as metamodern coping technologies in facing grand challenges

One of the core characteristics of grand challenges is their 'radical uncertainty' (Tuckett and Nikolic 2017). Radical uncertainty refers to situations "where there is no normatively correct answer based only on facts" (Bilovich et al. 2020, p.2). This is similar to the idea of wicked problems (Rittel and Webber 1973). In both concepts, purely fact-based arguments are unlikely to lead to conclusions, and thus it is necessary to consider the value positions of involved parties (Hulme 2020). In *The Human Condition*, Hannah Arendt (1998) addresses the problem of uncertainty and unpredictability, related to the potential irreversibility of actions through the "faculty of forgiving" (p.237). She proposes "to set up in the ocean of uncertainty, which the future is by definition, islands of security

without which not even continuity, let alone durability of any kind, would be possible in the relationships between men". This requires social interaction, and is thus also grounded in empathy, compassion and humility – all necessary traits to cope with uncertainty. Jasanoff proposes humility as a means to address incertitude in pandemic times (Jasanoff 2022a). As a metamodern idea, this can be read as the strength of conviction to choose an uncertain middle way when faced with seemingly clear-cut binary choices. It is in this spirit (though without the label) that Jasanoff puts forward "technologies of humility: institutional mechanisms—including greater citizen participation—for incorporating memory, experience, and concerns for justice into our schemes of governance and public policy" (2022a, p.11).

Humility as part of a metamodern conception of knowledge also aligns with feminist principles. Scoones and Stirling point out in their appeal for more inclusive approaches and narratives in addressing societal grand challenges that "open epistemology is therefore called for, one that follows the well- established traditions of feminist methodology, where plural, partial, situated knowledges are central to emergent understandings and responses" (Scoones and Stirling 2020, p.11). We recall Outka's analysis of why the Great War is remembered and its victims revered, while the Spanish Flu – at least until COVID-19 – was largely forgotten, and identify the absence of humility in the pathos of the narrative: "we reify how military conflict has come to define history, we deemphasize illness and pandemics in ways that hide their threat, and we take part in long traditions that align illness with seemingly less valiant, more feminine forms of death" (Outka 2019, p.2). Humility is a also core characteristic in Bowman et al.'s (2022) metamodern pedagogy, as well as in Witzel's (2022b) exploration of post-pandemic leadership traits. Hedlund et al. (2023) highlight "epistemic humility, or openness to being (at least partly) wrong, and relatively greater alignment with higher, world centric principles like learning in service of truth and collective evolution, rather than entrenchment in fixed, egocentric or tribal ideas, identities, and methods" (p.11) as essential qualities of *metapraxis* to solve wicked problems. Finally, a recent systematic review of intellectual humility has found that the concept "has gone from a topic of philosophical inquiry to one of serious scientific investigation. It has been variously described as a remedy for political polarization, a tool for advancing scientific credibility, and a disposition that promotes learning" (Porter et al. 2022a, p.573). The discussion of humility in the context of knowledge acquisition and leadership is nothing new. Nevertheless, it is put forward as a concept with "the potential to benefit individuals and society by increasing civility, fruitful collaboration, learning, and discovery" (p.583). Intellectual humility is also associated with "greater tolerance ... empathy, altruism, benevolence, and less power seeking" (Krumrei-Mancuso et al. 2020, p.158), as well as an "ability to facilitate people gaining knowledge from and with others" (ibid.).

These ideas are further explored in the discussion of the performance of political leadership through rhetoric and metaphor – not least the dominance of the war metaphor in the political narrative of COVID-19 (Panzeri et al. 2021; Hanne 2022; Musolff 2022a; Schnepf and Christmann 2022) as an indicator of a modern, non-humble, not-empathetic mindset. While useful to convey urgency and create a sense of necessary mobilisation, war metaphors can also have problematic cognitive, emotional and social effects. This was highlighted by the #reframecovid initiative (Olza et al. 2021; Pérez-Sobrino et al. 2022), who identified and categorised a range of alternative source domains for pandemic metaphors, including sports, journey or nature and natural catastrophes. Section 4.5 provides evidence of war and other metaphor use in the analysed speeches.

2.2.4 Grand narratives grand challenges – Conclusion

In modern society, pre-modern dangers become bureaucratically managed risks. The problem starts when the main quality of risks to be managed is uncertainty of which we do not know the probability, the likelihood of occurrence, or the type or extent of outcomes. This has consequences both from the perspective of conceptions of knowledge, as well as the understanding of and approach to grand challenges (in which radical uncertainty is inherent):

It means questioning simple, linear perspectives on modernity and progress. It means rethinking expertise and including diverse knowledges in deliberations about the future. It means understanding how uncertainties emerge in social, political and economic contexts, and how uncertainties affect different people, depending on class, gender, race, age and other dimensions of social difference. And, if uncertainty is not reducible to probabilistic risk, it means a radically different approach to governance; one that rejects control-oriented, technocratic approaches in favour of more tentative, adaptive, hopeful and caring responses. (Scoones 2019, p.iv)

Scoones' outline of challenges related to what can be paraphrased as the 'social construction of uncertainty' was published prior to the outbreak of COVID-19. As discussed, evidence from the political and public health management of the pandemic emphasises his points.

This section considered grand narratives – the stories that create culture and mindsets through distinct conceptions of knowledge (Susen 2015). It looked at the period around and after the Spanish Flu of 1918-19 as the dawn of an evolution in modernity with a lasting impact on society, culture and mindsets to this day. Modernity structures the world and makes it seemingly predictable. When grand challenges – multi-layered, multi-faceted problems such as those outlined in the UN

Sustainable Development Goals (Sachs et al. 2019; van Zanten and van Tulder 2020) are addressed with the mindset of modernity, “a Cartesian, mechanical, linear worldview, the rationalist, individualist approach that so dominates a ‘risk’ framing – and has become central to core policy disciplines, including economics” (Scoones 2019, p.29), the results will always fall short in cases where complexity and uncertainty exceed the mindsets, models and technologies available to leaders and managers. In those cases, as explored further, the performance of political leadership and the evidence of outcomes rarely match. New and evolving challenges require new and evolving leadership grounded in new and evolving conceptions of knowledge.

Postmodernity has been discussed as a ‘grand narrative-rejecting grand narrative’. It is seen as an intermezzo in modernity’s evolution, a bridge between classic modernity and more contemporary iterations (Beck 1992; Beck et al. 1994; Beck 1999; Bauman 2000; Castells 2011) and some of its features will continue to be relevant both from a theoretical, and a practical perspective. For example, postmodernity’s conceptions of knowledge are relevant for an understanding of how contemporary governments and political leaders deal with grand challenges. Lindström’s critical analysis of the Swedish response to COVID-19 is instructive in this context (Lindström 2020, 2021). Some observers use the postmodern label in the context of COVID-19 to describe a regressive, decaying state of societies and the ‘international order’ (D’cruz 2021; Duliba et al. 2022). These critiques may be valid, however they do not provide a theoretical perspective that helps elucidate the relationship between conceptions of knowledge and the performance of political leadership confronted with grand challenges. Figure 6 below lists key characteristics of the three grand narratives (phases) of modernity (modernism), postmodernity (postmodernism) and metamodernity (metamodernism) in the areas of mindset and paradigm, public sphere, social psychology, and their engagement with crises, risk and uncertainty, as an evolution toward a state that is better suited for societal grand challenges, than the previous ones.

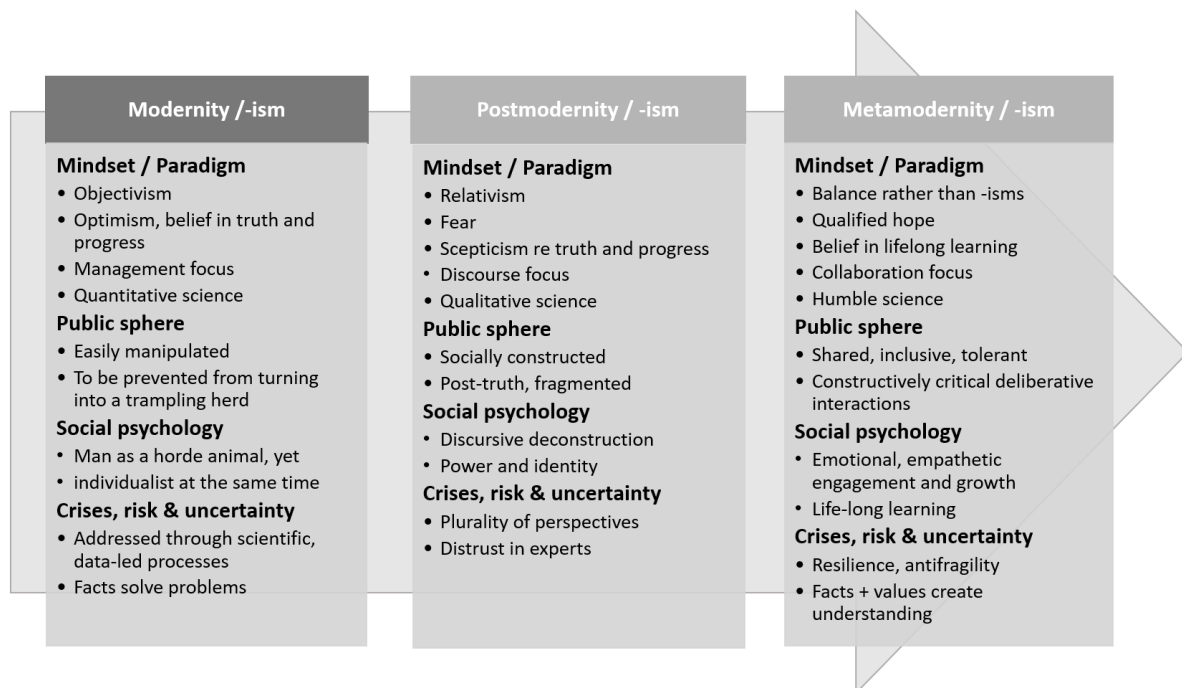


Figure 6: [own design]: How conceptions of knowledge evolve

Accordingly, this study posits that a metamodern perspective (Vermeulen and Van Den Akker 2010; Akker and Vermeulen 2017; Freinacht 2017; Surwillo 2017; Freinacht 2019; Josephson Storm 2021; Pipere and Mārtinsons 2022, 2023) is more suited to theorising about the development of political leadership – its communicative and decision-making performance – vis a vis societal grand challenges. The analysis of political leadership during COVID-19 and subsequent outcomes allows judgements as to how different leaders, and different kinds of leadership performance compare with regard to effectiveness. Some traits associated with a metamodern mindset, such as curiosity, humility and empathy, appear to be more prevalent in more effective leaders. It also appears that female leaders are overrepresented in that group (Park 2021; Baider and Constantinou 2022; Oliver et al. 2022; Davidson-Schmich et al. 2023).

A number of research questions result from this analysis (see 2.6 for overview and summary):

- Are modern and postmodern conceptions of knowledge ‘gendered’?
- Are metamodern conceptions of knowledge ‘gendered’?
- Are metamodern conceptions of knowledge more effective in dealing with grand challenges?

2.3 Political leadership – Introduction

In a classic study of the evolution of leadership concepts from 1900 to the 1990s, Rost (1991) explores the stages of research and finds that despite the vast amounts of studies, books and papers providing definitions and data, “leadership studies as an academic discipline has a culture of definitional permissiveness and relativity. ... There are almost no arguments about definition in the literature on leadership” (p.6). How can it be defined? In a recent review, Wilson (2022) arrives at a broad and inclusive definition of a “*formal leader* as someone who has the socially created responsibility and rights for moving the organization in the right direction” (p.29). This definition aligns with Rost’s observation 30 years earlier that “it is time to forsake the old paradigm and begin a new life for leadership study and practice by consciously thinking and acting in ways that are consistent with a postindustrial framework” (1991, p.187)” and thus it proves useful in the development of a metamodern leadership concept, building on as well as extending previous concepts.

In the opening chapter of *The Handbook of Political Leadership* (Rhodes and 't Hart 2014), the editors survey the *Puzzles of Political Leadership* and come to the conclusion that “the study of leadership is a somewhat bewildering enterprise because there is no unified theory of leadership. There are too many definitions, and too many theories in too many disciplines. They do not agree on the meaning of leadership, on how to study it, or even why we study it. The subject is not just beset by dichotomies; it is also multifaceted, and essentially contested” ('t Hart and Rhodes 2014, p.1). Consequently, this section does not attempt a comprehensive overview of academic research and discourse pertaining to political leadership. Rather, this is premised on political leadership today being confronted with multiple grand challenges, metacrisis of interrelated hypercomplex problems (Bhaskar et al. 2016, p.3ff.), or to put it in plainer terms: “conditions of serious, urgent, and uncertainty-ridden threats to key values and structures of a community or the polity as a whole” (Ansell et al. 2014, p.1). Political leaders respond to such challenges in different ways at different times under different conditions. It is therefore instructive to link the performance of leadership (section 2.4) and perceived leadership traits (section 2.3) to different ‘eras’ and related conceptions of knowledge, especially in crisis situations (section 2.2).

Additionally, political leaders’ communication and framing of challenges impacts the responses of their audiences, which, in turn, impacts outcomes. The findings in chapter 4 provide a range of evidence for those diverse responses and outcomes. The conclusion in chapter 5 brings together all these exploratory strands and offers some suggestions for good leadership under continuously (and perhaps increasingly) difficult conditions.

Political leadership and crises

The literature reviewed focuses on political leadership in times of various types of crises (Spector 2019), including war (Grint 2008), populism (Pappas and Kriesi 2015; Pappas 2019), economic crises ('t Hart and Tindall 2009), ecological crises (Galaz et al. 2011; Ottens and Edelenbos 2019) natural disasters (McLean and Ewart 2020), and, centrally, the COVID-19 pandemic (Hartwell and Devinney 2021; Watkins and Clevenger 2021; Kneuer and Wallaschek 2022). In all these cases, political leadership is confronted with circumstances where traditional modernist approaches to problem-solving, such as linear cause-and-effect thinking, compartmentalisation and reductionism, are no longer sufficient to resolve complex and wicked grand challenges (Alford and Head 2017; McConnell 2018).

These challenges require a different kind of leadership and governance, one that is more collaborative, adaptive, and responsive to the needs and concerns of all identifiable stakeholders, as for example acknowledged in the sustainability discourse (Dreier et al. 2019; Hull et al. 2020). This will require new forms of *Responsible Leadership* (Pless and Maak 2012), encouraging dialogue and engagement, as well as a greater willingness to embrace uncertainty and ambiguity. Jordaan (2019) highlights the ability and willingness to collaborate as a core trait for effective leaders in a world of grand challenges: “Collaborative leaders” are able to create the conditions and processes that would maximise synergies between people. The emphasis is less on producing a solution to a known problem and more on developing new ways to reframe situations and develop unanticipated combinations of actions” (p.69). Oliver et al. (2022) looked at the COVID-19 pandemic as a grand challenge for political leadership and found that “when facing a grand challenge, stakeholders will seek a relational leader – an open communicator – who encourages collaboration, coordination, and trust ... These perceptions align with society’s prescriptive stereotypical view of female leaders as the more communal gender” (p.4). This is investigated further in the section on political leadership, grand challenges, and gender.

As the latest manifestation of the ostensibly unprecedented challenges faced by humanity living “in one of the fastest changing times in history, amidst a digital, communication and travel revolution which some consider to be as significant as the transition between the middle ages and the modern world or the dawn of the industrialized world” (Kok and van den Heuvel 2019b, p.4f.), the COVID-19 pandemic has become a rich case study in political leadership in the face of wicked problems (Wexler and Oberlander 2020; Auld et al. 2021; Lilleker and Stoeckle 2021; Grint 2022) and is discussed in detail throughout this study. First, however, it is necessary to map out the space in

which political leadership in times of crises, and/or addressing societal grand challenges, is being discussed, explored and analysed.

Spector (2020) argues that crises are social constructions, hence his definition of a crisis as “a label, a claim of urgency employed to characterize a set of contingencies that, taken together are assumed to pose an immediate and serious threat” (2020, p.304). Understanding such acts of construction requires a lens that considers both how crises are constructed and what effects those constructions produce. This perspective is especially useful when examining a crisis from a leader’s decision-making standpoint, viewing it not as an objective state of affairs but as a subjective assertion that hinges on the exercise of power and influence (see Spector 2020, p.311). If crises are social constructions, so are responses to crises by leaders. This points to leadership as a performative act of confidence and competence to enact effective leadership, of the leader-as-storyteller (Grint 2014). This is further explored in section 2.4.1 where leadership is discussed as social and communicative construction.

The following section first examines the main concepts of styles and traits related to (political) leadership, before delving into key aspects of psychology and personality. Then all these aspects of political leadership are being considered through the lens of gender as a social construct (Marecek et al. 2005).

[2.3.1 Political leadership types, styles, behaviours and traits](#)

What exactly is *The Nature of Leadership* (Antonakis and Day 2017)? Are leaders made, or born? The question whether a leader has innate, inherent personality traits, whether they have skills that are acquired through learning and experience, or whether they operate or perform certain types and styles has been answered differently at different times by different strands of leadership research. The most practical and plausible answer is to state that it is all of the above, since “there are almost as many different definitions of leadership as there are people who have tried to define it. It is much like the words democracy, love, and peace. Although each of us intuitively knows what we mean by such words, the words can have different meanings for different people” (Northouse 2019, p.2). Table 1 lists the main established leadership styles and traits (with some evident overlaps) together with key sources and main academic findings, associating each with a dominant conception of knowledge (allocation by the author).

Table 1 [own design]: Modern, postmodern and metamodern leadership styles and traits

Leadership Style	Traits	Conception of Knowledge	Main Academic Findings	Sources
Adaptive	Flexibility, Agility	Metamodern	Effective in dynamic and uncertain environments. Requires the ability to adjust to new circumstances and be open to change.	(Heifetz et al. 2009)
Authentic	Transparency, Ethics	Modern Postmodern Metamodern	Creates trust and builds strong relationships between leaders and followers. Requires self-awareness and a commitment to values and ethics.	(George 2015)
Authoritarian / Autocratic	Command, Control, Power	Modern	Effective in crisis situations and with low-skilled employees / low-informed citizens	(Grint 2020)
Delegative / Laissez-Faire	Autonomy, Freedom	Postmodern	Effective with skilled employees and can lead to high job satisfaction. Can lead to lack of direction and accountability.	(Eagly et al. 2003)
Distributed	Shared responsibility and authority, Relational	Postmodern Metamodern	Seeks practical compromises and configurations that balance hierarchy and participation, rather than abolishing structure	(Bolden 2011)
Empathetic	Compassion, Support	Metamodern	Fosters a positive work environment and can improve employee well-being and satisfaction. Requires emotional intelligence and active listening.	(Kock et al. 2018)
Participative	Collaboration, Trust	Postmodern Metamodern	Increases job satisfaction, productivity, and commitment.	(Archer and Cameron 2013)
Post-heroic	Empowerment, Teamwork	Postmodern Metamodern	Better suited to grand challenges, than 'heroic' models. Fosters resilience and copes well with uncertainty.	(Škerlavaj 2022)
Servant	Humility, Service	Postmodern	Prioritizes the needs of others and focuses on their development and well-being. Can lead to increased trust and loyalty.	(Greenleaf 1998)

Leadership Style	Traits	Conception of Knowledge	Main Academic Findings	Sources
Technocratic	Expertise, Knowledge	Modern	Effective in highly specialized environments where technical expertise is required. May lack people skills and emotional intelligence.	(McDonnell and Valbruzzi 2014)
Transactional	Rewards, Punishments	Modern	Focuses on performance, rewards good work and punishes poor performance. Effective in stable environments with clear goals and outcomes.	(Macgregor Burns 1978)
Transformational	Inspiration, Vision	Modern Postmodern Metamodern	Inspires and motivates followers to reach a shared vision. Can lead to increased innovation and creativity. Requires charisma and strong communication.	(Macgregor Burns 1978)

Leadership traits refer to the inherent characteristics or personality traits that a person possesses that make them a good (or bad, in case they are absent) leader (Northouse 2019; Yukl and Gardner 2019). Examples of good leadership traits include integrity, empathy, confidence, and emotional intelligence (Ciulla 2017). Leadership styles refer to the different approaches that a leader takes. Examples of leadership types or styles include autocratic, coercive, democratic, transactional and transformational (Rhodes and 't Hart 2014; Keller 2020). Finally, leadership skills refer to the specific abilities that a leader possesses that enable them to effectively lead their team. Examples of leadership skills include communication, problem-solving, and strategic thinking (Grint 2010). The multitude of definitions and perspectives on leadership is no surprise, since every person is different and so is every leader. However, when we think of effective leadership, similarities between these three elements become apparent: they include the ability to inspire and motivate a team, the ability to make difficult decisions, and the ability to communicate effectively.

Additionally, leadership is context-dependent and effective leadership will draw on different leadership types, styles and traits in response to different and evolving situations. Grint (2022) describes how the more successful leaders during the pandemic demonstrated an understanding of wicked problems through appropriately adaptive leadership and decision-making styles, including the confidence at times to admit not knowing (p.1526). Grand challenges require leaders to adapt their style to the requirement of the situation:

the pandemic embodies all three kinds of problems and requires all three decision-styles: we need commanders to coerce the recalcitrants to comply with the critical problem of lock downs, we need managers to ensure the technology of track and trace systems and vaccine programmes actually work, and we need leaders to engage the collective that supports the vulnerable wherever necessary (Grint 2022, p.1528)

McClellan's (2022) presentation of adaptive leadership as an appropriate response to wicked problems draws on Grint and Heifetz (2009). His description of core traits of leaders to "be other focused, identify and respond to the challenges, needs, and desires of the people broadly; be externally open, and be humble and open to feedback and information even when it goes against one's own perceptual biases" (p. 60) aligns broadly with traits of the empathetic metamodern leadership style described in section 2.5.4. None of these (or any other) leadership traits are exclusive to any particular leadership typology or archetype. They are context-dependent, contingent on situation and individual, not more than a 'directional orientation'. A critical reflective assessment of leadership trait theory does not answer the question whether leaders are born or made, but does concede that "in the realm of leadership ... the individual does matter" (Kirkpatrick and Locke 1991, p.59).

Context refers to both the specifics of a situation – for example, a national crisis that requires government intervention – and the broader conceptions of knowledge that characterise the cultural, social, political and economic conditions of a particular historical period. Therefore, the discussion of modern, postmodern and metamodern leadership personalities, psychologies, traits and styles needs to happen in the context of the leading paradigms of their time. This is also why paths to leadership and biographical detail matter: for example the political leaders of the UK and Germany during the pandemic, Boris Johnson and Angela Merkel have markedly different biographies that impact the way in which they perform their leadership.

How (and when) leaders are made

Who becomes a political leader, and what are the motivations? In a 1948 paper on leadership and the personality of the leader, Lasswell gave a perhaps counterintuitive answer: "Our key hypothesis about the power seeker is that he pursues power as a means of compensation against deprivation. Power is expected to overcome low estimates of the self, by changing either the traits of the self or the environment in which it functions" (Lasswell 1948, p.39). Macgregor Burns (1978) builds on Lasswell's concept of self-esteem being a key driver of political leadership ambition when he muses about the leadership selectivity of the British public school system: "Most schools in most developed

societies have a far more mixed effect than do British public schools on adolescents' sense of self-esteem. The self-confidence, competence, and ease with which adolescents play a variety of roles in school differs according to class background and school expectations related to background" (p.150).

For example, in the British public school system, as well as in similar institutions in other countries (though perhaps to a lesser degree, as Macgregor Burns attests), self-esteem is trained and learned. It is confected, and leadership and its rhetorical means are being performed – in the case of the UK, in debating clubs at Eton, or at the Oxford Union, for example (Kuper 2022). With a view of social channelling in the British educational system, Macgregor Burns describes the "purposeful building of social esteem and self-esteem in order to enhance leadership potential" (Macgregor Burns 1978, p.155). While the selectivity of educational systems will differ from county to country as well as regionally, structurally they will all be similar in the sense that they will emphasize skills and traits that are understood to be critical in a leader. This includes the display and performance of public confidence, analytical skills, debating skills and rhetoric, as well as the opportunity to meet and network with like-minded others. Grint and Holt (2022) contrast this privileged leadership path and the resulting types in Boris Johnson and Donald Trump with Angela Merkel's background and conclude that the German Chancellor was better equipped for the challenge:

Might one reason be that Merkel is a scientist by training (she has a PhD in chemistry), whereas Trump was a TV show host and Johnson is an archetypal Conservative leader – that is, the product of Eton school and a classics degree at Oxford? Unlike the Prozac-infused leaders (or previous leader) of the United States and the UK, both of whom are more interested in polling figures and good news stories than facing up to bad news, Merkel is notable for her understanding that science generates hypotheses rather than facts (Grint and Holt 2022, p.40)

Biographical details are contextually relevant – see critical metaphor analysis and discourse historical approach as the main qualitative research frameworks in this study. This is further examined in chapter 4, especially section 4.5 .

Authentic leadership and populism

Leadership is dependent on time and context. Therefore, an understanding of prevalent leadership styles requires an understanding of prevalent conceptions of knowledge, as well as social, political, and economic conditions under which leadership occurs. In times of a public health crisis, trust in a leader and compliance with containment measures are critical. Being perceived as authentic,

therefore, is essential. In his seminal 1978 work on Leadership, MacGregor Burns distinguishes between transactional leadership, which “conceives of leader and follower as exchanging gratifications in a political marketplace” (p.258) and transformational leadership, “Leadership in the shaping of private and public opinion, leadership of reform and revolutionary movements” (p.33). Grint (2010) explains that “Many have followed in MacGregor Burns’s footsteps, with Zaleznik differentiating between psychologically ‘healthy’ and ‘unhealthy’ leaders, while Howell preferred to differentiate between ‘socialized’ and ‘personalized’ leaders, and Bass contrasted ‘authentic’ with inauthentic, or ‘pseudo-transformational’, leaders (p.97). Leadership is personal and contextual, and the expectations and required skillsets of leadership in times of calm are very different from those in times of crisis. In their discussion of *The New Psychology of Leadership*, Haslam, Reicher and Platow (2011) look to the late 19th and early 20th century as times of turmoil calling for a particular type of leader: “the notion of the “superman” was articulated by Nietzsche in the 19th century, and the idea of the leader as savior lay at the heart of Weber’s interest in leadership” (p.202). This was followed by the rise of totalitarianism in Europe in the 1920s and 1930s and the authors ask whether we must “forever flip-flop between a desire for strong leaders in times of crisis and a horror of them once (and after) they have made their presence felt?” (p.216).

The political turmoil of the first decades of the 20th Century and the subsequent devastation caused by two world wars are not the focal point of this study. However, the conditions under which political leadership responded to the Spanish Flu of 1918 and 1919 were the same, and the leaders were the same. Spinney (2017) observes that through the experiences of politically managing the pandemic, “politicians realised that public health measures gave them a means of extending their influence over populations. Health became political” (p.112). As discussed before, the ‘secondary framing’ of the Spanish Flu because of the discursive dominance of World War I news coverage and propaganda was a political choice (Phillips and Killingray 2003; Outka 2019), whether consciously or unconsciously. This is the main reason why there is limited historical research linking the Spanish Flu to the rise of fascism (as an extreme form of populism) in Italy (Galofré-Vilà et al. 2022) Germany (Blickle 2020) or Spain, as well as anti-immigration sentiment in the US (Kraut 2010).

The situation is different with the COVID-19 pandemic, where prominent populist leaders such as, for example, Trump in the US (Roberts 2022), Bolsonaro in Brazil (da Fonseca et al. 2021), Modi in India (Kaur and Mishra 2020) framed, communicated and executed distinct policies which they considered consistent with expectations of populist performance (Brubaker 2021; Ringe and Rennó 2022). The politicisation of public health responses (Abbasi 2020; Lilleker and Stoeckle 2021) in mediatised societies (Nguyen 2021) provides fertile ground for populist rhetoric (Prasad 2020; Katiambo 2022). The result of ‘spectacularised’ (Resende and Reinke de Buitrago 2023) populist

pandemic policies is, by and large, higher excess mortality (Bayerlein et al. 2021; Naushirvanov et al. 2022). At least in part, this can be explained by populists' performativity, where authenticity is enacted and thus becomes authenticism (Stoeckle and Albright 2020). Thompson (2016) describes authenticism's proximity to the world of fake news and alternative facts:

For authenticists, what matters most is not argument, but story: their 'truths' are inextricably bound up with the narratives they tell about their community. The facticity of a given claim matters less than its fit with the narrative. If something feels true, then in some sense it must be true. (p.155).

The authenticist performance of populist leaders during the COVID-19 pandemic has been linked to higher excess death rates in a number of studies (Charron et al. 2022; Cafruny and Talani 2023).

2.3.2 Political leadership psychology and personality

The contemporary study of the psychology of leadership, the personality of the leader and its impact on leadership and effective decision-making, has moved beyond an understanding of stable traits, styles and behaviours. What characteristics leaders have and what characteristics are most likely to impact on their behaviour and communication has been dominating leadership studies for a long time. Overall, the evidence is patchy: "results of these types of studies proved contradictory and unsatisfactory" (Hermann 2014, p.2). Until recently, the field has been too concerned with categorisation (i.e. defining distinct labels), and not enough with contextualisation (i.e. understanding the interplay between a wide range of factors). Research now acknowledges a more dynamic, interactive relationship between the person of the leader and the specific context in which leadership happens (Hermann and Kaarbo 2020, p.68). Congruence between the leader, the led (voters, constituents, the electorate, stakeholders), and the cultural, institutional and situational context in which leadership is taking place is the key focus of a contingency theory of leadership which focuses on psychological and personality factors determining effective leadership (Hermann and Kaarbo 2020, p.69).

Leadership is situational, dialogic, discursive

The COVID-19 examples align with a contingency theory of leadership (Vroom and Jago 2007; Yukl and Gardner 2019) which proposes that effective leadership is circumstantial, that is, determined by the match between a leader's type and style and the specific context, the situational demands. Rather than focusing on fixed characteristics and standardised situations in a universal theory,

contingency theory posits that there is a dynamic relationship between leader and situation, and that both impact each other. Discussing the *linguistic turn* in the social sciences, Fairhurst (2007, 2009) highlights both context, and agency of the leader as interrelated if not co-created: situations to which “they and others must respond – just as they might shape any other ‘social reality’ such as identity or legitimacy that, in turn, often vary based on how the context is being constructed in and through discourse” (Fairhurst 2009, p.1608). In a contemporary contingency-theoretical perspective, then, leadership is confected and has to be performed, according to whatever the scene requires: “Those who aspire to lead must figure out what leadership is in the context of what they do and persuade themselves and others that they are doing it” (Fairhurst 2009, p.1609). If leadership, especially when faced with the complexities of grand challenges, is about sense- and meaning-making, then according to Fairhurst, saying is creating: her leadership model is “situational, attributional, dialogic, and constructionist, but also explicitly discursive” (Fairhurst 2009, p.1616). This aligns with the position of Liden and Antonakis, who suggest “a multitheoretical lens that includes leadership psychology and more discursive, social constructionist approaches to leadership” (Liden and Antonakis 2009, p.1587).

Recent review papers on the psychology of bias (Oeberst and Imhoff 2023) and the psychology of ideology (Zmigrod 2022) help focus this multitheoretical lens, especially with regard to populist leadership. Oeberst and Imhoff’s research found that problem (over)simplifiers such as populists have a strategic psychological advantage: “research has repeatedly affirmed people’s tendency to be intolerant of ambiguity and uncertainty and found a preference for ‘cognitive closure’ (i.e., a made-up mind) instead” (Oeberst and Imhoff 2023, p.3). This can become a self-reinforcing vicious circle of belief confirmation (p.14). Zmigrod’s (2022) review of ideology psychology research starts from an observation of “siloed subdisciplines separately dealing with political, religious, moral, and prejudiced attitudes” (p.1072) which chimes with Oeberst and Imhoff’s insight that information processing “biases have often been examined in separate lines of research, thereby precluding the recognition of shared principles” (p.1). New multitheoretical, transdisciplinary insights into the working of information processing biases and the psychology of ideology are central to understanding the psychology of leadership, not least because leaders frame and structure the world for their followers: “A psychology of ideology thereby holds the potential of combating the dangers of dogmatism and entrenched beliefs both within the field and in the outside world” (Zmigrod 2022, p.1085).

Confidence and hubris

Perhaps the most enduring trope about leadership is its association, if not identification, with confidence. MacGregor Burns sees the development of “*political efficacy*, defined as persons’ confidence that they have the competence to take part in politics and that political leaders will listen to them and respond to them” (Macgregor Burns 1978, p.130) form early in schoolchildren: “third-grade children have already begun to develop a sense of political efficacy, and this feeling tends to increase ... [through] years of increasing confidence in one’s competence” (p.130f.). The problem with confidence in leaders is that it is often larger than warranted. In particular in cases where the available information is not complete, and outcomes are hard to predict, unwarranted confidence can lead to poor decision-making. Kahneman et al. in their 2021 book on *Noise – A Flaw in Human Judgment* found that “Overconfidence is one of the best-documented cognitive biases. In particular, judgments of one’s ability to make precise predictions, even from limited information, are notoriously overconfident” (p.133). In his study of hedge fund managers’ decision-making in the wake of the financial crash of 2008, the psychologist David Tuckett (2011) found a tendency to post-rationalise and justify decisions that had to be made in situations where information was incomplete, and outcomes uncertain: “The fact that they supported their actions by telling stories weaving together reason and emotion to feel comfortable will, therefore, be unsurprising to many psychologists and cognitive scientists, let alone to social scientists or psychoanalysts” (p.55). Tuckett and colleagues explore this phenomenon as Conviction Narrative Theory (CNT), a multidisciplinary approach to making sense of “the human capacity to organize experience through narrative, which is able to combine cognitive and affective responses generated by the subjective experience of action in conditions of radical uncertainty” (Tuckett 2018, p.62). In other words: we justify our actions as well-considered and evidence-based, even when there is only very little evidence available to base a rational decision on.

Often, overconfidence and hubris are associated with toxic leadership (Heppell 2011), where it can be “argued that the pride and overconfidence associated with hubris are boosted by previous success and by occupying a position of power” (Boak 2021, p.113). Furthermore, these characteristics of toxic leadership are usually seen in male, rather than female leaders as Sternberg (2021) argues with reference to the organisational psychologist Chamorro-Premuzic: “males are more likely than females, on average, to show some of the worst leadership characteristics, such as (a) extreme overconfidence, which is disguised as competence; (b) narcissism; (c) psychopathy; and (d) charisma” (p.154). Juliet Kaarbo’s (2021) study of how leaders ‘break bad’ in foreign policy provides a broad and deep exploration of how “wielding power increases self-esteem ... self-confidence ... concerns about threats and losses ... feelings of superiority ... the objectification and

stereotyping of others ... and, linked to feelings of self-entitlement and legitimacy, its use to satisfy individuals' own needs. ... Studies of brain imagery have found that when power is primed in experimental subjects, 'mirroring' neural processes associated with empathy are impaired. ... In other words, power can literally go to one's head" (pp.433-434).

This study examines how leadership traits, communication styles and gender correlate with policy responses and outcomes – to help fill the gap identified by Medeiros et al. (2022) that “scholarship has so far, to our knowledge, critically overlooked the *micro-level* characteristics of decision-makers” (p.1). This follows Kaarbo's observations regarding excessive self-confidence which, among other characteristics, manifests in “a drive for vindication, impulsiveness and incompetence consequent on inattention to detail and implementation” (p.432). In the case of hypercomplex environments beset by wicked problems, this type of overconfidence can lead to catastrophic outcomes: “The financial crisis is widely acknowledged to have been caused by an overconfidence in scientific tools of risk assessment for each financial product without considering the overall behaviour of the system” (Monkelbaan 2019, p.168).

In an analysis of the British government's communicative and practical handling of the COVID-19 pandemic, Lilleker and Stoeckle (2021) conclude that “all three levels of decision-making – leadership, management and command – suffered from the communication of overconfidence and performative certainty” (p.7).

[2.3.3 Discourse and ideology](#)

A highly complex world of wicked problems requires simplified representations for individuals or groups to make sense of the social world. As an assessment of the complex reality of the post World War I modern world, this was famously described as *stereotyping* in Lippman's *Public Opinion* (1922). The idea of stereotypes to structure, summarise and navigate the social world informs thinking and theorising in the social sciences to this day. Zmigrod's (2022) paper on the psychology of ideology makes explicit reference to Lippmann and his idea of reconstructing a complex environment through simpler models in order to be able to manage it (p.1084). Her observation that “ideologies are epistemically and socially organizing forces” (p.1073) follows a line of reasoning that understands conceptions of knowledge, paradigms, or simply mindsets as cognitive bases for ideologies, which are essentially “stories that capture [human beings'] theories about how the world works and how they should act within this complex world” (p.1072).

Ideology is a social phenomenon, as is communication, as is discourse, as is knowledge, as is mindset. All such social phenomena require an assortment of disciplines to even begin to do them justice in their social constructivist complexity. Social phenomena cannot be adequately addressed in siloed disciplines, but require a multidimensional, multi- if not transdisciplinary approach “that combines a social, cognitive and discursive approach”, as per Van Dijk’s definition of ideology (2006, p.115; see also Koller 2014). The concept of discourse as establishing, legitimating and expressing power in social groups and institutions, and the role of social cognition, knowledge and ideology in the process informs this study’s approach to discourse analysis – especially the distinction between micro (personal), meso (institutional) and macro (systemic) levels of interrelated political dynamics (van Dijk 1997, 2002).

Human cognition and social interaction are inextricably linked. A research design addressing questions of social interaction, such as discourse, therefore needs to reflect this intricacy. Zmigrod’s definition of ideology as “a style of thinking that is rigid in its adherence to a doctrine and resistance to evidence-based belief-updating and favorably oriented toward an ingroup and antagonistic to out-groups” (p.1072) can thus be useful in explaining some of the responses to the various COVID-19 related challenges put to political leaders. Again, this comes down to different conceptions of knowledge and how the world is seen and being made sense of.

[2.3.4 Political leadership and gender](#)

Popular understanding states that men are from Mars, and women are from Venus (Gray 1992), implying fundamentally different ways of thinking and communicating. While this is evidently an oversimplification – see for example the sociolinguistic critique of the Mars/Venus argument in Cameron (2007) – it prevails exactly because it reduces complexity to clear binary categories. The suggestion is that men tend to have a more analytical and logical, if not aggressive approach to problem-solving, while women tend to have a more holistic and emotional, complaisant approach. Such binary stereotypical categorisations, also discussed as *gender-linked language effects* (Mulac 2006; Mulac et al. 2013), have been rejected by researchers across scientific fields as ‘gender essentialism’, or GE (Skewes et al. 2018). In their review of the literature and research on gender essentialism, Skewes et al. conclude that “contemporary science does not support an essentialist view of the sexes” (p.2). Furthermore, they argue, “gender essentialist characterizations of the sexes will be associated with weaker endorsement of the desirability and feasibility of achieving greater gender equality in traditionally feminine and masculine roles” (ibid.). In conclusion, they suggest that “a focus on challenging inaccurate GE beliefs, which may contribute to gender prescriptions, could

potentially be a valuable alternative to unconscious bias training programs. Psychological research is increasingly revealing the role of gender essentialism in promoting and enabling gender inequality” (p.14).

Regarding the performance of female leaders during the COVID-19 pandemic, Soremi and Dogo (2021) argue that gender as an analytical focus “leans toward gender essentialism ... [which] limits the observation of the individual abilities of the women as competent leaders” (p.146). The reflection and critique of gender essentialism is significant in particular in the context of leadership and decision-making in wicked times [...]. If wicked problems are complex, multifaceted, and difficult to solve – therefore requiring innovative and collaborative solutions – and women’s approaches to problem-solving are generally more empathetic and focused on building consensus, seeking out diverse perspectives and involving a wider range of stakeholders, then it follows that female leaders are better equipped to deal with wicked problems. While such a conclusion can be easily rejected as overly simplistic and stereotypical (Eagly and Diekmann 2006), it nevertheless gives a research perspective that allows for exploration and the gathering of empirical evidence. In the early days of the pandemic, by comparing the various discursive styles of political leaders, it became evident that showing compassion, empathy, inclusion and proposing the sharing of burdens was more prevalent among female leaders (Dada et al. 2021). Later studies allow the correlation of leadership performance with public health and economic data, with at least “some evidence that female-led countries exhibit lower numbers of total population-weighted cases and shorter pandemic duration” (Chen et al. 2023, p.27). Those ‘female’ traits align with the Empath archetype (2.5.3) and contribute to a list of characteristics that are empirically explored as metamodern, as opposed to modern or postmodern.

The COVID-19 pandemic provides plenty of opportunity for research in that direction, being seen as a wicked (Angeli et al. 2021) if not super-wicked (Auld et al. 2021) problem, with all types and styles of male and female political leaders, allowing for gendered analyses of behaviour, decision-making and subsequent outcomes not just in public health, but also politically, socially and economically (Johnson and Williams 2020; Bariola and Collins 2021; Dada et al. 2021; Garikipati and Kambhampati 2021; Greig and Hillier 2021; Maaravi et al. 2021; Park 2021; Baider and Constantinou 2022; Bruce et al. 2022). Figure 8 below maps tame (low uncertainty, low urgency) vs wicked problems (high uncertainty, high urgency) against Lakoff’s political categories of the conservative strict father model and the liberal nurturant parent model (1995, 2008), with corresponding leadership styles. These are tested for ‘gender consistency’ in chapter 4 of this study.

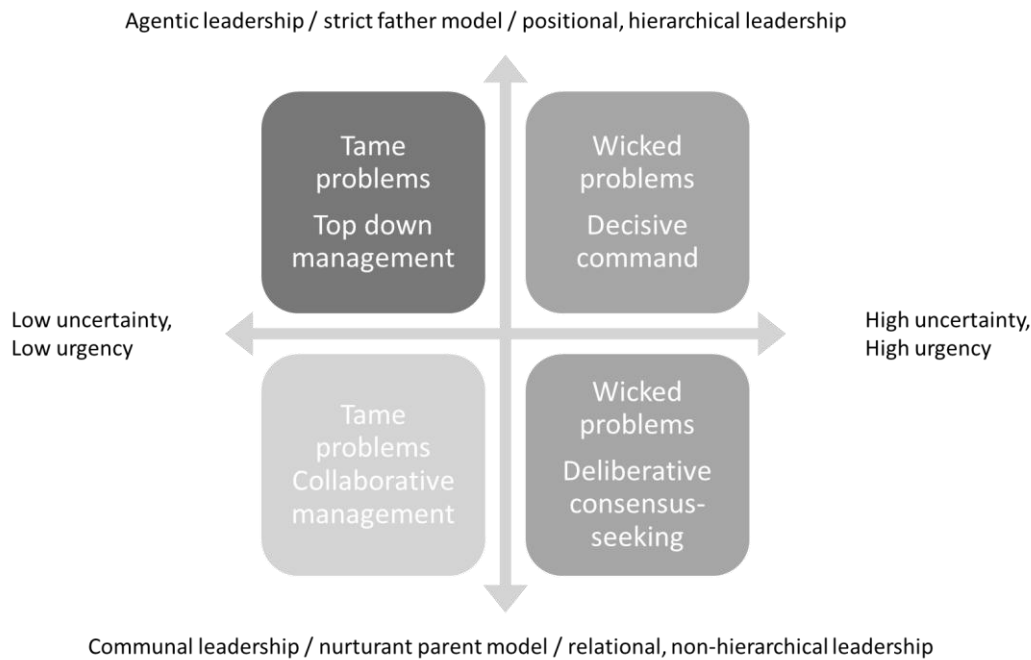


Figure 7: [own design]: Conceptions of knowledge, leadership styles and problem 'archetypes'

Notably, pre-pandemic analyses of wicked problems and leadership, for example in contexts such as crisis management and policy-making (McConnell 2018), climate change (Levin et al. 2012), sustainability (Hull et al. 2020) or armed conflict (Grint 2008; Fraher and Grint 2018), rarely focus on gender, but rather on leadership characteristics that seem fit to address wicked problems. McConnell points to a pragmatic approach “grounded in the argument that we need better knowledge, better consultation, better use of third parties ..., collaborative leadership ..., better steering strategies involving legitimate correction, incentives and enticements, appeals to community values ..., or astute framing of the cognitive, communicative, organisational and political challenges” (2018, p.176). Grint (2008) not only applies the wicked problem framework in his analysis of the D-Day landing on 6th June 1944, but uses the analogy of the open-minded fox and the closed-minded hedgehog, based on the Ancient Greek poet Archilochus’s notion that ‘the fox knows many things, but the hedgehog knows one big thing’ which was popularised by the philosopher Isaiah Berlin in a 1953 essay (Knowles 2023, p.128). Grint explains that “the German hedgehog may well have known more about combat than any other army ... [but] the German penchant for tactical innovation on the battlefield seems to have left them bereft of strategic planning off the battlefield” (2008, p.426). The fox/hedgehog analogy features prominently in literature about prediction and forecasting (Tetlock 2005; Silver 2012) and is also found in research disciplines (Morgan 2018; Hoggan 2019; Hickey and van Zoest 2021) to indicate a juxtaposition of open- and closed-mindedness.

There is no evidence of the fox/hedgehog analogy featuring in academic discourse on leadership and gender. This is surprising given how closely the hedgehog/fox analogy aligns with gender stereotypes, especially in the context of dealing with wicked problems, whereby men tend to focus on specific details when solving problems, while women tend to take into account the broader context and relationships between the different elements.

[2.3.5 Political leadership – Conclusion](#)

The research area of political leadership is a wide-open field with many competing narratives. This study is concerned with political leaders' handling of societal grand challenges (of which COVID-19 is an example). It takes into account all stages of processing, from the understanding of a grand challenge to decision-making, to communication and framing and how that impacts the responses of audiences, which, in turn, impacts outcomes. Political leaders respond to such challenges in different ways at different times under different conditions.

It is posited that crises – as concrete, temporary manifestations of grand challenges – are social constructions (Spector 2019, 2020), and that political leadership is a performative act of competence and confidence (Fairhurst 2009, p.1616). Political leadership is circumstantial and contextual, and leaders are representative of their time in the sense that their judgement and decision-making is grounded in the zeitgeist, in the leading conceptions of knowledge: a political leader at the time of the Spanish Flu will have performed their role under unique conditions which differ from the unique conditions that determine the role performance of a political leader during COVID-19 – irrespective of the fact that in both cases, more than 100 years apart, “health became political” (Spinney 2017, p.112). All political leadership is performative, increasingly so in an increasingly mediatised environment (Hepp et al. 2015).

Classic work by Lasswell (1948), and later MacGregor Burns (1978) points to the fact that self-esteem in leaders is trained from an early age. Educational systems and the educational paradigms of their time are thus critical in shaping leaders' mindsets. This includes the formation and perpetuation of gender stereotypes. Some research into the gender of leaders during the COVID-19 pandemic highlights ‘gender essentialism’ as a bias which stands in the way of acknowledging individual leadership capabilities beyond gender stereotypes (Soremi and Dogo 2021). That is a valid concern which this study addresses by comparing individual leaders' observable behaviour – in communication and decision-making – with subsequent outcomes such as rule compliance, trust, vaccination rates, but also tangible health and economic outcomes such as excess deaths, economic

contraction and recovery, and only subsequently relating the evidence to factors such as ideology, gender or socio-economic conditions.

Conclusions are drawn from the evidence and compared with this hypothesis: if societal grand challenges are wicked problems in the sense that they are complex, multifaceted, and difficult to solve – therefore requiring innovative and collaborative solutions – and women’s approaches to problem-solving are generally more empathetic and focused on building consensus, seeking out diverse perspectives and involving a wider range of stakeholders, then it follows that female leaders are better equipped to deal with such grand challenges.

[2.4 The performance of political leadership – Introduction](#)

Good leadership is the wise application of knowledge from action and learning: “The knowledge of wise statecraft, good cooking, patient-centric medical care, farming, mountain-climbing, child-rearing, and house-building, all embody the melding of knowing and doing. All are based on action” (Stirling and Scoones 2020, p.27). This sounds sensible and common-sensical – so why then does there seem to be so much evidence and discussion of bad leadership – see for example the 20 chapters in Örtenblad’s *Debating Bad Leadership* (2021)? In the context of the COVID-19 pandemic, Germain (2023) analysed examples of narcissistic leadership and identified lack of compassion, limited receptiveness and limited integrative thinking (p.84). Why are these traits so hard to shed, even in light of evidently harmful outcomes? A possible answer is that rather than being ‘reality-based’, this kind of leadership is largely performative: “The ways in which complex economies, climate dynamics or disease ecologies are modelled involves deliberate approaches to creating a calculative order ... part of a performative process of model construction ... the hegemonic acceptance of particular models – whether by bankers, auditors, actuaries, corporate risk managers or early warning administrators – remains a political act, even if it is inadvertent and normalised in everyday practice” (Scoones and Stirling 2020, p.10)

In *The Presentation of Self in Everyday Life*, Goffman (1959) discusses the performance of professional roles, including the medical profession. He talks about the “rhetoric of medicine” (p.105) as a performative act beyond the practical aspects of diagnosis and treatment. Lasco and Curato talk about “performances of public health crises” (2019, p.1) in their paper on medical populism. As every aspect of public life is being mediatised and politicised, health is not purely a matter of domain expertise and rational judgement – perhaps it never was just that, as Goffman’s observation from almost 70 years ago attests. Public health interventions guided by scientific expertise are thus only one side of the coin. The other side is “the sheer reality of pandemic

communication” (Oswald et al. 2022, p.3): the role of traditional news media, the role of social media, the role of scientific experts, the role of politicians and other leaders, the role of word of mouth. At a time when politics has become almost entirely mediatised (Negrine et al. 2007; Lilleker 2014), to an extent where the traditional broadcast transmission of political speeches has been replaced by marketing practices whereby politicians and their advisers “cut those words up to weave them into narratives and interpretive frameworks, which they would articulate for their audiences” (Hallin 2021, p.50), being confronted with a wicked challenge such as COVID-19 was always going to lead to a clash between a performative focus on permanent campaigning, and a practical solutions focus on governance (Lilleker and Stoeckle 2021).

The performance of political leadership includes the performance of political solutions. As Hulme explains, these solutions don’t merely ‘follow the science’: “Climate solutionism, driven by metrics, masks the contested politics and value diversity that lie behind different personal and collective choices—who wins, who loses, and whose values count” (Hulme 2020, p.310).

[2.4.1 The performance of political leadership – social and communicative construction](#)

On the assumption that grand challenges, as well as wicked problems, are

- socially and communicatively “constructed based on actors’ confrontation and interpretation of the problem in concrete action contexts” (Arciniegas Pradilla et al. 2022, p.94), and that
- “Disasters are interpretive fictions” (Remes and Horowitz 2021, p.2) with constructed meanings, and that “Disasters are political. As social constructs, disaster, vulnerability, risk, and resilience shape and are shaped by contests over power” (Remes and Horowitz 2021, p.3),

political leadership facing such challenges needs to be explored as a narrative, discursive construction, and analysed through evidence in language and behaviour. The study of leadership through the various lenses of social constructionism or constructivism (see distinction below) emphasizes the role of societal and cultural factors in how leadership is practiced, perceived and defined.

Leadership as a social construct

In this perspective, leadership is not a personal trait or learned skill, but rather a social construct that is created and maintained through the interactions and perceptions of individuals and/or groups within a given context. In the opening paragraph of his chapter on social constructionist approaches to political leadership in the *Oxford Handbook of Political Leadership* (Rhodes and 't Hart 2014), Grint distinguishes constructivism and constructionism to clarify the latter's proximity to critical theory and postmodern thinking: "CONSTRUCTIVISM has roots in psychology, and especially social psychology, but the origins of constructionism also lie more generally in the discipline of sociology ... and the postmodern world of Derrida ... and Foucault" (Grint 2014, p.1). However, that is a narrow reading that doesn't do the breadth and depth of academic discourse in this field justice.

For example, a study about political leadership must consider the social construction of gender identities as per Butler and others: "The discourse approach to gender draws on social constructionist theory ... which suggests that males and females are not born, or even socialised into a prefixed gender, but they become gendered through their interactions" (Baxter 2009, p.82). Sjoberg (2014) argues that "feminists have suggested that it is important to question the gendered expectations of leaders, the gendered tools that we use to construct our ideas of what a leader is, and the extent to which leadership is a gendered concept" (p.6). Given the evidence of a systematic and systemic overrepresentation of men in leadership roles, this seems a justified and well-established perspective: "the fact that most people who are in power are men is a result, or at least a path-dependent tendency, of expectations of leader masculinity, rather than a cause" (p.8).

Kevin Barge, in his exchange with Dennis Tourish (Tourish and Barge 2010), proclaims that "Life is messy, contingent, and emergent, and resists simple answers. The style of social constructionist research allows us to get at the complexity, contradictions, and paradoxes that constitute the hurly-burly of lived experience in ways that other approaches do not" (p.335). This is instructive as it moves the social constructionist perspective beyond a postmodern critique that often exhausts itself in stating the problem without offering plausible and viable alternatives. In their reflection of social constructionist approaches to leadership research, Grint and Jackson are sharply critical of those approaches: "providing a critique without an alternative is not a position of moral supremacy but moral illiteracy" (2010, p.349). The main takeaway from most explorations of the state of discourse is the need for interdisciplinarity, for the crossing of boundaries, for integration and for approaches that "can help formulate new research agendas that stress the centrality of communicative practices and other symbolic media to leadership. Doing so, we believe, offers the potential for new insights that can only serve to enrich the social constructionist study of leadership" (Fairhurst and Grant 2010, p.198).

Grint evolves this thinking further in his discussion of social-constructionist analysis of political leadership “in terms of its antagonism to ‘essentialist’ and deterministic accounts” (2014, p.1), toward “the role of language, the role of narrative, storytelling, and performance” (ibid.). His focus on the leader as storyteller and the centrality of narrative leads him to conclude that future research might skip generic approaches such as surveys or class and ethnicity statistics and instead focus on how support is built: what narrative and/or identity political actors present in seeking power, and why those might or might not resonate with an audience (Grint 2014, p.7).

This focusing away from the objective and the quantifiable, toward the subjective and qualitative, from the what and how toward the why, is critical for this study.

[2.4.2 The performance of political leadership – communication, rhetoric, metaphor](#)

Political rhetoric concerns the persuasive strategies used by individuals and groups in public discourse, policymaking, and governance. As such, it “touches upon the fundamental activities of democratic politics” (Condor et al. 2013, p.262). This perspective as further outlined in this chapter follows the Euro-American, Western tradition – future explorations of global political rhetoric should also consider non-Western scholarship as described in Melfi et al. (2021). Modern discussions of rhetoric usually refer to its history dating back to ancient Greece, where it was considered an art form that combined persuasive speech and writing with ethical and moral principles. Tileaga (2013) echoes this argument when he explains his approach to political rhetoric to be “in the spirit that Aristotle (trans. 1909) first championed. This is an analytic spirit, where the focus is on discovering ‘the available means of persuasion in each case’ (p. 5)” (p.144). Although Greek rhetoric has a much broader and deeper history, than ‘just’ Aristotle – see for example Worthington’s *A Companion to Greek Rhetoric* (2010) – to this day, Aristotle’s *Rhetoric* (Fortenbaugh 2010) remains a core text in political communication and persuasion, with textbooks on speechwriting (Kjeldsen et al. 2019) and storytelling (Dykes 2020) drawing extensively on the means of persuasion available to the rhetorician: ethos, which appeals to credibility; logos, which appeals to logic or reason; pathos, which appeals to emotion; but also, generally less well known, telos, which appeals to purpose, and kairos, which appeals to the timeliness, the opportune moment of an act of persuasion (Dykes 2020, p.32).

The communication of political leadership

Political rhetoric is thus a toolbox at the disposal of political actors, used to shape and refine their public image, influence public opinion, and help advance their policies. Rather than just relay facts and present rational arguments, political rhetoric enables its user to appeal to the values, beliefs and emotions of an audience. This also means that the effectiveness of political rhetoric is closely tied to the personality and psychology of the person delivering it. This is not to negate a social constructionist approach in favour of traits and personalities, but to add complementary lenses of observation in the mindset of an open and abductive approach (figuring out most plausible explanations for, say, the performance of leadership). If a politician's personal characteristics, such as charisma, confidence, and ability to connect with the audience, impacts how their messages are received and perceived and thus how persuasive they are, then it follows that the study of political rhetoric encompasses not only verbal and non-verbal signals (Charteris-Black 2011; Musolff 2016; Gibbs 2017) alongside social interactions and constructions (Grint 2005), but also biographical information, personality traits and other psychological indicators (Condor et al. 2013; Tileagă 2013).

This raises questions around the contribution of the various elements of political rhetoric to its successful situational and contextual application in persuading an audience: there is ample evidence of confident charismatic politicians captivating an audience and making their messages memorable, even if they lack in substance (Uhr 2014; Antonakis 2017). Whereas a politician who lacks confidence and charisma is likely to struggle to connect with the audience, which makes the perception of legitimate and effective leadership less likely. Other psychological traits, such as a politician's honesty, empathy, and emotional intelligence, also require consideration in the assessment of effective political rhetoric. A politician who is seen as honest, trustworthy and authentic is more likely to gain trust and convince an audience of their ideas. On the other hand, a politician who is seen as unempathetic, inauthentic and dishonest will struggle to connect with their audience, and to be perceived as less understanding of their needs and concerns.

Rhetoric and metaphor in the performance of political leadership

Political leaders declare war much more often, than their nations actually go to war. 'Declaring war' is a popular political metaphor. Poverty, obesity, drugs, crime, or more recently, woke: when politicians declare this kind of war, they refer to the fact that they will make any possible effort, deploy any possible resources, leave no stone unturned in their effort to achieve the stated goal. Using such metaphorical, "exaggerating non-literal language" (Musolff 2016, p.7), Musolff explains,

“brings together different areas of experience and knowledge so that a particular topic is cognitively and communicatively presented in terms of another topic” (ibid.).

Charteris-Black describes how “in democracies, those who aspire to political leadership persuade their followers through their command of rhetoric and their skill in using metaphor” (Charteris-Black 2011, p.1), whereas Lakoff in his classic exploration of polarised political communication, *Don’t Think of an Elephant* (Lakoff 2014) explains “how terms like *tax relief*, *partial birth abortion*, and *death tax* got invented by the right to invoke frames and dominate debates” (Lakoff 2014, p.xiii). Such ideologically loaded frames, as well as metaphorical language are an essential part of the rhetorical toolbox of politicians to characterise themselves and/or their parties, their opponents and/or their parties, and their political agendas. Metaphorical language is employed to direct an audience/the public toward a desired viewpoint (Boeynaems et al. 2017). The use of metaphor as a rhetorical means to persuade audiences of one’s argument can be seen as morally good or bad, depending on the intention of the orator and the effect of their speech: “For writers like Cicero the cultivation of the power of speech was the essence of the citizen’s duty. For others it was the essence of deception and distortion.” (Chilton 2004, p.ix).

Metaphors are powerful “shortcut devices” (Charteris-Black 2011, p.33). As such, they are often employed to simplify complex political contexts (Kermani 2022, p.7). In crisis situations, this can be useful to reduce uncertainty and address negative emotional responses such as fear. However, when simplification is taken too far, it can create a false view of reality (Chapman and Miller 2020, p.1117). When a politician’s natural inclination to simplify complex contexts through rhetorical ‘shortcut devices’ such as metaphoric language or trivialisation meets with a populist’s instinct to downplay the dangers of a pandemic such as COVID-19 (Lorenzetti 2022), the impact can be very serious. Both Brazil, where Jair Bolsonaro joked about the “little flu” (Oliveira et al. 2022), and the US, where Donald Trump predicted in February 2020 that “in April, supposedly it dies, with the hotter weather and that’s a beautiful date to look forward to ... in theory, when it gets a little warmer, it miraculously goes away” (Littlefield 2021, p.366) had among the highest excess death rates due to COVID-19 in 2020 to 2021 (Wang et al. 2022) .

Conceptual metaphor and other tools of political power

In 1980, Lakoff and Johnson introduced the idea of the conceptual metaphor, “principally a way of conceiving of one thing in terms of another, and its primary function is understanding” (Lakoff and Johnson 2003, p.36). Conceptual metaphor theory (CMT) applied to politics posits that political beliefs and values are shaped by mostly unconscious metaphorical associations between abstract

concepts and physical or emotional experiences. Kövecses (2020) widened the concept to include both non-deliberate (or unconscious) and deliberate (or conscious) associations in his *extended CMT*. These associations shape worldviews and reinforce themselves: “Metaphors may create realities for us. ... A metaphor may thus be a guide for future action. Such actions will, of course, fit the metaphor. This will, in turn, reinforce the power of the metaphor to make experience coherent. In this sense metaphors can be self-fulfilling prophecies” (Lakoff and Johnson 2003, p.156). CMT evolved as part of cognitive linguistics, to help us understand how “metaphor provides a linguistic means for mediating between conscious and unconscious mental activities, between cognition and emotion, between ideology and myth” (Charteris-Black 2011, p.24). Charteris-Black uses examples such as ‘the nation is a family’ and ‘politics is conflict’ to explain how such a schema “contributes to a neural connection between short- and long-term memory, and in doing so contributes to the formation of a covert ideology through myth” (ibid.). Charteris-Black’s approach to critical metaphor analysis (CMA, see Charteris-Black 2004) is part of the metaphor analysis framework used in this study, together with the Metaphor Identification Procedure (MIP, see Pragglejaz Group 2007) and the Discourse-Historical Approach (DHA, see Reisigl and Wodak 2016).

If these metaphorical concepts influence political discourse and decision-making, then understanding the processes of how these metaphorical associations can help explain political polarization and the power of political framing. Conceptual metaphors reduce complexity, and this seems particularly relevant with regard to highly complex, multifaceted and interrelated problems (previously defined as wicked problems): “Conceptual metaphors arise whenever we try to understand difficult, complex, abstract, or less delineated concepts, such as arguments, in terms of familiar ideas, such as wars” (Gibbs 2017, p.4). The public discourse on COVID-19 was rich in such conceptual metaphors, in particular the idea of a ‘war against COVID’ (Isaacs and Priesz 2020; Kohlt 2020; Benzi and Novarese 2022; Musolff 2022a).

In *Metaphor Wars*, Raymond Gibbs Jr. acknowledges criticism from a wide range of disciplines and scholars (2017, pp.7-14), and concludes that “it may be ultimately wiser to accept the multiple functions that metaphors have in human life than to proclaim victory for one side, and defeat for the other” (p.16). In the spirit of zetetic abduction, the idea of acquiring metamodern humble knowledge (Josephson Storm 2021), this seems good advice.

Another important element of understanding the impact of political metaphor is Entman’s concept of framing (1993), more specifically the “insights generated by framing, priming, and agenda-setting research through a new, systematic effort to conceptualize and understand their implications for political power” (Entman 2007, p.163). Entman describes framing, priming and agenda-setting as

“critical tools in the exercise of political power” (p.165), the systematic application of which contributes to political bias and polarisation. His definition of bias as “consistent patterns in the framing of mediated communication that promote the influence of one side in conflicts over the use of government power” (Entman 2007, p.166) is echoed both by research evidence from the study of political psychology and partisanship (Jost et al. 2003; Jost and Amodio 2012), and Lakoff-inspired political conceptual metaphor theorists such as Musolff (Musolff 2016; Musolff 2017) and Charteris-Black (Charteris-Black 2011, 2019). In the discussion of political metaphor and media framing, priming and agenda-setting, the trope of ‘liberal media bias’ is instructive: While there is evidence of “the conservative movement’s decades-long crusade against ‘liberal media bias’” (Peck 2021, p.161), there appears to be very little (if any) actual evidence of such a bias (Eberl 2019). In a much-cited study, Watts et al. (1999) showed that the belief in a left-leaning biased media system is in fact reproduced and reinforced by self-referential media coverage of alleged liberal bias, rather than actually biased reporting. Thus liberal media bias becomes an ideologically loaded label, framing news coverage as a skewed perspective on reality, rather than as a neutral channel, thereby guiding inferences about intentional distortion and partisan agency in media practice.

Gender, rhetoric and metaphor in political leadership

A classic study of *Metaphor and Gender in British Parliamentary Debates* by Charteris-Black (Charteris-Black 2009a) “found a tendency for greater use of metaphor by male MPs” (p.157), but also asked for more research “to establish the extent to which rhetorical style is gendered in the various genres of political discourse.” A topic search for “gender AND metaphor” on the Web of Science Core Collections on 2nd February 2023 reveals that more research has certainly been carried out: of a total of 1,396 results, 1,039 or more than 74% have been published since 2010. The COVID-19 pandemic led to a spike in the research of gender and language (Dada et al. 2021; Johnson 2022) in particular from the perspective of leadership (Johnson and Williams 2020; Garikipati and Kambhampati 2021; Maaravi et al. 2021; Waylen 2021; Eichenauer et al. 2022). This is discussed in the next chapter.

To set the scene, however, first some of the research on gender and language before 2020 is to be considered. Kendall and Tannen (2015) describe the field as “an interdisciplinary endeavor undertaken by scholars in linguistics, anthropology, communications, social psychology, education, literature, and other disciplines” (p.639), before pointing to “attention to cultural influences that favor gendered ways of speaking and of negotiating both connection and power” (ibid.). They conclude by highlighting “the importance of culturally defined meanings both of linguistic strategies

and of gender” (p.654). Ahrens introduces a collection of chapters on *Politics, Gender and Conceptual Metaphors* (2009b) by stating that “to date, there has been no contrastive examination of the metaphorical language men and women use in the political arena ... [and] that men and women use conversation rituals differently in the workplace: women to engage, men to win” (Ahrens 2009a, p.1). Her introduction concludes that “both male and female politicians may choose to use femininity and masculinity when it suits their purpose” (Ahrens 2009a, p.5). Section 4.5 explores this strategic agency through the use of metaphorical language by male and female politicians.

The leading research paradigm for the study of language, discourse and the use of metaphor from a gender perspective is poststructuralism, which regards “gendered identities as constructed or enacted through discourses, which in turn are produced through language, text, and social practices” (Appleby 2021, p.465). Appleby’s topic is the discursive construction of former Australian Prime Minister Julia Gillard through “binary gender norms, with the effect of bringing into question Gillard’s capacity to perform as a leader with both toughness and compassion” (p.474), including her now famous speech in parliament on 8th October 2012 about sexism and misogyny, which Appleby frames as an act of insurrection (ibid.). Baxter’s (2018) study of *Women Leaders and Stereotyping in the UK Press* is equally grounded in poststructuralism, more specifically in feminist poststructuralist discourse analysis (FPDA), a theoretical framework to “analyse the relationship between gender, language, discourse, leadership and stereotyping in the newspaper media” (Baxter 2018, p.14). She finds that “newspaper articles do not consistently construct women in negative or restricted ways, but rather, they offer spaces for multiple and contested meanings” (p.3). This form of meaning-making through discourse can be seen as related to Conceptual Metaphor Theory’s approach to the generation of meaning (Kövecses 2009; Kövecses 2017). Critical Metaphor Analysis (CMA, see Charteris-Black 2004; Musolff 2012; Koller 2020a) shifts the primary object of study from human thought to social contexts. Together with the Metaphor Identification Procedure (MIP, see Pragglejaz Pragglejaz Group 2007) and the Discourse-Historical Approach (DHA, see Wodak 2001; Reisigl 2017), CMA forms the methodological basis for the metaphor analysis in this study (see 3.4.8 for outline of methodology and process, and 4.5 for analysis and findings).

Angouri and Baxter’s collection of 55 articles on *Language, Gender and Sexuality* (2021) is the latest collection of academic research addressing language and gender, with notions of “ideologies and hegemonies associated with ‘common sense’” (Angouri 2021, p.2), where common sense refers to established gender roles. As Angouri points out in her introduction, early indications of the uneven gender impact (at the time of her writing in August 2020) of COVID-19 confirm, if not reinforce, the prevalence of a “hegemonic gender order and gender roles” (p.16). The findings in the following

review of COVID-19 related research largely confirms this position. However, the evident success of some female leaders in dealing with crises related to the COVID-19 pandemic provides rich ground for further research and theorising around leadership communication and decision-making.

2.4.3 The performance of political leadership - Conclusion

Starting from Goffman's insight that all human behaviour is a performative act, that individuals engage in social interactions and present themselves in ways that they believe will be most effective in achieving their desired goals (1959, 1971), it is theorised that political leadership per se is performative. It follows that political solutions to grand challenges are also performances. Hulme makes this clear when he criticises "climate solutionism, driven by metrics" (2020, p.310) as a narrative favoured by vested interests, as opposed to "larger and thicker stories about human purpose, identity, duty, and responsibility" (p.311). When considering political performance and rhetoric, therefore, both facts and data evidence as well as values, beliefs and emotions have to be taken into account. In the case of political and public discourse around COVID-19, there is plenty of evidence of tension between the performance of politics, and the hands-on focus on governance (Lilleker and Stoeckle 2021).

Societal grand challenges are political and social constructs, both as abstract long-term issues such as global warming (Chryst et al. 2018), or as concrete, immediate health threats such as the COVID-19 pandemic (Horowitz and Remes 2021). Therefore, analysing political leadership in the context of such grand challenges requires a focus on narrative and discursive construction, collecting evidence in language and behaviour. Grint highlights language, narrative, storytelling and performance (2014, p.1) and suggests to focus research efforts less on quantitative methods and metrics, and more on "the precise nature of the mobilization of the support: what exactly is the story, the narrative, the identity that the contestants develop in their quest for power and why does it resonate—if it does—with the supporters?" (Grint 2014, p.7). This study follows his advice in exploring the dramaturgy of COVID-19 communication by political leaders, with a particular focus on dominant traits, ideology and gender. Figure 9 below lists distinct modern, postmodern and metamodern leadership characteristics, which largely map onto the three main pandemic leadership types of the technocrat (2.5.1), the populist (2.5.2) and the empath (2.5.3). This will be further explored in chapter 4.

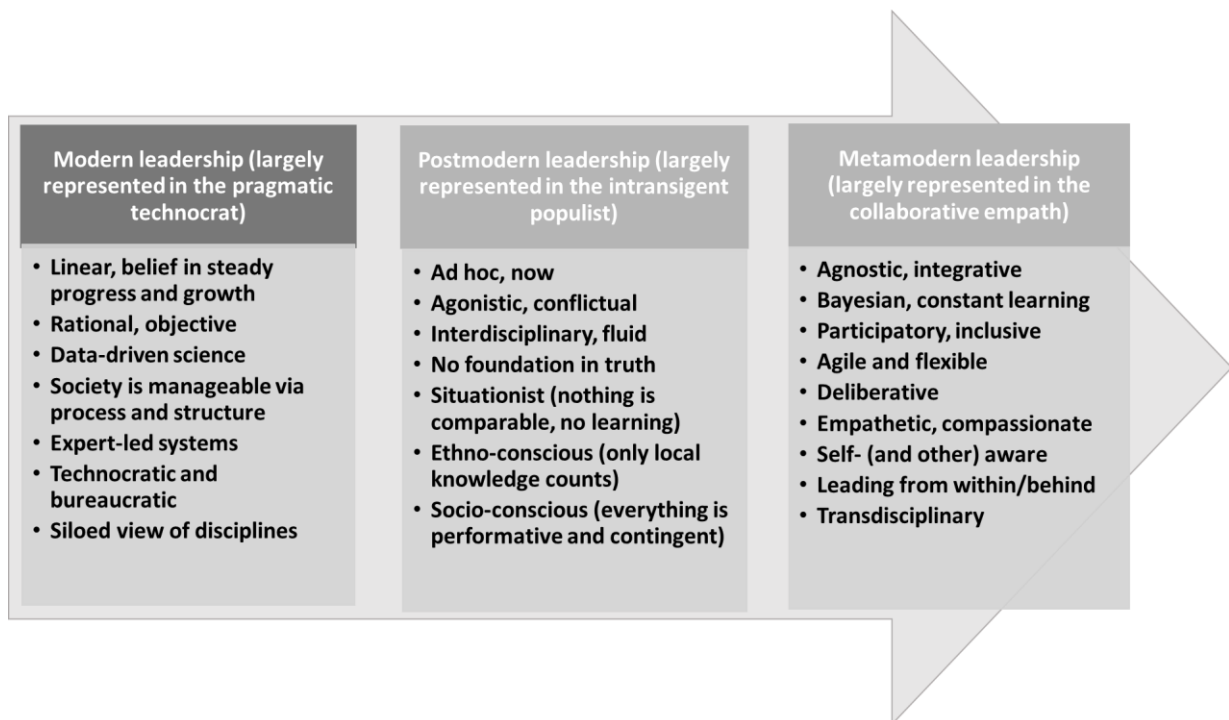


Figure 8 [own design]: Modern, postmodern, metamodern leadership characteristics

[2.5 Effective leadership during the COVID-19 pandemic – Introduction](#)

In the introduction to his sweeping analysis of contemporary mindsets and feelings towards the present and the future, *Doom – The Politics of Catastrophe*, the historian Niall Ferguson declares that “Never in our lifetimes, it seems, has there been greater uncertainty about the future – and greater ignorance of the past” (2021, p.1). Similarly, in his foreword to *Big Picture Perspectives. Metatheory for the Anthropocene* (Hedlund et al. 2023), the philosopher Michael E. Zimmerman highlights that “The tangled and uncertain times in which we live are characterized by palpable urgency, as media bring instantly to our attention far off events that contribute to global instability” (p.xxiii).

Human beings are uncomfortable with uncertainty. We like to know what is coming, and if we cannot know, we try to forecast and predict: “In a world of endless uncertainty, the forecasting of the future began with the very oldest human societies. The Greeks built a shrine to the Oracle of Delphi; the Incas built a temple to the Oracle at Pachacamac. Buddhists, Muslims, Christians, Jews, every religion, every culture: all have had their prophets and their temples, their diviners, their readers of omens, their seers” (Lepore 2020, p.3). The Temple of Apollo at Delphi in ancient Greece, where the blind priestess Pythia was the oracle providing prophetic prediction to help seekers reduce uncertainty, had an inscription above its entrance: Know thyself (Peters 2021). In the context

of leadership and decision-making in the face of uncertainty, the ideas of self-knowledge and self-awareness are critical. In his essay on truth and self-knowledge, Peters concludes the Delphic concept of self-knowledge has “a special basis in nobility of character based on wisdom” (Peters 2021, p.108). Therefore, in the context of a large-scale uncertainty-inducing and -enhancing event such as a global pandemic, effective leadership entails the dynamic generation, sharing of and acting on insight and foresight that comes from reflective self-knowledge and an intellectually humble and flexible mindset, as “the most preferred and effective leader behaviors may shift and evolve as the situation demands” (Johnson and Piccolo 2022, p.174) .

2.5.1 COVID-19 communication and culture

Analysing and reflecting on responses to the pandemic is a time-sensitive endeavour. Judging events and decision-making with the benefit of hindsight is very different from assessing a crisis as it evolves in real time, making decisions and communicating in the best interest of all affected. Dutch prime minister Mark Rutte described this as making “100% of the decisions with 50% of the knowledge” (Prettner et al. 2021, p.6). With the benefit of time and hindsight, it becomes easier to assess processes and understand drivers. For example, there is a pattern of seemingly unforeseeable crises which nevertheless followed warning signs that appear clear and obvious with hindsight analysis (Hindmoor and McConnell 2013). This is interesting for researchers in two ways:

- first, why are signals being missed, and dots not being connected, and second,
- why does there seem to be so little learning from one crisis event to the next?

Answers to these questions can be found on a macro level of society and culture (Pop-Flanja 2020; Gelfand et al. 2021; Pop-Flanja 2021; Ashraf et al. 2022; Van Bavel et al. 2022) , as well as on a meso and micro level of institutional complacency (Douglas and Wildavsky 1982), groupthink (Booker 2020) and cognitive rigidity (Tuckett and Nikolic 2017; Zmigrod 2020; Zmigrod et al. 2021).

Pop-Flanja (2020) applies Hofstede’s cultural dimensions framework (2010; 2011) of uncertainty avoidance, power distance and individualism vs collectivism to the study of public health communication in France and in the UK and suggests distinctive approaches based on scores. For example, the UK’s lower power distance suggests that placing more accountability on individuals (p.71) will yield better compliance. However, as Ashraf et al. (2022) found, countries who score higher on Hofstede’s power distance where quicker and more stringent regarding social distancing measures, whereas countries with higher individualism were more reluctant to implement such policies. Gelfand et al.’s (2021) application of the cultural tightness vs looseness framework in a

global study of COVID-19 cases and deaths leads to a similar finding that “tightening social norms might confer an evolutionary advantage in times of collective threat” (p.135). In this study, Gelfand’s (2018) tight-loose cultures concept (based on Hofstede) is used together with Lakoff’s (2010) strict father – nurturant parent concept and the agentic-communal values concept (Trapnell and Paulhus 2012), to form a two-dimensional matrix to position the twenty leaders and their countries (see section 2.5.6, and chapter 4 for application in the analysis).

All these studies point to a “potent role of national culture in impacting institutions” (Ashraf et al. 2022, p.1), and thus also the role of representatives of institutions: culture shapes pandemic responses and outcomes through its influence on conceptions of knowledge, which in turn impacts information processing, decision-making and communication on the side of political leaders, and compliance and adherence to policies on the side of the public – even though, as Koller (2023) states in a study of a speech by Ghana’s president Akufo-Addo, it is “notoriously difficult to establish a causal relation between public discourse and people’s (lack of) compliance” (p.31). In discourse-analytical terms, this addresses the macro level of contextual situational, institutional, societal explanation (Fairclough 2010, p.133), and will be investigated qualitatively in a three stage (MIP / CMA / DHA) metaphor analysis in section 4.5.

The focus on culture, wicked problem and leadership leads to a number of assumptions:

In tight collectivist cultures, better rule adherence can be expected. Tight collectivist cultures might be better suited to deal with tame problems and a higher level of certainty. Loose individualist cultures, on the other hand, are more permissive and thus rule adherence will be harder to enforce. Yet loose cultures might be better suited to deal with wicked problems and a higher level of uncertainty. Tight cultures might also find learning and adaptation harder, than loose cultures, and might thus find it harder to operate under conditions of increased social complexity, dealing with grand challenges (Kashima et al. 2021). Building on Gelfand et al.’s (2021) findings that tight cultures coped better with the COVID-19 pandemic, Schopf adds a dimension of rational values – fact-based reasoning which aligns with a modern technocratic mindset – to argue that “the combination of tightness and rationality proved to provide the best combination of cultural values to stop the spread of deadly pathogens” (Schopf 2022, p.2947). In the dynamic interplay between culture and leadership, that leaves the question what might be cause, and what effect? The following sections describe the three distinct leadership types as related to the modern, postmodern and metamodern conceptions of knowledge (which are both cause, and effect of culture). As discussed before (and after), the following archetypes are not hard-coded deductive categories, but literature-informed concepts that provide orientation for the research process. In the reality of COVID-management,

every leader will have applied aspects of technocratic, populist and empathetic expertise and leadership. But each will have done so to varying degrees under varying circumstances. The linguistic analysis (see chapter 4, plus Conclusion in chapter 5) will reveal some patterns regarding leadership types, gender, conceptions of knowledge and cultural factors. First however, the leadership types will be described and defined.

[2.5.2 Effective leadership during the COVID-19 pandemic – Type I: The Technocrat](#)

Pragmatic, technocratic leaders can be expected to do well (at least initially) in a global crisis such as COVID-19, since their approach to governance and decision-making is generally collaborative, data- and evidence-based and adaptable to evolving and changing circumstances. Such characteristics make these leaders more adept at navigating complex and rapidly evolving situations, and they can be expected to effectively mitigate adverse effects and to guide societies towards recovery, at least in the short term. One reason for their effectiveness is their reliance on data and evidence to inform policy decisions. By working closely with a broad range of experts and using scientific data, technocratic leaders are likely to quickly identify effective strategies to curb the spread of disease and minimize socio-economic disruptions (Forster and Heinzel 2021). In the case of the COVID-19 pandemic, countries led by **technocrats**, such as Angela Merkel in Germany or Emmanuel Macron in France, saw better outcomes in terms of infection rates and public trust in government (Bol et al. 2021). Results from a Spanish study are also showing that positive attitudes toward technocratic governance have increased markedly during the COVID-19 pandemic (Lavezzolo et al. 2022). As an inherently modern leadership style (see section 2.2.1), technocratic leadership struggles when the complexity and intractability of problems becomes wicked, however. COVID-19, as a *super wicked problem* (Auld et al. 2020) highlights the paradox that successful navigation of wicked problems calls for highly precise instruments without ever providing navigational certainty (Lilleker and Stoeckle 2021, p.3).

Key characteristics of technocratic leadership include

- evidence-based policymaking: a reliance on scientific evidence and data to inform decision-making allows leaders to develop and implement effective strategies based on expert advice. For example, Merkel, who is a trained physicist with a PhD in quantum chemistry, was quick to adopt measures recommended by public health experts;

- clear communication: clear and consistent communication is essential for an effective crisis response. Technocratic leaders are able to explain complex situations and decisions in a way that the public could understand. This fosters trust which in turn supports compliance with public health measures;
- collaboration and international cooperation: technocratic leaders instinctively choose collaboration to achieve common goals. Both Merkel and Macron were active in fostering cooperation among European Union member states and beyond, which helped to improve resource allocation, vaccine distribution, and information sharing during the pandemic;
- adaptability and flexibility: a willingness to adapt policies as new information becomes available is crucial in a rapidly evolving crisis such as the COVID-19 pandemic. A technocratic leader's openness to change allows them to respond quickly and effectively to changing evidence and circumstances.

2.5.3 Effective leadership during the COVID-19 pandemic – Type II: The Populist

Populists claim to represent the interests of 'the people' against 'the elites' (Canovan 1984, 1999; Mudde and Kaltwasser 2017). They are usually good rhetoricians, skilled in applying language for persuasive means. However, similar to the established critique of the relativist Sophists of ancient Greece (Day 2010), populists are seen to favour form over substance, arguing their cases without genuine beliefs. Laclau describes the use of "empty signifiers" (2005, p.69ff.), vague and emotionally charged concepts and terms that can mean any number of things, which enable populists to direct and exploit public sentiment without committing to specific and concrete policies. Lilleker (2018) explains how populists are Sophists (Mackey 2013) in the sense that they present beliefs as fact-based knowledge: "relative truths as opposed to absolute truths" (Lilleker 2018, p.277). Relative truth becomes not only a strategic rhetorical tool, but also a symbol of dominance and strength: "The ultimate gesture of power is to make truth its plaything" (Newman 2023, p.14). In the case of science and scientific argument, relative contingent truth violates established norms and principles: "If we accept the Aristotelian view that science is a specialized, somewhat exclusive practice of theoretical inquiry into certainty, whereas rhetoric treats the contingencies of public life, then the scope of rhetoric, and of any textualist deconstruction, must stop at the gates of science" (Brown 1994, p.231f.).

Since they do not 'stop at the gates', it is no surprise that populism and populist leaders played a prominent and problematic role in the COVID-19 pandemic, especially radical right populists (Rovira

Kaltwasser and Taggart 2022). As briefly touched on in the introduction, established left v right categories are increasingly losing their explanatory weight under the conditions of contemporary polycrises, and while populists are still classified as left or right leaning, there is not direct equivalency. As March (2017), drawing on Mudde and Kaltwasser (Mudde and Kaltwasser 2017), has shown, similarities in kind, such as an anti-elitist stance, are outweighed by differences in degree, and those are driven by ideology rather than a generic populist stance: “host ideology is more important than populism per se in explaining the essence of left and right-wing populisms” (March 2017, p.300). When it comes to ideological mobilisation, the right appears to have stronger drivers through economic anxiety, cultural backlash, nativism, partisanship and polarisation (Mudde and Rovira Kaltwasser 2018). Ringe et al. (2022) identified factors of ‘COVID radicalism’ among populist leaders such as opposition to public health measures and denialism, largely confirming that right leaning populists appeared to be more prominent and more performative during the pandemic (Panizza et al. 2025).

The performance of populist politics at its core is the performance of crisis (Brubaker 2021, p.13). There is ample evidence that the aforementioned conflict between a complex health crisis such as the COVID-19 pandemic, and the tendency to perform rather than execute politics is more pronounced in populist leaders (Joathan et al. 2021; Lorenzetti 2022), who thrive in the performance of crisis (Moffitt 2015, 2017), but are found wanting when confronted with the urgent need to steer a country out of an actual crisis (Ringe and Rennó 2022). Resende and Reinke de Buitrago (2023) analyse populist efforts to ‘own the virus’ in Germany and Brazil against the concept of “spectacularization” – the way in which “populists socially construct crisis by radically simplifying ‘the terms and terrain of political debate’ and advocating ‘strong leadership and quick political action to stave off or solve the impending crisis’” (Resende and Reinke de Buitrago 2023, p.2).

This means populists’ first instinct in responding to a challenge is to perform it into a crisis, rather than take immediate steps to mitigate the problem and protect the population (ibid.). While this works as a universal populist principle with any kind of societal grand challenge, it is particularly pernicious in imminent health crises. In a pre-COVID-19 paper, Lasco and Curato (2019) describe the phenomenon of “medical populism” as a political leadership style that “thrives by politicising, simplifying, and spectacularising complex public health issues” (Lasco and Curato 2019, p.7). In a subsequent paper published during the early phase of COVID-19, one of the authors (Lasco 2020) describes the pandemic responses of three populist leaders: Jair Bolsonaro in Brazil, Rodrigo Duterte in the Philippines, and Donald Trump in the US. Through a thematic analysis of official government channels, social media accounts and news coverage in each country, he explores the following four

features of medical populism (2020, p.1418f.), which align with this study's assumption that populists' core traits can be summarised as *intransigence*:

1. simplification of the pandemic
2. dramatization of the crisis
3. forging of divisions
4. invocation of knowledge claims.

Lasco finds evidence for each of the features at play in each of the countries with each of the leaders analysed, which confirms previous findings that medical populism has become widespread: it is no longer "episodic but a familiar response to medical emergencies" (Lasco and Curato 2019, p.6). From the perspective of a populist leader, then, COVID-19 becomes less a crisis to solve, and more a crisis to perpetuate: "crises do not generate populism, but rather, it is populism that generates crisis" (Resende and Reinke de Buitrago 2023, p.2). For the purposes of this study, the populist leadership style and accompanying traits are closely associated with postmodern conceptions of knowledge (see section 2.2.2).

A number of studies highlight the fact that the characteristics of populism which are generally features of attraction for followers turn out to be disadvantages when faced with societal grand challenges. These include

- disregard for scientific expertise: populist leaders often adopt anti-establishment positions, which also coincide with distrust of experts and institutions. In the case of COVID-19, populist leaders downplayed the advice of public health experts, epidemiologists, and scientists while playing up their own instincts;
- lack of preparedness: the prioritisation of short-term political gains over long-term planning leads to insufficient investment in public health infrastructure; in some cases, this left countries unprepared to deal with a pandemic of this scale;
- communication issues: populist leaders' natural inclination to (over)simplify complex issues, and using strong rhetoric which appeals to their followers meant that mixed messages and confusion about the seriousness of the virus, as well as the effectiveness and necessity of preventative measures like mask-wearing, social distancing, and vaccination were disseminated;

- political polarisation: othering and in vs out group identification divides groups in a way that makes it more difficult to build consensus around public health measures, which in turn leads to greater resistance and diminished compliance with guidelines;
- focus on national interests: populism's penchant for nationalism and chauvinism hampers global cooperation, and thus international efforts to contain the SARS-CoV-2 virus. Were global coordination and cooperation was required, countries competed for scarce resources such as personal protective equipment and later vaccines;
- erosion of trust in institutions: populism's anti-elite and anti-establishment position contributes to the erosion of public trust in institutions. When people do not trust the institutions responsible for public health and thus for managing a pandemic, they are less likely to comply with guidelines or believe in the efficacy of interventions;
- economic considerations: as a default position, populist leaders prioritise economic interests over public health concerns. This includes lockdown scepticism in general, as well as pushing for the relaxation of restrictions despite warnings from health experts. This approach may have led to increased transmission rates and exacerbated the health crisis in the long run.

Conrad and Hálfðanarson suggest that the poor handling of the pandemic by populist governments should have undermined populism and post-truth politics in general, but that “recent events have suggested otherwise” (Conrad and Hálfðanarson 2023, p.2). While the evidence is inconclusive – several populist leaders have lost elections during and after the COVID-19 pandemic – populism does not appear diminished today. Newman describes its post-COVID-19 evolution:

“Post-truth discourse and the populist currents that fuel it and are fuelled by it have become deeply embedded in “culture wars” which have seen, for instance, anti-lockdown and anti-vaccine protests around the world, often endorsed by political leaders and populist parties. There is a growing convergence between right-wing populism and conspiracy theories and movements.” (Newman 2023, p.15)

Musolff's (2023) insights based on US president Trump's framing of COVID-19 confirm this observation. The findings of a recently published study on the role of bias in information processing can shed light on the seemingly counter-intuitive observation that COVID-19 underperformance by populist leaders has not led to dramatic falls in the appeal of populism (both Trump and Bolsonaro lost their re-elections by narrow margins, with strong grip on their voter base): Oeberst and Imhoff (2023) argue that “prior beliefs plus belief-consistent information processing” can explain most human biases (p.1). This is another example of the power of values over facts, which is likely to be

more salient in populist leaders, than in technocratic or empathetic ones. For the purposes of this study, the populist leadership style and accompanying traits are closely associated with postmodern conceptions of knowledge (see section 2.2.2).

[2.5.4 Effective leadership during the COVID-19 pandemic – Type III: The Empath](#)

According to a number of studies, empathetic leadership has proven comparatively effective during the COVID-19 Pandemic (Baiano et al. 2022; Tyner and Jalalzai 2022). This is commonly attributed to a number of core characteristics of empathetic leadership (which differ in degree, rather than quality, from technocratic leadership), including

- effective communication: empathetic leaders tend to communicate clearly, honestly, and openly. They address people's concerns and provide situational updates, which helps create a sense of unity and trust in the government's actions;
- emotional intelligence: empathetic leaders usually display high levels of emotional intelligence. This helps them better understand and manage their own, as well as others' emotions. This can lead to more effective decision-making and crisis management;
- prioritizing public health: empathetic leaders are concerned with the well-being of their citizens and tend to make decisions based on the best interests of the population. This approach helped in the timely implementation of preventive measures, such as lockdowns and social distancing, that contributed to controlling the spread of the virus;
- fostering collaboration: empathetic leaders are more likely to practice and reward collaboration and cooperation, both domestically and internationally. This can lead to more effective sharing of resources, information, and best practices in managing the pandemic.

For the purposes of this study, the empathetic leadership style and accompanying traits are closely associated with metamodern conceptions of knowledge (see section 2.2.3).

[2.5.5 Assessing countries' pandemic performance against leadership types](#)

How do conglomerations of systems, ideologies, leaders, societies, cultures and socio-economic conditions compare with regard to their handling of the COVID-19 pandemic? What differences and similarities in information processing, decision-making, communication, framing, rule-compliance and ultimately outcomes can be identified? And what can be learned for other grand challenges and

future crises? This study propounds that leader personality and characteristics combined with national and local conditions determine pandemic decision-making, communication and thus impact outcomes.

In early 2024, enough time has passed since the peaks of the pandemic to assess performance by a range of outcomes, from infection rates to excess deaths to vaccination rates to economic shrinking due to national lockdowns, travel and trade restrictions to economic recovery (Hale et al. 2021a; Hale et al. 2021b; Hale et al. 2022; Chen et al. 2023; Kerpen et al. 2023). However, cross-country comparisons of pandemic-related performance need to be carried out prudently: conditions before and during the COVID-19 pandemic varied widely between regions and countries (Bollyky et al. 2022; Lal et al. 2022). In this context, Haider et al. (2020), Alhassan et al. (2023) and others found that public health preparedness measures such as the Global Health Security Index (GSHI) are poor predictors of countries' COVID-19 detection, response and health impact. For example, the 2019 GSHI report's 'Rapid response to and mitigation of the spread of an epidemic' table lists the UK at no. 1, Brazil at no. 9, and Germany at no. 28, when the actual pandemic performance showed very different outcomes.

It is also difficult to separate country-specific and global impacts. The comparison of mortality rates themselves is a challenge not only because leaders and countries might feel motivated to underplay the pandemic impact, but also because the chosen metric itself is disputable: the assessment of a COVID-19 death by health care practitioners changed over time as it became clearer how the virus affected different age groups and interacted with other conditions, and scientific consensus came to accept excess deaths - the total number of deaths from all causes during the COVID-19 pandemic that were above what would be expected under normal circumstances according to medical statistical records (Islam 2022).

Leadership addressing societal grand challenges requires decision-making skills that span engaging leadership, fact-based management and decisive command (Grint 2020). The most effective leaders demonstrate deft judgement in employing these modes. A critical measure of effectiveness during the COVID-19 pandemic was excess mortality. Charron et al. (2022) studied the role that social and political divisions played in the political response to COVID-19, and subsequent outcomes measured in excess mortality across Europe. They concluded that heightened ideological differences between political parties lead to worse pandemic outcomes because "first, it is more difficult for governments to build policy consensus with opposition parties; second, government parties give priority to core constituencies' (e.g. business owners) demands over public health concerns and third, because with polarization, policies become more populist and less based on experts' criteria" (Charron et al.

2022, p.8). They test social and institutional trust, mass polarisation, elite polarisation and populist politics and discourse and find that for each of the variables, higher levels coincide with higher excess mortality (p.10f.). This leads to a poetic conclusion: “If Pasteur said that science is the light that illuminates the world, we can say polarization is the darkness that shadows it” (p.20). On the other hand, Lavezzolo et al. (2022) found that attitudes toward technocratic approaches improved significantly during the pandemic, and communication, empathy and flexibility emerged as core competencies in successful leaders (Zeeshan 2023). In this context, Huang (2020) talked about “congressive qualities, such as being collaborative, communitarian, cooperative, curious, empathetic, inclusive, open-minded, modest, other-regarding, and prudent” (p.353), which led to more success during the pandemic and were found more often in female leaders.

2.5.6 The tight-loose culture x agentic-communal leadership matrix

The ten female and ten male leaders explored in this study can be placed in a grid with Gelfand’s (2018) tight-loose cultures concept, and the agentic-communal values concept (Trapnell and Paulhus 2012), which largely aligns with Lakoff’s (2010) strict father–nurturant parent concept, as axes (see further discussion in metaphor analysis section 4.5, as well as conclusions in chapter 5). Figure 10 below shows the positioning of the twenty leaders. In this (at best) indicative model,

- agentic (top half) is mostly an indicator for postmodern populist positions (with mostly technocratic secondary leanings); postmodern populist leaders can be found both in tight, and loose cultures;
- communal (bottom half) is mostly an indicator for metamodern empathetic positions (with both technocratic and populist secondary leanings); metamodern empathetic leaders can be found mainly in loose cultures;
- tight (left half) is an often an indicator for modern technocratic positions (with populist or empathetic secondary leanings), although technocratic leaders can also be found in loose cultures; modern technocratic leaders will tend toward the middle on the agentic-communal axis;
- loose (right half) is often an indicator for post- or metamodern positions, since these are often cultures that have evolved out of older forms and have moved beyond classic modern cultures; postmodern populist leaders will have a more agentic style, while metamodern empathetic leaders will have a more communal style.

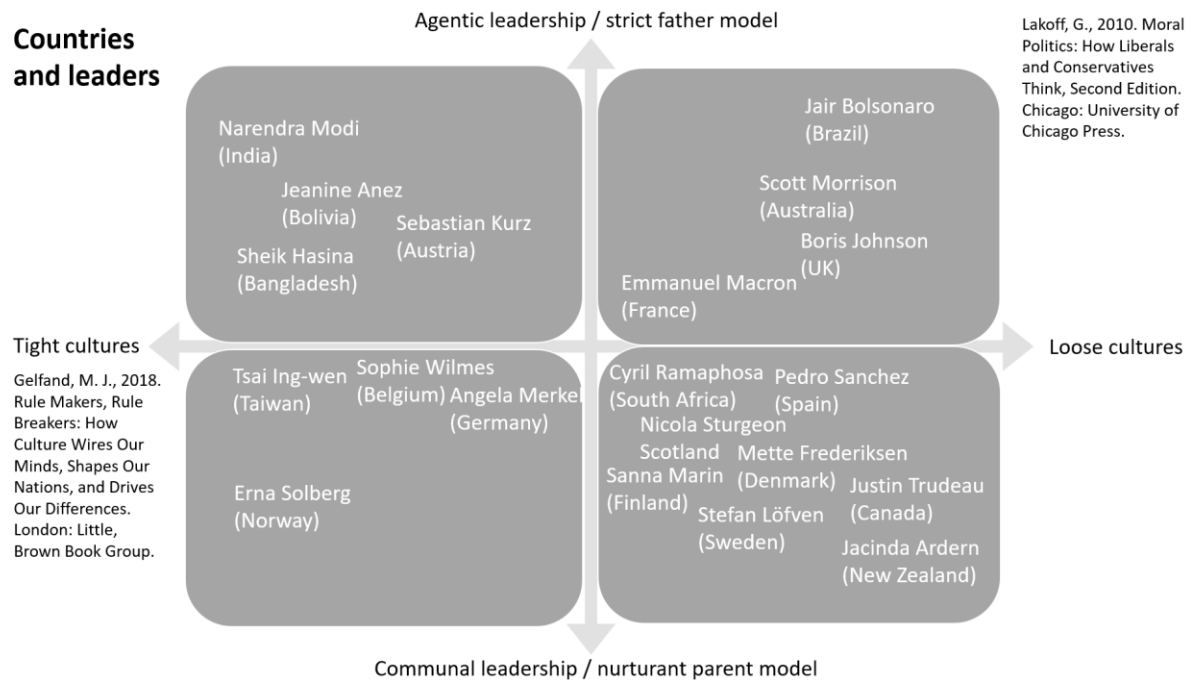


Figure 9 [own design]: Heads of state in analysis corpus, based on country (tight-loose culture) and leadership characteristics (agentic v communal)

Based on their relative positioning in the tight-loose x agentic-communal / strict father-nurturant parent matrix, the ten female and ten male country leaders whose speeches are analysed in chapter 4 have been listed in Table 2 below. The primary archetype serves as an initial orientation, to be tested and refined in the analysis. These are not fixed categories in a deductive approach, but rather provisional, literature- and theory-led hypotheses about how leaders might perform discursively. In the zetetic abductive approach chosen in this study (see chapter 3, especially section 3.3.3), these labels will guide the inquiry through suggestions and assumptions regarding the linguistic patterns the empirical data might reveal, while remaining open to nuance and the potential revision of the assigned labels based on the actual corpus analysis. In a zetetic abductive approach, the researcher moves between (oscillates, to use a term associated with metamodern thinking) such initial typologies, and emerging linguistic evidence, thus refining the understanding of how leadership performance unfolds in discourse. As mentioned throughout this study, none of the seemingly binary and/or exclusive categorisations introduced and applied, regarding gender, ideology, leadership trait, conception of knowledge or logic of reasoning are in fact binary and/or exclusive. On the contrary, they are all contextually contingent amalgams: blended concepts or ideas that can be understood to have a certain meaning in a particular context, which might change if the context changed. Where ideas or concepts in this study still appear as 'essentialist', they will have been expressed in an unintended, i.e. rigid and non-directional way.

A secondary archetype (again chosen by the researcher, based on consulted references) is also listed since very few leaders will fall clearly into one of the three categories. In most cases, they will resemble composite archetypes such as populist-empath, or technocrat-populist. The listed conception of knowledge has been allocated based on primary archetype.

This results in a group of eight primary technocratic modern leaders – five female (Frederiksen, Hasina, Ing-wen, Merkel, Wilmès) and three male (Löfven, Macron, Sánchez). There are six primary populist postmodern leaders – one female (Áñez) and five male (Bolsonaro, Johnson, Kurz, Modi, Morrison), and six primary empathetic metamodern leaders – four female (Ardern, Marin, Solberg, Sturgeon) and two male (Ramaphosa, Trudeau).

Table 2 [own design]: Female and male political leaders and their primary leadership archetypes

Name	Country	Time in office	Archetype (primary)	Archetype (secondary)	Conception of knowledge	References
Jeanine Anez	Bolivia	Nov. 2019 – Nov. 2020	Populist	Empath	Postmodern	(Gustafson 2021; Villarroel Saavedra et al. 2021)
Jacinda Ardern	New Zealand	Aug. 2017 – Jan. 2023	Empath	Populist	Metamodern	(McGuire et al. 2020; Degani 2022)
Mette Frederiksen	Denmark	Since June 2019	Empath	Populist	Metamodern	(Ornston 2021; Ihlen et al. 2023)
Sheik Hasina	Bangladesh	Since Jan. 2009	Technocrat	Populist	Modern	(Ali and Das Gupta 2022; Basak et al. 2022)
Tsai Ing-wen	Taiwan	May 2016 – May 2024	Technocrat	Empath	Modern	(Li and Wu 2022; Yen et al. 2022)
Sanna Marin	Finland	Dec. 2019 – June 2023	Empath	Technocrat	Metamodern	(Dada et al. 2021; Niemikari and Raunio 2022)
Angela Merkel	Germany	Nov. 2005 – Dec. 2021	Technocrat	Empath	Modern	(Jaworska 2021a; Raupp 2022)
Erna Solberg	Norway	Oct. 2013 – Oct. 2021	Technocrat	Empath	Modern	(Arora et al. 2022; Christensen and Lægred 2022)
Nicola Sturgeon	Scotland	Nov. 2014 – Mar. 2023	Empath	Populist	Metamodern	(Soremi and Dogo 2021; Creangă 2023)
Sophie Wilmès	Belgium	Oct. 2019 – Oct. 2020	Technocrat	Empath	Modern	(Bursens et al. 2022; Kornblit 2022)
Jair Bolsonaro	Brazil	Jan. 2019 – Jan. 2023	Populist	Empath	Postmodern	(Bertholini 2022; Nowak 2023)
Boris Johnson	UK	July 2019 – Sep. 2022	Populist	Technocrat	Postmodern	(Andrews 2022; Heaney and Riboni 2023)
Sebastian Kurz	Austria	Jan. 2020 – Oct. 2021	Populist	Technocrat	Postmodern	(Mätzke 2021; Fallend and Miklin 2022)
Stefan Löfven	Sweden	Oct. 2014 – Nov. 2021	Technocrat	Empath	Modern	(Johansson and Vigsø 2021; Andersson and Aylott 2023)
Emmanuel Macron	France	Since May 2017	Technocrat	Populist	Modern	(Alousque 2021; Sadoun-Kerber and Wahnich 2022)
Narendra Modi	India	Since May 2014	Populist	Empath	Postmodern	(Kaur and Mishra 2020; Sambaraju 2022)
Scott Morrison	Australia	Aug. 2018 – May 2022	Populist	Technocrat	Postmodern	(Alyeksyeyeva et al. 2021; Reyes Bernard et al. 2021)
Cyril Ramaphosa	South Africa	Since Feb. 2018	Empath	Technocrat	Metamodern	(Angsal 2021; Hunt 2021)
Pedro Sanchez	Spain	Since June 2018	Technocrat	Empath	Modern	(Terradillos and Gonzalez-Abrisketa 2021; Barroso and Mayoral 2022)
Justin Trudeau	Canada	Since Nov. 2015	Empath	Populist	Metamodern	(Seijts et al. 2021; Soremi and Dogo 2021)

2.6 Literature review conclusion and research questions

From early on during the COVID-19 pandemic, observers claimed that institutional – in particular political – leaders did not demonstrate enough learning, both from recent examples in other countries, and from history more generally (Ashton 2020). Hindmoor and McConnell (2013) come to a similar conclusion in their investigation of the financial crisis of 2008. They posit, however, that post fact criticism often fails to consider that “warning signals that, with the benefit of hindsight, now seem obvious, were actually ambiguous and fragmented because they were received and interpreted within a very different ideational environment” (p.543). That same qualification seems appropriate for any criticism of leadership and decision-making during the COVID-19 pandemic. However, the question remains why the pandemic happened within such a seemingly learning-averse ideational environment.

This literature review addressed questions related to the ideational environment during COVID from four distinct angles:

- First, what are the predominant conceptions of knowledge (or cultural codes) that determine how a crisis such as COVID-19 is perceived, and how, based on such perceptions, it is being responded to?
- Second, how do different leadership types and traits align with conceptions of knowledge?
- Third, are there systematic differences between male and female leadership?
- Fourth, which distinct leadership types can be identified during the COVID-19 pandemic, and how effective were they?

Figure 11 below illustrates how conceptions of knowledge inform and shape conceptions of political leadership, which in turn manifest in the performance of leadership, which leads to more or less effective outcomes. This can be used to describe an effective *leadership archetype* when it comes to addressing a grand challenge such as a pandemic. All the elements are socially, discursively constructed. A triangulating research methodology, combining quantitative and qualitative approaches in a corpus-assisted discourse analysis (CADS – chapter 3: Methodology) allows to make an argument regarding effective leadership performance vis a vis outcomes by analysing leaders’ speeches, categorising their leadership styles and traits based on linguistic characteristics, and then comparing findings with data related to COVID impact (excess deaths, economic impact, trust scores before during and after, etc).

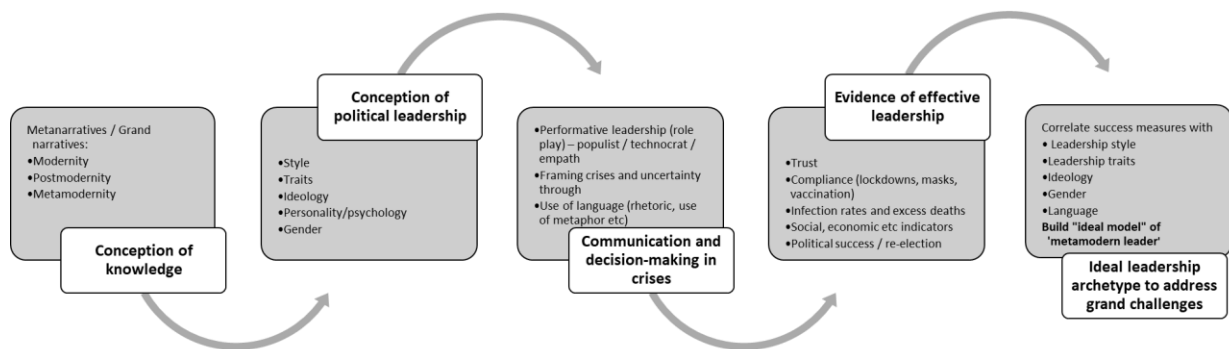


Figure 10 [own design]: Concept map (and arguments for exploration)

The *grand narratives* of modernism, postmodernism and an emergent metamodernism serve as distinct categories for conceptions of knowledge and how they shape the social construction of crises. For example, *manageable uncertainty* is a concept shaped by both modernity and postmodernity: from a modern perspective, it is quantifiable, and there are established processes for its management; a postmodern perspective questions the objectivity of quantification and the neutrality of processes, but not the activities themselves. On the other hand, *unmanageable uncertainty* – a quality inherent in wicked problems (Rittel and Webber 1973) – requires a very different mindset: one that is comfortable with uncertainty, ambiguity and paradox, that values “dialogue over dialectics” (Bowman et al. 2022, p.15) and recognises that the social construction of crises is grounded in values, rather than facts (Hulme 2020).

Unmanageable rather than manageable uncertainty is prevalent in contemporary societal grand challenges, as well as those that can be foreseen, or at least expected. Some leadership types and traits are more comfortable with unmanageable uncertainty, than others. Evidence suggests that being comfortable with uncertainty is not only an indicator for intellectual humility, but is also found in more effective leaders. During the COVID-19 pandemic, it became apparent that female leaders often demonstrated more intellectual humility, as well as more effectiveness in dealing with challenges. This leads to three conclusions and three main insights regarding gaps in academic knowledge.

Conclusions:

- modern, as well as postmodern conceptions of knowledge are more prevalent in male leaders;
- metamodern conceptions of knowledge are more prevalent in female leaders;
- metamodern conceptions of knowledge are more effective in dealing with grand challenges.

Gaps in academic knowledge:

- the relationship between the performance of leadership, grand challenges and their link to grand narratives is underexplored;
- metamodernism as an emerging grand narrative is a new lens through which to assess the performance of leadership vis a vis grand challenges;
- there is as yet scarce systematic evidence of metamodern leadership vis a vis grand challenges.

Metamodern leadership, with characteristics that are distinct from modern and postmodern leadership, aligns more with the empath archetype, than with technocrat or populist. The empath archetype seems more prevalent among female leaders. Empirical research allows the testing of these assumptions.

Societal grand challenges, as well as the performance of leadership, are political and social constructs. Therefore, their social scientific investigation needs to focus on narrative and discursive construction. This can be done through the collection of evidence in language and behaviour. In this study, the collection of political leaders' speeches and their quantitative and qualitative analysis in a CADS (corpus-assisted discourse studies) are applied to answer questions regarding the role of conceptions of knowledge in the manifestation of particular leadership types such as *the technocrat*, *the populist* and *the empath*. Effective leadership during the COVID-19 pandemic can be grouped around insights regarding

- public health communication and subsequent compliance,
- public health metrics such as infection rates, mortality rates, and
- economic performance.

Research questions

In line with the complex and multi-faceted nature of the subject matter and the author's research philosophy (see section 3.2), this study examines open-ended and non-predictive research

questions, rather than specific, testable hypotheses. These research questions focus on language characteristics that can be tested with a CADS approach and that can be linked to the three leadership archetypes outlined in sections 2.5.2 to 2.5.4 – the technocrat, the populist, the empath.

RQ 1: Is gender a factor in the preference of certain word groups?

RQ 2: Do certain leadership types and gender go together in the preference of certain word groups?

RQ 3: Is gender a factor in the preference of certain semantic clusters and use of metaphors?

RQ 4: Do certain leadership types and gender go together in the preference of certain semantic clusters and use of metaphors?

Related to the four research questions above, there are a further three, regarding the relationship between conceptions of knowledge, leader gender and grand challenges:

RQ 5: Do modern and postmodern conceptions of knowledge show gender prevalence?

RQ 6: Do metamodern conceptions of knowledge show gender prevalence?

RQ 7: Are metamodern conceptions of knowledge more effective in dealing with grand challenges?

Only RQ 1 to RQ 4, related to the discursive characteristics of leaders, are addressed directly by the CADS research applied in this study (RQ 3 and RQ 4 also in qualitative metaphor analysis in section 4.5) The questions related to modern, postmodern and metamodern conceptions of knowledge are discussed in the context of qualitative and quantitative findings (section 4.5 'Research Questions addressed), as well as in the context of COVID-19 outcome data (4.6) and the concluding chapter 5.

3. Methodology & Research

3.1 Intro

Discourse researchers, according to Mautner (2019), “share three convictions: that discourse and society are mutually constitutive; that meaning is ‘a product of social practices’ ... and that social phenomena can be usefully studied through the textual fall-out they generate” (p.4). Based on these convictions, this study explores the influence of conceptions of knowledge on public discourse during a pandemic, with a specific focus on risk communication and the performance of political leadership through leaders’ public speeches.

As discussed before, modern positivist perspectives (represented in quantitative methods) and postmodern relativist perspectives (represented in qualitative methods) are brought together in a metamodern integrative perspective: a mixed-methods approach is applied, integrating both qualitative and quantitative techniques to provide a comprehensive understanding of the complex interplay between knowledge conceptions and public discourse. This requires an open and forward-looking theoretical and methodological framework that can be adjusted to changing, evolving requirements.

Automated digital text analysis of a pre-selected corpus of speeches related to the political management of COVID-19 is used to classify and structure large amounts of text quantitatively in order to identify patterns for subsequent qualitative analysis. The design of the study involves a comparative analysis of speeches by 20 national leaders – 10 male and 10 female – to represent public health discourse in varying national and cultural contexts, allowing for a nuanced understanding of a range of conceptions of knowledge and their implications for public health policy interventions to address the challenges posed by COVID-19. Additionally, the study incorporates a temporal perspective, tracking changes in discourse and conceptions of knowledge over different stages of the pandemic. This comprehensive approach provides insights informing effective policy strategies and political leadership during future public health and similar crises.

This chapter first outlines the author’s research philosophy and approach to conducting research, before specifying the theoretical and methodological foundations – a social constructionist perspective that nevertheless accommodates the use of static categories and taxonomies for supporting the combination of a quantitative corpus analysis (CA) with a qualitative discourse studies (DS) approach as first introduced by Partington (2004). To link an understanding of language as constituting social discourse, and constantly evolving with social construction of reality - the dynamic relationship between language and society – the construction of the corpus and analysis design focus on COVID-19 as a global experiment of public policy and leadership communication

with varying local conditions, actions and outcomes, as per Boin et al. (2021, p.107): “For professional observers of politics and government, the COVID-19 crisis has been nothing short of a breathtaking global field experiment in societal resilience.”

Based on the insight that “COVID-19 changed the behaviors of billions of people, but the framing used by the leaders was based on the traditional way societies build their conflict stories” (Benziman 2020, p.247), the chosen research design allows the exploration of leadership and framing, the foregrounding and backgrounding of certain aspects of the COVID messaging, as well as cultural congruence to ensure messages have a desired impact (Kornprobst 2019).

Quantitative corpus analysis and qualitative discourse analysis in the study of political rhetoric also helps with the identification and interpretation of metaphor when the “empirical robustness of the corpus-assisted strand is combined with the insightful depth of the discourse analytical strand” (Gillings et al. 2023, p.50). This study’s research design combines an automated text analysis of a corpus of speeches compiled by the researcher with three distinct and compatible metaphor analysis frameworks, namely the Metaphor Identification Procedure (MIP, see Pragglejaz Group 2007), Critical Metaphor Analysis (CMA, see Charteris-Black 2004) and Discourse-Historical Approach (DHA, see Wodak 2001). DHA serves as the overarching research framework because its core principle of triangulation (Reisigl and Wodak 2016), i.e. examining the problem from a variety of perspectives with a variety of theories, methods and tools, integrates micro-level linguistic data (from corpus analysis and MIP, see sections 3.4.8, 4.5.1 and Appendix) and meso-level rhetorical interpretation (from CMA) with macro-level socio-political and historical contexts (see 4.5.2).

Similar approaches – including the use of Sketch Engine for automated text analysis – were taken by Heaney & Riboni (2023) in their analysis of Boris Johnson’s televised COVID-19 addresses, Filardo-Llamas (2022) in her exploration of war and metaphor in the context of COVID-19, or Busso and Tardini (2022) in their analysis of metaphor use in Italian online newspapers during the pandemic. Collins and Koller (2024) combine an exploration of the Covid-19 Open Research Dataset (or CORD-19) for corpus linguistics, and the #ReframeCovid crowd-sourced metaphor collection (Olza et al. 2021) to explore politicians’ use of metaphor. The CORD-19 corpus is a large collection of research papers related to the COVID-19 pandemic. It is available through the Sketch Engine software (Kilgarrieff et al. 2004; Kilgarrieff et al. 2014), and as of early January 2024, it contains almost 380,000 papers with almost 1,500,000,000 words. A number of CADS studies have been based on the CORD-19 corpus (for example, Riaz Dar 2021; Zhang et al. 2021; Benzi and Novarese 2022; Papp 2022). This combination of mainly quantitative machine assisted corpus linguistics with qualitative discourse analytical methods (including framing and metaphor analysis) serves as a template for this study and

is further explained in section 3.4. Finally, ethical questions regarding the chosen approach are discussed.

[3.2 Research approach and philosophy](#)

“How often have I said to you that when you have eliminated the impossible, whatever remains, however improbable, must be the truth?” Sherlock Holmes to Dr Watson in *The Sign of the Four* (Doyle 2009, p.71)

[3.2.1 COVID-19 as reflection and manifestation of multi-crises](#)

Research related to the COVID-19 pandemic and “the complex, transboundary multi-crises it has generated” (Boin et al. 2021, p.V) demands a philosophy and approach that match the complex challenges and manifold uncertainties at play. Analysing the COVID-19 discourse – a volatile dynamic relationship between government, population and media described by Boin et al. as a “combination of threat, uncertainty and urgency” which “unsettles the routines of political decision-making, policy implementation and public service delivery” (2021, p.5) – through national leaders’ speeches helps with the understanding of leaders’ communication and decision-making. Doing so in the specific context of their time and ideational context – following the methodological framework of the DHA in combination with MIP and CMA to comprehensively explore the use of metaphorical language (see section 3.4.8 for details) – allows to draw insightful conclusions that can help improve communication, decision-making and outcomes in the future. Talking about *COVID-19 discourse* implies a multitude of perspectives, with each perspective representing choices in framing (Benziman 2020), fore- and backgrounding (Kornprobst 2019) of particular aspects of political and societal sense- and meaning-making:

“we never deal with a single Coronavirus Crisis, but multiple Coronavirus Crises exist in which particular material aspects are articulated in certain ways while others are marginalized. ... While the material character of Covid-19 cannot be denied, the meanings attached to its public health consequences and socio-economic impacts can differ drastically.” (Klopf 2023, p.125f.).

[3.2.2 Social construction and metamodern transcendence of modern and postmodern mindsets](#)

This study builds on an understanding that reality is socially constructed (Berger and Luckmann 1966), with diverse and wide-ranging scholarly roots as outlined in Burr's (2015) comprehensive overview. Burr's definition of social constructionism rests on four key assumptions:

- the critical perspective on established and taken for granted knowledge, such as “gender, the normative prescriptions of masculinity and femininity in a society” (p.3),
- the dependence on historical and cultural context, and “particular forms of knowledge that abound in any culture are therefore artefacts of it” (p.4),
- the emergence of knowledge as the result of social processes, hence “what we regard as truth, which of course varies historically and cross-culturally, may be thought of as our current accepted ways of understanding the world” (p.5), and
- the co-occurrence and co-dependence of knowledge and social action is “bound up with power relations because they have implications for what it is permissible for different people to do, and how they may legitimately treat others” (p.5).

As discussed before, concepts of time in history, such as modernity, postmodernity and emerging metamodernity, as well as their more short-term, trend and movement aspects usually expressed as ‘isms’, are themselves subject and object of social construction. In the introduction of her comprehensive discussion of the origins and philosophical influences of the idea of social construction, Burr cautions that “history itself is only one of many possible constructions of events” (2015, p.12).

To explore and comprehend the COVID-19 pandemic as a socially constructed phenomenon, Klopff (2023) proposes a theoretical framework to enable systematising the “socially constructed character of crisis” (p.X) through a stepwise approach of linking crisis identification and decision-making, social constructionism, critical realism and discourse theory. Through the gradual penetration of layers of COVID-19 discourse, it will, in Klopff's words “become evident how ephemeral disruptions merely present an accentuation of the inherently destabilized character of every society” (p.125).

Underpinning this study, therefore, is a sense that the research philosophy and approach informing it ought to provide the scope not just to explain how we got here, but also how we best proceed to restabilize society. Day's (2021) brief discussion of how “dominant cultural paradigms which have defined modern healthcare and healthcare leadership are being replaced by a new paradigm which is increasingly referred to as ‘metamodernism’” points in the direction of an exploration that

acknowledges the ongoing contributions of modern and postmodern mindsets, and equally realises manifold, often unintended, consequences which require forms of transcendence – moving beyond boundaries of imagination, rationalisation and subsequent decision-making – in order to achieve progress. Before discussing the relevance of metamodern theorising in more detail, however, the concepts of grounded theory, mixed methods and critical realism need to be introduced as part of the research philosophy and approach chosen for this study.

3.2.3 Grounded Theory, Mixed Methods and Critical Realism

Grounded theory (Bryant and Charmaz 2019), as a qualitative research method which has gone through both a “modernist phase”, and a “constructionist turn” (Clarke 2019, p.3) and now appears to be entering a stage of humble, critical, engaged pluralism (p.25), is relevant for analyzing discourse as it allows for the emergence of key themes and concepts from the data itself, without imposing preconceived categories (Burck 2005; Ruiz 2009). This approach is well-suited to capturing the nuances and complexities of political speech during a pandemic, enabling a deep understanding of the underlying social processes and power dynamics through a method “where data collection is not a phase that must be finished before analysis starts but might be a permanently ongoing procedure” (Meyer 2001, p.18). The multifaceted complexity of social discourse – ever more so in the face of intractable societal grand challenges - makes a combination of grounded theory with an experimental mixed methods-design (Morse et al. 2021; Kistruck and Slade Shantz 2022) highly appropriate. It also provides a “general roadmap for scholars seeking to dismantle the artificial dualism between theory and practice” (Kistruck and Slade Shantz 2022, p.1479) to develop qualitative and quantitative data driven insights to help find solutions to emerging and evolving wicked social challenges. What is more, grounded theory is also central to triangulating research efforts in “theorizing qualitative data” (Tavory and Timmermans 2019, p.544) combining data-led analytical storytelling with abductive reasoning as a method of inquiry that encourages “innovative and creative novel theorizations” (p.541). Finally, grounded theory can also support the combination of quantitative corpus analysis models with qualitative discourse analysis. Friese (2019) suggests that computer-assisted analysis can provide “a way forward into the future of grounded theory” (p.310), and this study aims to contribute to that process.

The COVID-19 pandemic’s complex, “syndemic nature” (Correia and Willis 2022, p.599) of compounding effects of health, sociopolitical, sociocultural and economic impacts also calls for an acceptance that unequivocal fact-based answers are no longer available (if they ever were) and that instead values-based dynamic interactions between social actors such as politics, science, the media

and the public will generate usually unpredictable outcomes resulting from political discourse (Hulme 2020; Hulme et al. 2020). In contrast, as Correia and Willis (2022) explain, most policy responses to the COVID-19 pandemic were based on a mechanical ‘following the science’ – a positivistic overreliance on scientific guidance to policy-making based on phenomenism (the belief in hard facts), deductivism (singular theory addressing diverse social complexity) and neutrality (assuming science to be independent of social and cultural rules and norms). Medical science cannot provide conclusive answers to questions arising from social, political or economic dynamics. At best, it can productively contribute to public health discourse.

Correia and Willis thus propose critical realism as a “a philosophical standpoint that can enable understanding of the nature of a syndemic and thus support policymaking during crises” (p.601). Critical realism is a concept developed by Bhaskar (2011) which offers a philosophical foundation for understanding the social construction of reality. Critical realism – not dissimilar to concepts of metamodernism – offers a metatheoretical path out of the classic modern v postmodern impasse. Building on Bhaskar’s theoretical concept, Hedlund et al. (Bhaskar et al. 2016; Hedlund et al. 2023) outline the challenge and opportunity to connect metamodern theorizing to “reinvigorate and reinvent our shared sensemaking and meaning making ... in a world gone mad” (Hedlund and Esbjörn-Hargens 2023, p.15f.). Hulme et al.’s discussion of fact- vs value-based ‘sense- and meaning making’ also reflects a critical realist epistemology when they state “how the problems we face are multiscalar and transboundary—crossing several spheres of expertise and knowledge production—and how the knowledge we call upon must reflect this reality” (Hulme et al. 2020, p.1). By adopting a critical realist perspective, a social scientist moves beyond surface-level observations of political speeches and seeks to uncover the deeper causal powers and generative mechanisms that influence the behavior of political leaders during a pandemic. The following section explores how a metamodern zetetic approach to abduction builds on critical realism by treating the search for answers as a never finished humble quest for the best available answer in a highly uncertain, never fully knowable world.

[3.2.4 Humble knowledge and zetetic abduction](#)

In his outline of metamodernism as an evolving form of social theory, Josephson Storm (2021) lists humility, curiosity and abductive reasoning as core ingredients of a new way of generating and applying knowledge as “inference on a spectrum from abduction to prediction” (p.24), from understanding what is, to projecting what might be. He calls this “Metamodern Zeteticism” – an epistemology that “will work in practice to produce humble, pragmatic, situated knowledges” (ibid.),

through continuous, intellectually agnostic, sceptical and non-dogmatic inquiry (Næss 1968). As stages of scientific inquiry and discovery, we distinguish between induction, deduction and abduction. Following Peirce's argument, in his discussion of sociological discourse analysis, Ruiz (2009) describes induction – forming a general principle from particular facts or ideas, and deduction – drawing particular conclusions that logically follow from general premises, as a “logic of scientific verification” (p. 20), whereas “abduction responds to a logic of scientific discovery” (ibid.). This principal difference between verification and discovery is also at the heart of Josephson Storm's argument for Zetetic abduction as the appropriate form of metamodern knowledge generation – to “move past cynical reason and toward emancipatory knowledge” (Josephson Storm 2021, p.234f.).

As discussed in section 2.3, curious humility and empathy are two characteristics of a metamodern conception of knowledge in which the performance of leadership adjusts to an environment of complex, often intractable and contradictory challenges. In such an environment – on the micro level of personal decision-making, the meso-level of organisational complexity, and the macro-level of systemic *wickedness* (Head 2022), the ability to say I don't know (but I will try to find out, and I will listen rather than talk) can become a critical advantage (Schein and Schein 2018, 2021). In recent years, *intellectual humility* – doubting one's own infallibility, as attributed to Benjamin Franklin (Porter and Schumann 2018, p.139) – has become a focal point of psychological leadership studies. When public discourse appears dominated by ideological disagreements, overcoming resistance to considering opposing positions becomes a critical faculty in problem-solving. In its most reduced form, intellectual humility can be described as an openness to learning (Porter and Schumann 2018, p.159). Zmigrod et al. (2019) describe intellectual humility as “essential for avoiding confirmation biases when reasoning about evidence and evaluating beliefs” (p.200). They conclude that cultivating intellectual humility “may be a key endeavour in building more evidence-based, tolerant, and effective discussions about the contested issues that divide and polarize our societies today” (p.207).

Thus the process of Zetetic abduction, or “abductive experimentation” (Kistruck and Slade Shantz 2022, p.1485f.), to obtain and then apply humble knowledge seems a fitting research philosophy in a world of wicked problems. It is not the postmodern dogmatic, always doubting counterpoint to positivistic scientific certainty, Josephson Storm's (2021) “corrosive forms of skepticism” (p.24). It is literally unorthodox in that it invites and encourages considering alternatives, taking the other side, treating data-derived insights as best answers for now (rather than incontrovertible truths). Therefore, societal grand challenges such as COVID-19 are well served by an abductive, that is, sceptical, intellectually agnostic and non-dogmatic, process of inquiry. Both classic induction and deduction with their grounding in fact-based certainty are limiting and have been found to be ill-

equipped to provide workable solutions. Increasingly, incurious, overconfident, intellectually inflexible leaders with a set mode of inquiry (whether bottom-up inductive, or top-down deductive) are found to be incapable of successfully tackling wicked problems:

“‘solutions’ or ‘ideas’ needed to solve grand challenges remain largely unknown at the present time, abduction offers an imaginative and iterative approach to inquiry whereby promising paths can become clearer through each incremental action and reflection on beliefs” (Kistruck and Slade Shantz 2022, p.1482).

Abductive analysis is thus an evolution of grounded theory (Timmermans and Tavory 2012; Tavory and Timmermans 2014, 2019): coding and note-taking as part of the process of systematic empirical research are not done for the purposes of confirmation, but are an act of seeing things from new and different angles. Working with data thus becomes recognizing “emergent puzzles” that go beyond “taken-for-granted inferences” (Tavory and Timmermans 2019, p.541). Inconsistencies and contradictions thrown up by such puzzles requires further research or adjustment to the theoretical underpinnings, or both. Timmermans and Tavory’s “Abductive Research Cycle” (Timmermans and Tavory 2012, pp.179-180) includes inductive and deductive steps on the way to “a new theory, emerging in abductive analysis through the iterative dialogue (both metaphorical and literal) between data and an amalgam of existing and new conceptualizations” (p.180). The use of quantitative corpus analysis to identify patterns in speeches is thus an inductive step, and the use of literature-derived set classifications of political leaders as technocratic, populist or empathetic forms a deductive step in this research cycle on the path toward better understanding. Metmodernism as an oscillation between poles can thus complement iterative abductive reasoning, allowing the inclusion of both inductive and deductive steps.

Abduction is the operationalisation of humble knowledge acquisition, as per Niiniluoto (2018), quoting Peirce: “Deduction proves that something *must* be, Induction shows that something *actually* is operative, Abduction merely suggests that something *may be*” (p.11). If discourse is political, ideological and socially constructed, then it follows that it is open to multiple interpretations. It also follows that discourse analysis needs to take that into account. Due to their social constructionist nature, the exploration of language and discourse are natural fields of experimentation for the acquisition and application of humble knowledge. Metamodern humble knowledge thus also becomes a way to understand the kind of positivistic groupthink that affects so many crisis management processes, with the COVID-19 pandemic only the latest manifestation (Haslam et al. 2021; Mormina 2022) of a major crisis where the response is insufficiently grounded in previous experiences and subsequent learning (Delanty 2021; Davies et al. 2022).

3.2.5 Forward mapping as a result of metamodern humble knowledge acquisition and application

Hindmoor and McConnell (2013) discuss the problem of hindsight understanding through “backward mapping”, when only “forward mapping” can help create constructive learning loops: “From school shootings and nuclear meltdowns to terrorist attacks there is never any shortage of calamitous events that give birth to searches for meaning and catharsis” (Hindmoor and McConnell 2013, p.557), but if we do not learn to ask smarter questions leading us to more relevant insights (Knowles 2020, 2023), these searches remain in vain. To contribute to forward mapping through the analysis of speeches by political leaders during a crisis requires a research philosophy and approach that encompasses questions of knowledge generation in more abstract, epistemological form, as well as more practical, methodological form. Epistemology, the study of knowledge and how it is acquired, is central to understanding the nature of the knowledge produced through the analysis of political speeches. Methodology grounded in research philosophy is crucial in shaping the approach to understanding the complex social and political dynamics at play.

This is why this study combines critical realism and social construction with grounded theory, metamodern zetetic abduction and qualitative-quantitative mixed methods approach to empirical research. Inductive (e.g. salient patterns emerging from corpus data, see sections 4.2 to 4.4) and deductive steps (e.g. literature-led leadership archetypes and mapping metaphors against pre-defined semantic frames, see section 4.5.1) accompany abduction (moving between observed patterns and literature-led hypotheses to uncover discursive constructions open for further refinement) as the overall logic of inference in this study. The aim is to generate and apply humble knowledge (Josephson Storm 2021), an understanding of scientific research and reasoning grounded in intellectual humility (Gregg et al. 2016; Hoekstra and Vazire 2021; Porter et al. 2022b), a concept that correlates positively with a range of cognitive, social and personal variables (Porter et al. 2022b, p.7) and has been found to impact people’s engagement with, and response to misinformation (Bowes and Tasimi 2022). Forward mapping and the generation of humble knowledge are conceptually similar to Goode and Ghode’s (2017) ‘modest’ concept of Critical Futures Studies with the aim of “expanding the repertoire of potential futures available for public reflection ... motivated not merely by curiosity about the future, but also by a sense of urgency, fragility, excitement and hope” (p. 127). This is further discussed in chapter 5. Table 3 below shows “Correlates of intellectual humility” in Porter et al.’s (2022b) review paper on intellectual humility, highlighting positive and negative cognitive, social and personality variables and their (empirically proven, or at least

assumed) contribution to intellectual humility. As shown in chapters 4 and 5, these largely correlate with measurement categories and findings based on the analysed speeches.

Table 3 Correlates of intellectual humility, taken from Porter et al. (2022b, p.7)

Domain	Variable	Direction	Clarity of evidence
Cognitive	Cognitive ability ^{11,38,39,105}	Mixed	Unclear
	Dogmatism ^{9,35,140,141}	Negative	Clear
	Need for cognition ^{9,18,19,39}	Positive	Clear
	Need for cognitive closure ^{19,142}	Mixed	Unclear
	Open-minded thinking/intellectual openness/curiosity ^{2,9,11,19,35,39,43,49,117,118,138,139,143–145}	Positive	Clear
Social	Empathic concern ^{111,146}	Positive	Clear
	Emotional diversity ^{50,120}	Positive	Clear
	Forgiveness of others ^{40,49,50,113}	Positive	Clear
	General humility ^{18,19,138}	Positive	Clear
	Perspective-taking ^{34,49,50,111,112,120,146}	Positive	Clear
	Political orientation ^{9,19,22}	Unrelated	Somewhat clear
	Positive perception of person/disagreement ^{22,37,42,102,103,105,113,138,147}	Positive	Clear
	Prosociality ^{2,40,109,111}	Positive	Clear
	Seeking compromise ^{49,50,112,120}	Positive	Clear
	Social desirability ^{2,19,35,39,49,111,138}	Positive	Somewhat clear
Personality	Agreeableness ^{9,18,19,22,35,40,126,139,146}	Positive	Clear
	Conscientiousness ^{19,22,35,40}	Positive	Somewhat clear
	Extraversion ^{22,35,49,139}	Positive	Somewhat clear
	Neuroticism ^{35,40,49,139,148}	Negative	Clear
	Openness to experience ^{9,18,19,22,35,40,43,49,105,138,139}	Positive	Clear

Thus, humble knowledge attempts to offer insights into the nature of knowledge and the underlying structures of reality generated by language and discourse. The researcher's philosophy is thus a framework for bringing together theory-building and empirical evidence in a way that allows permanent pragmatic adjustment in research practice. A world of radical uncertainty requires us to adhere to the principle that "if we wish to foster theory construction we must be neither theoretical atheists nor avowed monotheists, but informed theoretical agnostics" (Timmermans and Tavory 2012, p.169).

Comprehending COVID-19: manageable and unmanageable uncertainty

When the COVID-19 pandemic, "the third major shock to the global system in the 21st century, following 9/11 and the 2008 financial crisis" (Resende and Reinke de Buitrago 2023, p.1) as well as "the most consequential viral disease outbreak since the 1918 influenza pandemic, and one of the most important turning points in global culture" (Lasco 2020, p.1417), hit the world in early 2020, it almost instantly became a challenge to political leadership styles, personalities and ideologies around the globe. COVID-19 became a huge comparative case study, where every country was faced with the same medical challenge, but conditions varied widely with regard to political systems, political ideology, political leaders, cultures, economies, societies, regional, national and local conditions. Alongside medical and scientific interventions to avoid the spread of a disease and treat the symptoms, public communication is a centrepiece of fighting a pandemic. Perhaps its biggest challenge was the communication of uncertainty (Koffman et al. 2020; Rutter et al. 2020). As discussed previously, uncertainty can be broken into a manageable part which aligns with a modernist epistemology, and an unmanageable part, which does not. When problems of uncertainty are seen through the lens of the VUCA concept (Barber 1992; Selvaseelan 2018), they fall into the manageable category, whereas uncertainty as a wicked problem characteristic (Head 2019; Termeer et al. 2019) falls into the unmanageable category. Within the COVID-19 decision-making under uncertainty discourse, both the VUCA (Worley and Jules 2020; Kumar and Modi 2022; Lang and Sutton 2022) and wicked problem (Wexler and Oberlander 2020; Auld et al. 2021; Grint 2022) perspectives can be found.

Conceptions of knowledge impact decision-making

One way to understand the different epistemologies – or conceptions of knowledge – of uncertainty is to distinguish between a fact-based objective perspective, and a values-based subjective perspective. The mindsets (if not paradigms) that underpin either perspective can be described as

modernist versus postmodernist, and it must be noted that both perspectives are applied to manageable problems, but in very different ways. A key insight into the nature of wicked problems and how to address them is the realisation that neither modernist, nor postmodernist epistemologies offer sustainable solutions: the COVID-19 research to date, and indeed any research into wicked and ‘super-wicked’ problems, offers ample evidence. The question then becomes, what can be learned from the data evidence that will help build a communication and decision-making framework supported by an epistemology beyond the binary dynamic of modernist and postmodernist perspectives? This section of the literature review will look at examples of pandemic political leadership regarding decision-making, communication and outcomes amid a range of political leaders across the globe, in order to identify characteristics of successful and unsuccessful communication and intervention. Three leadership types and ideologies are examined in detail. Though overlapping if not (to a certain extent) converging in reality, they are treated as distinct archetypes, represented by individual leaders:

- the *technocratic* leader: examples include Angela Merkel and Emmanuel Macron (Kneuer and Wallaschek 2022; Roussel 2022)
- the *populist* leader: examples include Narendra Modi and Jair Bolsonaro (Sambaraju 2022; Resende and Reinke de Buitrago 2023)
- the *empathetic* leader: examples include Jacinda Ardern and Justin Trudeau (Seijts et al. 2021; Degani 2022)

Each of these ‘archetypes’ is introduced and defined separately, including their grounding in a particular conception of knowledge that can help explain their reading of the pandemic, as well as decision-making processes and the framing and communication of decisions. Individual leaders’ ‘pandemic performance’ is investigated in detail, including the comparison of outcome measures. This is done by distinguishing three pandemic phases:

- phase I, the early phase, covers January to April 2020 and includes the first COVID-19 wave and subsequent lockdowns;
- phase II, the middle phase, covers May to December 2020 and includes the second wave and subsequent lockdowns;
- phase III, the late or long phase, covers 2021, virus variants, the availability of vaccines, and our ‘learning to live with the pandemic’.

In the conclusion, the three archetypes are compared against a number of success measures.

[3.3 Theory and Methods](#)

“A conceptual framework for your research is something that is constructed, not found. It incorporates pieces that are borrowed from elsewhere, but the structure, the overall coherence, is something that you build, not something that exists ready-made” (Maxwell 2013, p.41)

[3.3.1 Political leadership as discourse](#)

A societal grand challenge such as a pandemic emphasizes the role political leaders play in governance and public communication (McLean and Ewart 2020). Governance involves enacting public health policies, mobilizing resources to prevent infection and spread, as well as dealing with clinical, as well as social and economic outcomes, and generally coordinating government responses to the crisis. Public speeches, on the other hand, serve the purpose of open communication regarding governance mechanisms, policy decisions, and building public trust in order to secure compliance with public health measures such as social distancing or (in extreme cases) lockdowns. Research on the language of pandemic leadership emphasizes the importance of effective communication with citizens, which:

- sets the stage for how major problems are understood and thus responded to,
- strengthens public confidence in government competence, and
- leads to compliance including, where required, behavioural change aligned with key policy measures.

The language used in speeches by political leaders has been found to be associated with factors such as the leader's political affiliations (Watkins and Clevenger 2021), demographic characteristics (Chhokar et al. 2007; Northouse 2019), specifically gender (O'Connor 2010; Wilson and Boxer 2015) and emotional state (Gennaro and Ash 2021). It can influence public opinion and trust (Pérez and Tavits 2022), especially in the context of populism (Fernandes and de Almeida Lopes Fernandes 2022; Chilton 2023). Therefore, during a pandemic, political leaders need to lead through governance to implement effective measures and through public speeches to communicate, build trust, and encourage the necessary actions from the public (Doerr 2021; Goren et al. 2022).

Following Van Dijk's (1997) description of discourse analysis as a form of political analysis, and Fairclough's (Fairclough and Fairclough 2012; 2015) focus on political debate and policy-making in the face of societal grand challenges, political leadership is understood as a particular form of political discourse.

[3.3.2 Political discourse, social construction and societal outcomes](#)

This study does not specifically focus on the processes of governance and decision-making. However, it addresses public health as well as economic outcomes resulting from political actions (Dhiman and Marques 2022; Faghih and Forouharfar 2022; Silva 2022). The main focus is on the political leaders' speeches – how they frame issues, how they use language to achieve desired outcomes.

Political speech plays a significant role in shaping public discourse during a pandemic such as COVID-19. It can influence public perception of public health measures, vaccination, and the social and economic impact of the pandemic. For instance, political leaders' speeches can impact public trust and compliance with protective measures and vaccination campaigns. The language used by leaders can also affect how the public perceives the severity of the pandemic and the need for collective action. Additionally, political speech can address issues of equity and social welfare, highlighting the disproportionate impact of the pandemic on certain communities. However, political rhetoric can also contribute to polarization and misinformation, potentially undermining public health efforts.

Therefore, the way political leaders communicate about the pandemic can have far-reaching consequences for public health, social cohesion, and economic recovery. Thus the focus of this study is on how discourses shape how leaders talk and think, as well as what they do (Wodak 2001, p.66), since discourse is both cause and effect of social, political and economic outcomes. This brings the discussion back to the distinction between fact-based and values-based arguments, and thus the “contingent character” of pandemic discourse (Klopf 2023, p.126) where social constructions of the pandemic and responses to the pandemic reflexively interact. In other words, social constructions of the pandemic cause, and are caused by, responses to the pandemic, and vice versa. Therefore, given the circumstances in which the COVID-19 pandemic occurred – as a “poly-crisis of public health, economy, social cohesion” (Gragl 2022, p.15), an infodemic (Cosentino 2023) in part fuelled by populist conspiracies (Eberl et al. 2021) – calling for a revision of the language management of global public health discourse (Atabekova 2021; Atabekova et al. 2022) is in the public interest.

[3.3.3 Pandemic-syndemic discourse, mixed methods, zetetic abduction and corpus-assisted discourse studies](#)

Political leadership and discourse during a pandemic evolve dynamically. Understanding the pandemic in a syndemic perspective as an interaction between biological and social systems (Fronteira et al. 2021) helps acknowledge the ‘super wicked’ nature of the challenge (Auld et al.

2021), and the paths available: “one in which we can decide to collectively learn from, and generate insights for, managing super wicked problems; or one in which we can repeat the design mistakes of the past” (Auld et al. 2021, p.723). Arguments over the sense- and meaning making of and during the COVID-19 pandemic are also (new and constantly changing) arguments about the production of knowledge (Tavory and Timmermans 2019). A pragmatist grounded theoretical perspective as outlined in the previous chapter helps charting this dynamically evolving space where an “observer views a fluid reality through values shaped by language and multiple perspectives emerging from people’s actions to solve problems in their worlds” (Charmaz 2021, p.157).

It is in this perspective that discourse analysis is identified as an appropriate interdisciplinary, mixed-methods framework, following van Dijk’s (2014) argument that “*discourse analysis* is not a method but a cross-discipline in which a large variety of qualitative and quantitative methods are being used” (p.10). The use of mixed methods, integrating qualitative and quantitative data in a process of triangulation (Fuoli and Bednarek 2022; Altamimi 2023a) allows for a more comprehensive, nuanced and adaptive analysis, considering the complex and evolving nature of the topic.

Montiel et al. (2021) emphasise the significance of mixed methods approaches in understanding the psychology of global pandemic leadership. The authors employ a mixed-methods, corpus linguistics approach, which combines quantitative and qualitative tools to derive shared and unique patterns in leaders’ national addresses. This approach facilitates novel insights into global political rhetoric around the pandemic, offering new directions for understanding pandemic leadership, especially pertaining to the salience and organizing of political rhetoric during the crisis. Their mixed methods approach combines “the strengths obtained through both quantitative and qualitative research toward more holistic understanding of psychological constructs” (Montiel et al. 2021, p.763).

Liu et al. (2023) adopt a mixed methods approach of theory building with quantitative and qualitative analysis to explore political leaders’ populism in their communication styles. The results from both studies lead to propositions explaining how distinct populist political communication styles impact government policy, as well as public adherence to government policy restricting movement.

In a paper on COVID-19 and crisis discourse, Wodak (2021) presents findings “as the result of abductive and comparative discourse-historical analysis” (p. 4). Her call for a “pragmatically oriented theoretical approach” (Wodak 2001, p.64) to critical discourse analysis, with research needing to be “multitheoretical and multimethodical, critical and self-reflective” (ibid.) is less for grand theory, and more for approaches and tools fit for specific problems in specific contexts, again, in the spirit of Zetetic abduction. The chosen approach in this study follows Wodak’s advice. The Discourse-

Historical Approach forms the methodological framework within which Metaphor Identification Procedure (MIP) and Critical Metaphor Analysis (CMA) are applied to find and describe the use of metaphors in national leaders' speeches (see section 3.4.8). Research philosophy is not about right or wrong, but about being more or less appropriate and useful, given intentions, conditions and circumstances. The researcher has to "justify theoretically why certain interpretations of discursive events seem more valid than others" (Wodak 2001, p.65). This chimes with Baker's (2023) methodological and research-philosophical focus on social construction, critical realism and triangulation in an "eclectic approach to research" (p. 19). Baker and other researchers (Mautner 2019; Price 2022; Gillings et al. 2023) introduce computer assisted discourse studies (CADS) "as a theory and as a method" (Price 2022, p.47) which helps bridge qualitative and quantitative approaches to analysing discourse. Mautner (2019) stresses the "constant oscillation between quantitative and qualitative viewpoints, moving back and forth between computer-based discovery procedures and traditional, human hermeneutics" (p. 8). CADS as the core research methodology applied in this study is described further in section 3.3.6.

Another example of an interdisciplinary discourse analytical study is Dada et al.'s (2021) analysis of speeches by male and female heads of state, exploring similarities and differences in language, rhetoric, and priorities expressed by male and female leaders in responding to the pandemic. Their core finding that language is employed strategically and in varying ways to support leaders' intentions to "inspire citizens' compliance with response and recovery measures" (Dada et al. 2021, p.11) is also a key focus area of this study.

In conclusion, the dynamic and multifaceted nature of political leadership during a pandemic, expressed through public speeches, necessitates a mixed methods, interdisciplinary, and triangulating approach. By integrating qualitative and quantitative data, drawing from multiple disciplines, and using triangulation to validate findings, this approach enables a more comprehensive and nuanced understanding of the evolving topic. The examples provide evidence of the effectiveness of this approach in studying political leadership during the COVID-19 pandemic. The cited studies demonstrate the value of integrating qualitative and quantitative data, drawing from multiple disciplines, and using triangulation to ensure a comprehensive understanding of political rhetoric and leadership during the crisis.

[3.3.4 Exploring COVID-19 as a discursive political construct](#)

If it is a hallmark of our present form of modernity that crises have become "a profoundly discursive and narrative construct that legitimises re-definitions of social reality ... a peculiar form of an

imaginary ... that draws on past/present related descriptions to provide a powerful ideological future projection” (Krzyżanowski et al. 2023, p.423), then it becomes ever more crucial to explore global crises such as COVID-19 by focusing on how discourse brings about and impacts social interactions and dynamics. Through language, stories are told and action is encouraged. Language generates realities that it then narrates. Krzyżanowski et al. highlight the Discourse-Historical Approach (DHA) as a particularly appropriate framework to explore the relationship between discourse, power and ideology over time (Wodak 2001; Reisigl 2014, 2017). Wodak (2021, 2022a) applies DHA to COVID-19 discourse, as do a number of other researchers, including Musolff (2022a), Boukala & Serafis (2022) and Radibratovic (2021). A number of COVID-19 studies devise analytical frameworks that integrate MIP, CMA and DHA, for example Efeoğlu Özcan (2022) in a study of pandemic metaphors in Turkish political discourse, or Filardo-Llamas (2022) in a study of metaphor as a mechanism of political polarisation during the pandemic. This study takes a similar approach (see section 3.4.8). Below is a brief outline of the evolution of discourse analysis, from its origins to its latest iterations. This is followed by a description of corpus-assisted discourse studies (CADS) as the overall analysis framework for this study.

[3.3.5 History and terminology of discourse analysis](#)

Discourse analysis (DA) as the systematic exploration of patterns of communication in social life is both a theory, and a method. As a field that has emerged from a social constructionist scientific tradition, it is

“not just a method for data analysis, but a theoretical and methodological whole ... [of] first, philosophical (ontological and epistemological) premises regarding the role of language in the social construction of the world, second, theoretical models, third, methodological guidelines for how to approach a research domain, and fourth, specific techniques for analysis.” (Jørgensen and Phillips 2002, p.4)

As a ‘theoretical and methodological whole’, DA provides a “multiperspectival” (p.4) framework that requires the researcher to assess the various aspects for their appropriateness and usefulness in a given situation. Discourse is the application of language as “a particular way of representing the world (or parts of the world)” (p.143). Since it is socially constructed through language, discourse can be researched through a multitude and combination of disciplines. One such discipline is Critical Discourse Studies, with Critical Discourse Analysis (CDA) as a research method. It is a form of discourse analysis that “supports investigations of how language is used to represent the world and negotiate social identities and relationships” (Collins and Koller 2024, p.103). Wodak and Meyer

(2001) describe CDA as “discourse analysis ‘with an attitude’.” (p.96), where attitude can be understood to mean a political or ideological perspective regarding power relations and inequalities (Charteris-Black 2018, pp.87-89). They further characterise it as a multidisciplinary field bringing together a range of scientific approaches in understanding human communication: “The manifold roots of CDA lie in Rhetoric, Text Linguistics, Anthropology, Philosophy, Socio-Psychology, Cognitive Science, Literary Studies and Sociolinguistics, as well as in Applied Linguistics and Pragmatics” (Wodak and Meyer 2009b, p.1). CDA emerged as a network of scholars following a symposium at the University of Amsterdam in the early 1990s and included, among others, Norman Fairclough, Teun Van Dijk and Ruth Wodak, who remain leaders in the field.

This study draws on a combination of Metaphor Identification Procedure (MIP), Critical Metaphor Analysis (CMA) and the Discourse-Historical Approach (DHA), a version of CDA developed by Wodak (2001) and Reisigl (2014, 2017). The latter forms umbrella for the qualitative research in this study, not only because DHA evolved in the tradition of multidisciplinary discourse analytical frameworks, but also because its method of inquiry is explicitly abductive – in line with the author’s zetetic experimental research philosophy:

“the categories of analysis are first developed in accordance with the research questions, and a constant movement back and forth between theory and empirical data is suggested. The historical context is always analysed and integrated into the interpretation” (Wodak and Meyer 2009a, p.31)

DHA, as part of the broader field of critical discourse studies, emphasizes the historical dimension of discourse. It examines how political discourse is shaped by historical events and how it, in turn, influences those events. This approach is particularly relevant for analysing political communication, as it considers both the immediate, and longer-term impact of political discourse on society and politics.

As mentioned before, DHA has been applied in a number of COVID-19 related studies, and the research design for this study draws on those cases. Political discourse analysis (PDA) is also an analytical framework within critical discourse studies (van Dijk 1997; Fairclough and Fairclough 2012). PDA explores the social, political, historical, and cognitive context in which discourse occurs. It addresses power relations, the role of discourse in shaping society and culture, and the ideological work performed by discourse. For the purposes of this study, PDA is regarded as included in DHA: all COVID-19 related discourse is regarded as political, and therefore DHA and PDA covers the same ground. For recent discussions of PDA, see Dunmire (2023) and Fetzer (2023). Critical metaphor analysis (CMA) and political metaphor analysis (PMA) are further discourse analysis frameworks,

focused on the use of metaphor as a key rhetorical device in political discourse (Charteris-Black 2009b; Charteris-Black 2011; Musolff 2016). Metaphor analysis is grounded in Lakoff's (Lakoff and Johnson 2003; Lakoff 2006) conceptual metaphor theory (CMT). ... The use of metaphor in COVID-19 discourse – as well as the emergence of neologisms (Atabekova et al. 2022; Klosa-Kückelhaus and Kernerman 2022) – is a core area of linguistic research dedicated to the COVID-19 pandemic (Peng and Hu 2022; Alkhamash 2023). The identification, categorisation and contextualisation of metaphors in COVID-19 discourse in this study is done in four stages:

- first, corpus linguistics to identify language patterns;
- second, MIP to find metaphorical expressions in the dataset;
- third, CMA to interpret the use of metaphors as rhetorical devices; and
- fourth, DHA to explore findings as discursive strategies in forming and managing social and political realities.

The constituent parts of the empirical research design are outlined in the following sections.

3.3.6 CADS as theory and method to study political leaders' COVID-19 discourse

The generic term CADS – for Corpus-Assisted Discourse Studies, as coined by Partington (2004) to denote the amalgam of computer and software supported largely quantitative corpus linguistics with largely qualitative discourse analysis – is used to describe the overall research methodology applied in this study.

CADS is a relatively young and fast evolving field (not least through digital progress via availability of more processable content, hard- and software innovation). As a mark of its maturation, it now “boasts the usual paraphernalia of consolidation” (Gillings et al. 2023, p.3) such as a dedicated peer-reviewed journal - the *Journal of Corpora and Discourse Studies* was launched in 2018 – conferences (i.e. www.uibk.ac.at/congress/cads2024), handbooks (Friginal and Hardy 2021) and monographs (Gillings et al. 2023). Mautner (2019) explains “that the moment when an ‘approach’ – usually code for a combination of theory, method, and mindset – morphs into a handy acronym also heralds the birth of a shared scholarly identity” (p.2). She states that so far, CADS has “managed to avoid the worst excesses of academic tribalism” (ibid.) – a basic requirement for a multidisciplinary research approach aligned with metamodern Zetetic abduction as its core method of inquiry which aims to contribute to pragmatic, humble knowledge rather than adhere to positivistic principles of academic excellence. Mautner advocates “using methods that are as rigorous as necessary *and* as ‘porous’ as possible” (p.9). The research design described in the next chapter attempts to follow that advice.

[3.3.7 Corpus linguistics](#)

Corpus linguistics (CL) is a collective term for research that aims to find and quantify patterns in the use of language through the exploration of large content sets (corpora). Increasingly, such exploration is conducted digitally, both on the corpus building side, and the corpus analysis side. CL applies quantitative and qualitative methods to explore a pre-defined corpus. For the purposes of this study, a corpus is understood to be a systematic collection of texts, selected according to criteria developed based on the research questions a study is aiming to address.

While the following will discuss the use of computational methods in corpus linguistics, it must be noted that there is criticism and concern regarding a lack of interpretive depth and context, as well as methodological transparency regarding automated tools, among other points (see for example Baker 2023; Baker and Collins 2023; Brookes and Collins 2023). Software-assisted text (i.e. corpus) analysis is an array of methods which includes natural language processing, quantitative and qualitative text analysis. Natural language processing (NLP) is an application of artificial intelligence that enables software to meaningfully process and manipulate human language. NLP enables software to perform language based tasks such as translation, text analysis, speech recognition, or prompt response. The focus of this study is text analysis, which starts by breaking down texts into smaller units such as sentences (syntactical units), words (linguistic units), tokens (character sequences which form a unit of analysis in NLP) and lemmas (base forms of words). The method most relevant to this study is part-of-speech (PoS) tagging, a form of “automatic grammatical annotation ... [which] assigns each token in the data to one of a set of grammatical class categories” (Collins and Koller 2024, p.78). These grammatical category codes (for example, noun, verb, adjective) enable linguistic analysis software to disambiguate identical word forms (for example ‘text’ as noun versus verb), distinguish inflected word forms (for example, speak – speaks – speaking – spoke), and generally transform raw text into enriched data through which expert software can perform

- word frequency counts,
- concordance analysis (showing the use of a word or phrase in context),
- collocation identification (words occurring together to form a specific meaning) and
- keyword analysis (identifying words and multi-word items that occur with statistically higher frequency in a target corpus compared to a reference corpus).

Corpus linguistic analyses of parts of speech enable and facilitate the kind of linguistic investigation that van Dijk (1997) discusses as central to political discourse analysis: lexical or semantic analysis, syntactical analysis and rhetorical analysis. This is further outlined in section 3.4.

This study uses Voyant Tools online software (Alhudithi 2021) for the initial corpus analysis stage: calculating average sentence length per leader, assessing readability based on Coleman-Liau index provided in Voyant Tools (for an explanation of readability indices, see Szmuda et al. 2020), and generating word clouds for an initial visualisation of linguistic patterns.

The main analysis tool for this study is the Sketch Engine text processing and analysis software (Kilgariff et al. 2004; Kilgariff et al. 2014), which includes tagging software. This simplifies the process of turning a raw text into an analysable corpus: when texts are loaded into Sketch Engine to generate a new corpus, tagging is an integral part of the process. Sketch Engine is a “toolbox for linguistic discovery” (Kunilovskaya and Koviagina 2017) with a user-friendly interface, providing a range of functions to explore large amounts of texts through keyword lists, keyword in context (KWIC) concordances, statistical methods to analyse single or multi-word frequencies, explore patterns of co-occurrence and collocation, and allowing the visualisation of similarities and differences within and across corpora (Kilgariff et al. 2014; Kunilovskaya and Koviagina 2017).

In addition to the above, the Perplexity AI platform (commercial PRO version) was used for the calculation of [Z scores, see appendix for full list] and for an initial MIP methodology-based selection of metaphors in the corpus (see MIP analysis table in appendix, and description of process in section 4.5.1). While the academic use of Large Language Models (LLMs, which Perplexity AI is based on) is set to increase significantly in a short period of time due to their unprecedented ability to process, analyse and generate textual data on a huge scale (Demszky et al. 2023) – this will include corpus linguistics (Brezina 2025; Davies 2025) – its use in this study is limited to the calculation of statistical significance for distance measures (sections 4.3 and 4.4) and an initial identification of metaphors in the corpus (section 4.5.1). For a discussion of continued shortcomings as well as opportunities of LLM based metaphor identification applying the MIPVU protocol, see Reimann and Scheffler (2025). For a discussion of LLMs in the context of corpus linguistics, specifically the #LancsBox X free software tool, see Brezina (2025) who concludes that while computational technology will increasingly support and enhance research processes, “it cannot replace the crucial role of the human analyst who provides interpretation, guided by tools ... Understanding the meaning and purpose of the analysis is thus something that should be reserved for the human analyst” (p. 89).

[3.3.8 Discourse analytics](#)

The understanding of CADS as “the examination of textual data, applying a corpus linguistic methodology, to explore the two-way relationship between discourse and society” (Gillings et al. 2023, p.5) puts emphasis on the social impact of discourse. In addition to the fast-growing capabilities of automated digital analysis, this requires commitment “to the human-led investigation of those discursive phenomena which (at present at least) are beyond the reach of automated analysis” (p.7). The strength of this approach lies both in its bringing together a range of theories, methods and mindsets in an integrated automated-human, quantitative-qualitative research process, and in allowing various research designs to support various methods of inquiry. Cameron and Deignan (2006) demonstrate how a CADS approach can support metaphor analysis in a stepwise approach of applying an “emergentist framework that combines the linguistic, the cognitive, the affective, and the socio-cultural” (p.686). Such an approach does not look for ultimate answers, but instead seeks to ask better questions based on the observation of patterns, and continuously adjusts the process based on findings: “Prediction and explanation are replaced by the comparison of descriptions of system behaviour and a search for patterns of change that may recur” (p.687). This is echoed both by Mautner’s (2019) call for a continual moving between quantitative and qualitative perspectives, between computer-driven pattern finding and traditional human interpretation and by Wodak and Meyer’s (2009a) explanation that discourse-analytical processes “proceed abductively, i.e. oscillate between theory and data analysis in retroductive ways” (p.19). Demmen et al. (2015) investigate violence metaphors in cancer and end of life conversations through the combination of quantitative semi-automated corpus methods to identify potential metaphors with manual qualitative analysis by examining concordance lines. For a general introduction to CADS approaches to metaphor identification and analysis see Partington (2008; 2013), but also Baker (2023, pp.214-217).

Closely aligned with this study’s approach and design is Altamimi’s (2023b, 2023a) research which demonstrates the strengths and challenges of combining the tools of corpus linguistics with the methods of discourse analysis in a triangulating, ‘back and forth’ approach to scientific inquiry. His approach to analysing the WHO’s discursive practices in the context of COVID-19, combining corpus linguistic software with qualitative text analysis methods and DHA as the discourse-analytical method of choice, therefore informs the research design choices discussed in the following section.

Alongside the manifold benefits and opportunities of combining software-assisted corpus linguistics with discourse-analytical methods, there are also challenges and pitfalls (for an overview, see

Gillings et al. 2023, pp.45-49) – not just in the risk of over-relying on automated data outputs, but also – despite the exponential growth of data volumes and analysis speed – in the fact that all sciences addressing social issues remain fundamentally inexact. Mautner (2019) points to the “opaque and multi-layered nature of the link between language and society”, which means that despite a researchers’ best efforts, “Social cause and linguistic effect – or linguistic cause and social effect – are fiendishly difficult to match up” (p. 4). In the case of the COVID-19 pandemic, there is a range of relatively timely outcome metrics that can be correlated with public health communication and policies by political leaders over time, such as excess deaths, economic decline or growth. However, this note of caution is to be heeded throughout: “we must disabuse ourselves of the notion that any output, whether generated manually or by a machine, ever speaks for itself. The data does not speak; only researchers do.” (Gillings et al. 2023, p.49).

3.4 Data collection and analysis framework

“I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail” (Maslow 1966 p.15)

“In order to ‘do’ CADS, you do not have to ‘be’ CADS. It is a set of methods, not a religious order.” (Gillings et al. 2023, p.8)

3.4.1 Research design – general considerations

Baker (2023) discusses the choice of topic as a critical first step in a CADS project. Motivation usually stems from the researcher’s personal interest, but the topic should also matter to “both academics and non-academics who are affected to some extent by the topic” (p.31). Baker also mentions timeliness and finding the right balance between a trending topic and something that will “stand the test of time” (p.32). Equally, a CADS topic should have social relevance, and it should not be ‘over-researched’, thereby undermining the purpose of increasing scientific knowledge through the originality of the research. The choice of topic, content, theory and methods all add to this. The COVID-19 pandemic as the overall topic, while heavily researched, provides sufficient angles to ensure originality. The main interest here is in how political leaders across the globe frame pandemic issues in addressing the population in their respective countries through public speeches.

And while there are many studies exploring the discourse involving the COVID-19 pandemic, including political leadership in general (Jaworska and Vásquez 2022; MacKenzie and Garavan 2023), populism (Bobba and Hubé 2021; Ringe and Rennó 2022) and gender differences (Dada et al. 2021; Wilson and Newstead 2022), there is at present no study that explores the speeches of ten male and ten female heads of state across the globe from the beginning of the pandemic into 2021, allowing both for a comparative analysis of discursive characteristics, and of outcomes which can be traced back to, and in some case correlated to, discourse and policies on national as well as global level. Such outcomes include public health outcomes – for example, infections (Barber et al. 2022), mortality rates (Team 2022) and excess deaths (Islam 2022), and vaccinations (Watson et al. 2022); social, cultural and economic outcomes (Faghih and Forouharfar 2022; Rana and Govender 2022), but also measures of public trust – how they impact public compliance with restrictive measures (Lenton et al. 2022; Belchior and Teixeira 2023; Casey 2023), how they are affected by political style and policy (Charron et al. 2022; Zahariadis et al. 2022), and how they might have changed in the course of the pandemic (Gozgor 2022; Zaki et al. 2022; Valentini et al. 2023). The collection of such data and the description and interpretation of findings needs to consider different degrees of correlation and dependence between the performance of political leadership and public response and opinion, and the performance of political leadership and health, economic or socioeconomic

outcomes: in the case of the former, the correlation is likely to be stronger as for the latter cases, there are more intervening and confounding variables at play.

The research design for this study considers Mautner's five CADS research design challenges (2019, p.5ff.):

“(1) Finding the right fit between the research question(s), data, method and the underlying theory.

(2) Preventing analytical tools from dictating the research process.

(3) Maintaining the distinction between quantitative and qualitative tools.

(4) Ensuring that empirical claims are commensurate with the representativeness of the data.

(5) Avoiding the misinterpretation of findings.”

It also follows Baker's (2023) seven stages of analysis (p.42-47):

- Stage 1. Groundwork: What are my initial research questions? What should go in my corpus?
- Stage 2. Description: What aspects of language are frequent or distinctive in the corpus?
- Stage 3. Comparison: How is language use different or similar in different parts of the corpus?
- Stage 4. Interpretation: What is the function of the language patterns identified?
- Stage 5. Explanation: Why do these patterns exist in the corpus?
- Stage 6. Reformulation: What additional questions can we ask of the corpus?
- Stage 7. Critique: Is there a problem and how can it be resolved?

In practice, this conceptually iterative setup becomes more of a cyclical exercise (Baker et al. 2019, p.33), in line with suggestions that a researcher oscillate between quantitative and qualitative approaches on their investigative journey (Koller and Semino 2009; Mautner 2019, p.29).

3.4.2 Technology advancements and CADS

The availability and accessibility of digital content has increased enormously in recent years. It continues to do so, if anything, at accelerated pace. Together with equally enormous performance improvements in data storage and process, this has pushed the limits of what is possible in computer-assisted text analysis and CADS. In his 2006 monograph on *Using Corpora in Discourse*

Analysis, Baker described corpora as consisting of “thousands or even millions of words” (p.2). The 2023 edition talks about very large reference corpora in multiple languages available in the Sketch Engine tool with billions of words, “many containing texts that have been scraped from the World Wide Web” (p.61).

The broad availability of generative AI tools in the wake of the ChatGPT launch in November 2022 will further enhance and transform this space: where reflections of text volumes in CADs went from thousands to millions to billions in the course of less than twenty years, large language models – deep learning algorithms trained on huge web-crawling datasets that perform natural language processing tasks such as text recognition, translation, generation or sentiment analysis (Kalyan 2024) now have billions of so-called parameters which contain the knowledge, linguistic patterns, and understanding of human language acquired from large training datasets (Shanahan 2022). In the case of GPT-3, which powered the initial version of ChatGPT, the model was trained on “hundreds of billions of words” (Rudolph et al. 2023, p.3). This equates to 175 billion parameters, “100 times bigger than its predecessor model, GPT-2” (Kalyan 2024, p.8). Due to the “exponential upscaling” capabilities in this area, GPT-4, launched in March 2023, is estimated to run on about 100 trillion parameters, “about 500 times more than GPT-3, thus approaching the number of neural connections in the human brain” (Rudolph et al. 2023, p.3).

This is both incomprehensibly incongruous, and critically relevant for all forms of automated content-processing-based research: CADs evolve through the advancement of technology and techniques, and already there is “the risk of data ‘guzzling’” and concerns about “an indiscriminate ‘all you can eat’ approach to corpus building” (Gillings et al. 2023, p.47). However, the advancement will continue and as research by Karjus (2023) illustrates, the “unprecedented opportunity to scale up data analytics in the humanities and social sciences, augmenting and automating qualitative analytic tasks previously typically allocated to human labor” (p.1) is already being taken up by researchers leveraging LLM capabilities for mixed methods, multidisciplinary, multilingual linguistics studies across

“linguistic and discourse analysis, lexical semantic change detection, interview analysis, historical event cause inference, detection of political stance, text and idea reuse, genre composition in literature and film; social network inference from text, historical text mining, automated lexicography, missing metadata augmentation, and multimodal visual cultural analytics.” (ibid.)

Critical perspectives, such as Mautner’s (2019, 2022), highlight epistemological concerns: how can we be sure and ensure that what we know is valid? How do we ensure that the quality of scientific

research meets the established requirements of scientific rigour, especially in areas of accelerating technological advancement? With LLM-based ‘chat clients’ and ‘agents’ such as ChatGPT, we know the inputs (prompts) and outputs (e.g. text generation), but not the mechanisms that connect the two (for a critical assessment of using LLMs in psychology, see Demszky et al. 2023). Mautner advocates “critical reflexivity and healthy scepticism” (2022, p.259) regarding CL and CADS. The relationship between language, speaker and audience is complex. To better understand it, technology can only ever be a tool for the researcher’s craft: “To unpack the intricate connections between text and context, we will always need a variety of methods as well as creative, joined-up thinking to integrate them” (p.259f.). Again, this calls for an approach of open-minded critical, reflective inquiry in advancing both theory and data-led insights in a dynamic process: the generation of humble knowledge through an iterative process of zetetic abduction. This includes the use of Perplexity AI for the initial stage of the MIP process, with manual line-by-line validation of the results.

[3.4.3 Content collection and corpus building](#)

The choice of approach for building the corpus for this study is informed by Mautner’s (2019) observation that “a corpus is an artefact in its own right” (p.8), the result of a selection process based on decisions made by the researcher. Also, Baker (2023) highlights the “distinction between *corpus-based* and *corpus-driven* investigations (p.19), where corpus-based is more selective, predetermined and usually based on smaller samples, and corpus-driven is more inductive, based on larger samples. Baker describes both approaches as “existing at theoretical poles on a linear scale, with most research falling somewhere in the middle” (p.19). The corpus that was built for this study is more at the corpus-based end of the scale, i.e. it is selective, theory- and topic-led. This is within the ‘rules’ of an abductive research paradigm in discourse analysis that encourages exploratory oscillation between deductive theoretical prior knowledge, and inductive empirical observation as a “systematic dialogue between theories and methods, in an ongoing layered research approach that goes back and forth between theory, method and empirical data” (Montesano Montessori 2023, p.611).

The purpose of the corpus is to enable quantitative and qualitative research into the performance of political leadership through publicised speeches during the early and latter stages of the COVID-19 pandemic (March 2020 to mid-2021), to address the research questions regarding discursive characteristics of female and male leaders labelled technocratic, populist and empathetic. The following selection rules were applied:

- The speeches needed to have a significant COVID-19 focus.
- The speeches needed to cover the early stages of COVID-19 (that is, before or around the first strong policy response, such as restrictions of public movements), the autumn/winter of 2020, including where available Christmas or New Year's addresses, and at least one "light at the end of the tunnel" address in 2021).
- Full transcripts of the speeches needed to be available.
- The speakers needed to be heads of state at the time of the speech.
- An equal number of male and female heads of state needed to be represented in the final corpus.

The collection of content was conducted in early 2023. To meet all requirements, an eclectic approach had to be taken whereby content was sourced from official national government websites where available, from official UN websites for General Assembly speeches in 2020 and 2021, or otherwise from news outlets, YouTube or Facebook (all source links and contexts of speeches provided in Appendix). Where available, authorised English language transcripts were chosen from national government and UN websites. For YouTube and Facebook content, the automated transcript service was used and data-cleaning was applied where necessary. All non-English speeches were copy-pasted into Word, where automated translations into English – available as an AI function in Word 365 – were done. The quality of Word 365 translations was compared to Google Translate and DeepL. The checks revealed no differences in the meaning across the translations so each validate one another.

All translated speeches were individually spell- and sense-checked by the researcher. While there are downsides to 'normalising' multilingual speeches into English – individual speakers' styles are influenced by lexical and grammatical rules in their native languages – the upside of allowing automated comparative analyses of words, phrases and word groups justifies this decision.

This process resulted in a corpus of 100 speeches in total (78 of which were either in English, or available in official authorised translation, or personally vetted by the researcher, with samples of the remaining 22 checked by native speakers – see full record of speeches by speaker and date, with annotations and source links in appendix) – five each for ten male, and ten female heads of state. The individual speeches vary in length from 271 words (Justin Trudeau, Canada, New Year's address 2020) to 10,249 words (Pedro Sánchez, Spain, end of year 2020 speech to Parliament). The overall corpus consists of 194,037 words, with sub-corpora (the five speeches per head of state) ranging from 5,227 words (Jair Bolsonaro, Brazil) to 20,509 (Pedro Sánchez). The entire corpus (based on 20 distinct sub-corpora) was converted into UTF-8 raw text file. This format improves the speed and accuracy of POS tagging as it removes all unnecessary scripts and metadata. Analyses happened on

three levels: by individual, by gender, and by entire corpus (as a benchmark to measure individual and grouped differences and similarities against).

[3.4.4 Choice of text analysis software](#)

The choice of software for this CADS project resulted from a trial-and-error process. Initially, the researcher had planned to manually code relevant passages in selected speeches for linguistic features relevant to discourse analysis (including the use of metaphor) by using NVivo software (Bazeley and Jackson 2013; Bazeley 2021). During an initial literature review, however, it became apparent that automated text analysis, or corpus software (Anthony 2013, 2022) as part of a CADS approach provided a wider range of methodological and analytical options for this project. Three software tools stood out (references indicate COVID-19 research conducted using the respective tool): WMatrix (Cai and Deignan 2021; Hodson et al. 2021), AntConc (Hunt 2021; Rivas-de-Roca and Pérez-Curiel 2023) and Sketch Engine (Jaworska 2021a, 2021b; Orts and Vargas-Sierra 2021). Some studies (Baker and Brookes 2021; Cai and Deignan 2021) used all three tools in a combined approach. After reviewing the various studies and testing all three software options, Sketch Engine (SkE) (Kilgariff et al. 2004; Kilgariff et al. 2014) was chosen as the most appropriate with the most user-friendly and most versatile interface, the best integration of visualisation (Kocincová et al. 2015), as well as automated POS tagging during corpus building.

SkE was first introduced in 2004 (Kilgariff et al. 2004) as a lexicographic software tool generating *word sketches*: “Word sketches are one-page automatic, corpus-based summaries of a word’s grammatical and collocational behaviour” (p.1.). Baker (2010) was one of the first scholars to use SkE for “the study of language in social contexts”(p.2), and has since become an active user and advocate of the online tool (2014; 2021; 2023). Price (2022) uses SkE for a corpus linguistic study of mental illness in a CADS framework, and O’Keeffe and McCarthy’s (2022b) corpus linguistics handbook features SkE across a number of contributions (O’Keeffe and McCarthy 2022a; Oakey 2022; Rees 2022). There is also a growing amount of corpus-linguistic, discourse-analytical studies of the COVID-19 pandemic (Jaworska 2021b; Riaz Dar 2021; Altamimi 2023a, 2023b; Collins and Koller 2024) using SkE in a CADS research framework.

In a study of the UK Parliament’s economy discourse, Altamimi (2023b) outlines a five-step process for the “serendipitous journey between CL and DA” (p.3) as a methodology which “invokes a cooperative procedure between the quantitative tools of CL and qualitative introspections of DA” (ibid.). For the purposes of this study and as described in more detail in the next section, this gets condensed into the three stages of keyword and phrase identification and qualification (including

the definition of semantic categories of discourse representation), word sketch analysis (collocational and grammatical behaviour of keywords and phrases), and finally the moving back and forth between quantitative and qualitative perspectives in a mixed-method triangulation for a deeper analysis of discursive patterns (including framing and choices of metaphor).

3.4.5 Getting a sense of the corpus – single- and multi-word frequency and distribution

Every CADS project – irrespective of a wider, exploratory corpus-based, or a narrower, more topic-led corpus-driven approach – has an initial data analysis stage in which the researcher familiarises themselves with the corpus. While some corpora – such as the one this study is based on – are of a size that allows for the in-depth reading of all pieces of content, generally the initial familiarisation happens through frequency-ranked word lists or word clouds. As the first step in a CADS approach, word frequency and in particular collocation are significant because, as Baker (2023) points out, “words tend to occur in relationship to other words, often with a remarkable degree of predictability” (p.81). Word choice reveals intention (not always consciously), and the analysis of discourse implies a connection between ways of talking and ways of thinking that can be scientifically studied and interpreted. Stubbs (1996) explains how points of view and frames of reference can be inferred from lexical choices: “No terms are neutral. Choice of words expresses an ideological position” (p.107). In addition to frequency of occurrence, where in a text or group of texts a word or phrase appears regularly is also significant. Speeches are a form of affective storytelling (Papacharissi 2015), and as such have story arcs with a beginning, a middle and an end. Therefore, dispersion (spread within a text) and distribution (spread across a corpus or sub-corpus) are also choices that allow inference to ways of thinking or ideology.

POS tagging allows frequency, dispersion and distribution analyses by part of speech, or word group. SkE’s word list analysis tool allows filtering for lemmas (basic forms of a word), tags (by word group, i.e. n for noun) and specific word groups such as adjective, adverb, conjunction, noun, preposition, pronoun, verb. As with lexical choices, syntactical or grammatical choices (sentence length, syntax, word group, mode, person) also allow inference to ways of thinking or ideology, as van Dijk (1997) explains the subtleties of

“the political manipulation of syntactic style, such as the use of pronouns, variations of word order, the use of specific syntactic categories, active and passive constructions, nominalizations, clause embedding, sentence complexity and other ways to express underlying meanings in sentence structures” (p.33).

Context is a key factor in understanding the use of language as a discursive tool to construct identities, manage social relationships, or position speakers relative to audience and content. For example, Power and Crosthwaite (2022) describe how New Zealand prime minister Jacinda Ardern's "frequent use of personal pronouns adds empathy to direction-giving language" (p.10), especially her use of second person pronouns. Power and Crosthwaite also point to "gendered differences in pronoun usage, with male politicians using fewer personal pronouns overall, but more second-person pronouns than their female counterparts" (ibid.). Thus Ardern bucks a trend, or as Power and Crosthwaite put it, her "leadership style is 'androgynous' ... insofar as it combines 'typically feminine' empathy ... with lexical choices stereotypically associated with both male and female leaders (p. 11).

The choice of pronoun in an address is thus context-dependent and often strategic. It can point to inclusivity and communality (1st person plural, "we"), or self-centredness and narcissism (1st person singular, "I"), othering (3rd person plural, "they"), or responsibility- or blame-shifting (2nd person singular or plural, "you"). At the same time, "we" can be divisive, "I" can demonstrate decisiveness, "they" can evoke empathy or single out a group for praise, and "you" can signify empowerment and agency. As such, pronoun use – or any other linguistic form for that matter – is part of the social construction of personality and face (Goffman 1959, 1971).

The rules that apply to the frequency, dispersion and distribution of single words also apply to multi-word phrases. In NLP and computer linguistics, such phrases are called *n-grams*, where *n* indicates the number of items (Collins and Baker 2023, p.68). For example, *you have to* would be an *n-gram* where *n*=3, whereas *you have to follow* would be *n*=4. SkE can identify *n-grams* with up to six words and display them either as frequency lists (for all cases), or concordance lists (for specific cases). According to Collins and Baker (2023), *n-grams* "demonstrate that much of language is phraseological, that speakers have numerous ready-made constructs at their disposal, which they frequently utilise, and that readers process these frequently repeated strings more quickly" (p.68).

Fetzer and Bull (2012) expand on this in their analysis of 'doing leadership' through self-reference and highlighting leadership qualities, for instance through the choice of pronoun and subsequent verb phrase: "doing leadership is intrinsically connected with the predication to which the self-reference is anchored ... the semantics of the verb phrase lie at the heart of doing leadership" (Fetzer and Bull 2012, p.132). The authors found that responsiveness correlates with communication (*say, hear, listen*) and subjectivication (*assume, think, believe*) verbs, whereas competence correlates with event (*take, introduce, close*) and intention (*plan, intend, consider*) verbs; collocation of pronouns and different verb phrases indicate certain dispositions such as empathy or decisiveness.

These insights link the more quantitative, corpus-linguistic part of CADS with the more qualitative discourse-analytical part (see below re framing and metaphor construction).

[3.4.6 Exploring patterns – Word Sketch, Thesaurus, KWIC and collocation](#)

One of the key benefits of technology-assisted corpus linguistics is “the capacity of machines to quickly and accurately make calculations, producing numbers that can then be investigated for meaning” (Collins and Koller 2024, p.75). As Collins and Koller further outline, the numbers, lists and visualisations generated during this process are usually not the answer to a given problem. Rather, they provide guidance and direction for further and deeper investigation of patterns in the data: “It is the job of the researcher to interpret their significance, and interpretations are likely to draw on a broad sense of context, starting with the clause and extending to wider discourses” (ibid.). While the researcher’s role in CADS is (and will remain) indispensable, automated corpus linguistics provide critical support, based on Brezina’s (2018, p.66) “simple premise: word meanings can best be investigated through the analysis of repeated linguistic patterns in corpora.” SkE provides a toolkit of corpus analytical methods and procedures, combining quantitative and qualitative elements, statistical measures, tables and other visualisations to support researchers in their endeavours.

Beyond merely looking at word frequency lists in a corpus, an early step in spotting and exploring patterns as potential discourse characteristics is the comparison of frequencies across corpora. This can be done for the totality of words or lemmas in a corpus, or it can be done for a specific subset such as distinct word groups (nouns, verbs, adjectives etc.), or even bundles of words belonging to a frame of meaning (which requires either semantic tagging or manual grouping). The standard procedure is to compare the analysis or target corpus with a reference corpus, to identify items that appear more or less frequently in the target corpus, than in the reference corpus. This comparison can happen between texts within one corpus, between sub-corpora with a corpus, between a sub-corpus and the related entire analysis corpus, or between sub-corpora and/or analysis corpus and a broad general corpus, such as the British National Corpus with more than 100 million words (Price 2022, p.55).

Keyness is the score indicating whether and how an item appears statistically significantly more or less often in one corpus against another corpus. Keyness is the statistical expression of *aboutness* – “one of the oldest problems in the philosophy of mind” (Wuppuluri and Grayling 2022, p.554), highlighting elements of a corpus that stand out, that are “indicative of both the topic and the style of the content of a corpus, telling you what it is ‘about’” (Collins and Baker 2023, p.67), what is “idiosyncratic about a corpus” (Price 2022, p.54). Corpus linguistics offers a range of statistical

keyness measures (Gillings et al. 2023, p.52), of which SkE uses simple maths as its default measure. Simple maths adds a constant to both the relative frequencies of target and reference corpus, which makes high or low results more distinct and thus easier to interpret (Brezina 2018, p.85).

To begin to understand the meaning of significant frequency or keyness results, one needs to look at an item in the context of its use in a sentence or text. Computer-assisted corpus linguistics uses *concordancers* to perform this task. Concordancers are NLP algorithm-based software applications that identify all cases of a search item (usually a single word, or combinations of words), and display them in lists with the parts of sentences that surround them. Usually, these *keyword in context* (KWIC) views have the search term in the middle of a text snippet, with a few words before, and a few words after (Anthony 2022, p.115).

Figure 13 below shows the 24 occurrences of the lemma fear (i.e. all variants of the word fear) in the overall corpus, in the context of various speeches.

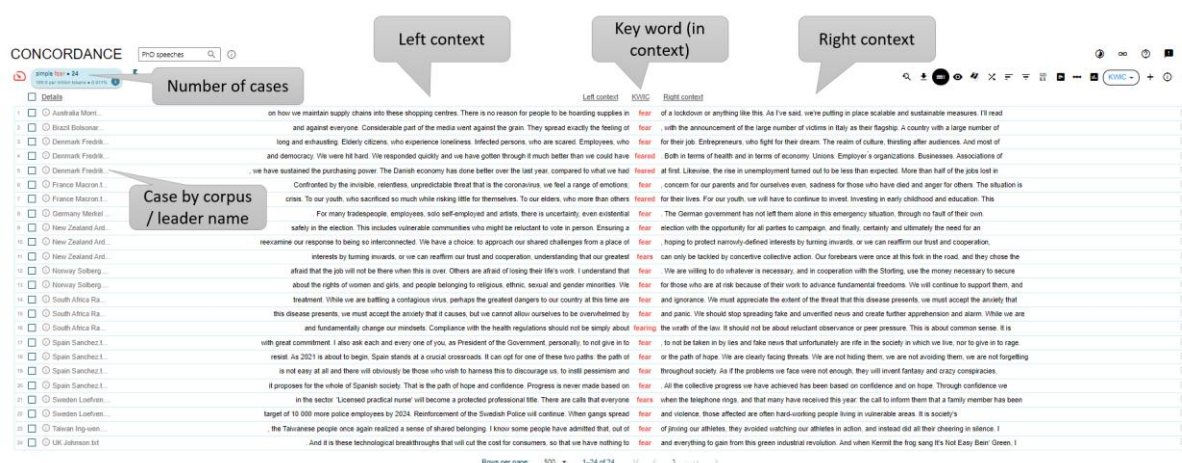


Figure 11 [annotated from SketchEngine]: Concordance of lemma fear in overall corpus

Looking at lists of salient words or phrases displayed within their linguistic environment is a key step toward connecting the CA and DS parts of a CADS approach: salient and repetitive patterns of language use are forms of representations, and “a discourse could be considered as a collection of representations which cohere to form a particular way of looking at the world.” (Baker 2023, p.109). Discourses are social constructions, expressions of conceptions of knowledge, and as such, ideological manifestations.

Collocations – “combinations of words that habitually co-occur in texts and corpora” (Brezina 2018, p.67) – are another key step from CA toward DS. Items that systematically appear together generate a particular meaning, and “the company words keep” (Firth 1957, p.6) allows inferences to the

intention of their use: “words occur in characteristic collocations, which show the associations and connotations they have, and therefore the assumptions which they embody” (Stubbs 1996, p.172). Collocations can be identified in a qualitative, manual process, by looking at concordances of selected items and investigating their immediate lexical environment. They can also be identified statistically, via association measures that calculate the relationship strength between items (Brezina 2018, pp.67-74). The choice of measure depends on the research angle, and falls somewhere on a two-dimensional scale of frequency (how often items occur together) and exclusivity (items occurring only or predominantly together). Collocations can also be expressed as graphs and networks, indicating various types and strengths of relationships between collocated items (Brezina 2018, pp.75-79).

SkE generates *word sketches*, “one-page automatic, corpus-based summaries of a word’s grammatical and collocational behaviour” (Kilgarriff et al. 2004, p.1), as well as “a corpus-based thesaurus and ‘sketch differences’, which specify, for two semantically related words, what behaviour they share and how they differ” (ibid.). Word sketches provide an overview of salience and grammatical patterns of lemmas, particular parts of speech (adjective, adverb, noun, verb), or multi-word expressions.

Figure 46 shows the word sketch for all 313 occurrences of the noun ‘virus’ across the corpus:

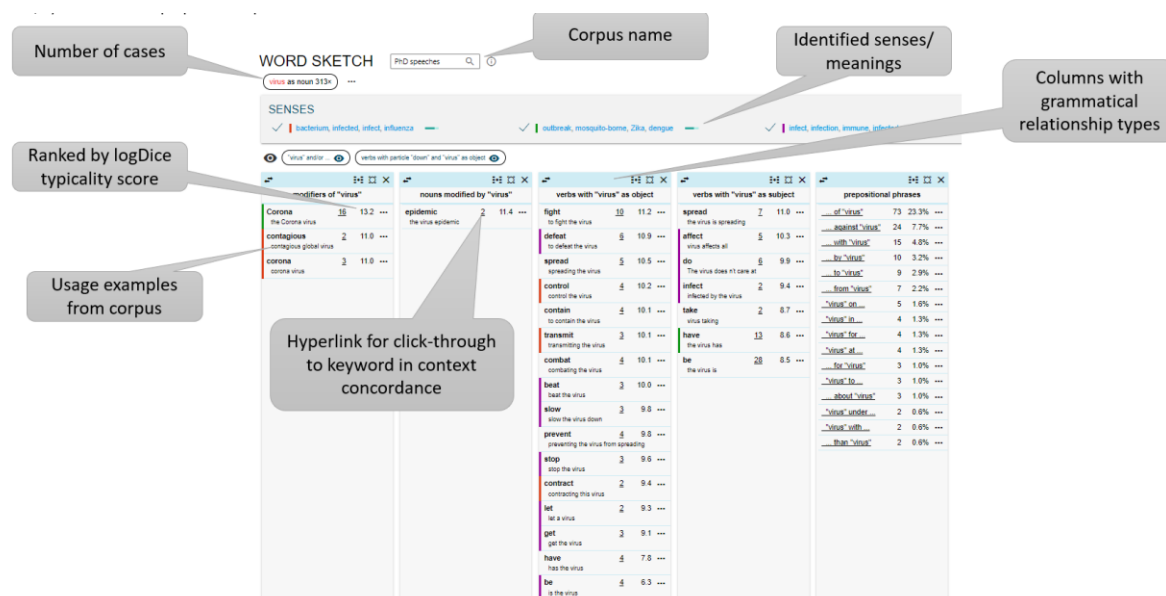


Figure 12 [annotated from SketchEngine]: Word Sketch for the noun virus in the overall corpus

Word sketches provide more specific insight, than concordances: “Rather than looking at an arbitrary window of text around the headword, we look, in turn, for each grammatical relation that

the word participates in” (Kilgarriff et al. 2004, p.3). Each collocate can then be explored as a concordance, to understand the context of usage. SkE also provides a “distributional thesaurus ... created on the basis of common collocation” (Kilgarriff et al. 2014, p.14). This function uses corpora “to generate usage-based synonyms, i.e. words that occur in the same or very similar linguistic contexts, which may not be conventional synonyms, but which are being used within the corpus in similar contexts” (Price 2022, p.128).

Figure 15 shows the Thesaurus for all 353 occurrences of the noun ‘pandemic’ across the corpus:

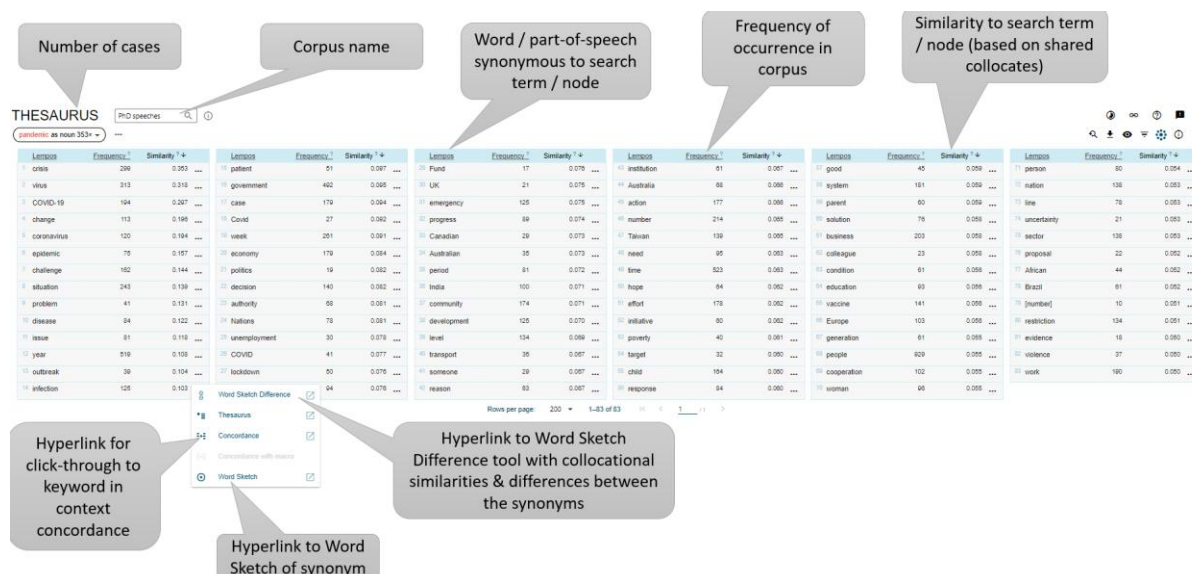


Figure 13 [annotated from SketchEngine]: Thesaurus for the nouns pandemic in overall corpus

Together with a more qualitative concordance perspective, word sketches and thesaurus help investigate a corpus and/or its sub-corpora according to semantic preferences, grammatical and collocational characteristics. Consistency and similarity of single and multi-word choices, syntactical and grammatical structures can be indicators for discourse prosody, “the relationship of a word to speakers and hearers ... concerned with attitudes” (Baker 2023). As mentioned before, such findings are not endpoints of an investigation, but rather entry points for further qualitative exploration. They form a bridge between CA and DS. The following section describes such qualitative discourse analysis with a focus on framing, agenda setting, and the use of metaphor.

3.4.7 Framing, priming, agenda-setting

Doing politics (Kranert and Horan 2018a) is largely communication: “the main acts of a politician are essentially linguistic acts – from giving speeches and interviews in the public domain to persuading

colleagues to support her position backstage – language is the main tool of politicians” (Kranert and Horan 2018b, p.1). Chilton and Schäffner (2002) discuss the history, social and cognitive aspects of political discourse. They define political association as “shared perceptions of values” (p.2), and confirm that “the doing of politics is predominantly constituted in language” (p.3). In reference to Habermas, they posit that “knowledge is not a neutral representation of an objective world ‘out there’, but is realized through discourse determined by interests” (p.14). Building on the works of Lakoff, Van Dijk and others, conceptions of knowledge and ideologies align with a cognitive model of political discourse that is actualised through “scripts and frames [which] can be usefully thought of as mental representations stored in long-term memory on the basis of experience of the physical, social and linguistic world” (p.26). Frames are described as “theoretical constructs ... Their structure is speculative, based on inference from the analysis of language and discourse” (ibid.). This *cognitive framing* includes the researcher as a social actor who “cannot afford to ignore, in all scientific honesty, his or her a priori implication in a system of values” (p.27). Ritchie (2013) characterises framing as “a common metaphor for various ways in which language can affect communication” (p.106). He describes “framing as a way of influencing participants’ understanding of the type of discourse they are engaged in and consequently the nature of appropriate contributions” (p.116). According to Ritchie, metaphors are a form of framing as they “often have framing effects and often appear to be selected at least in part for their framing effects” (p.118).

This, then, is the position from which the discourse-analytical side of this CADS project is being conducted: based on corpus linguistics data and insights, political discourse is analysed as an intentional as well as unintentional act of social construction and representation. Framing, agenda-setting and conceptual metaphor theories are tested through quantitative and qualitative corpus analysis and application of the discourse-historical method (Wodak 2001; Musolff 2014; Reisigl 2017). For example, Figure 16 shows how prominent the semantic cluster ‘Care, Support’ is across the 20 leaders’ speeches (frequency as a % ratio of word count). Canadian prime minister Justin Trudeau appears significantly more likely than his peers to frame his views in the language of care and support. Indian prime minister Narendra Modi appears to be the least likely to do so.

In this study, Sketch Engine was used to identify ‘semantic clusters’ (see examples in figures 16 and 17) – words with similar meanings in the context of certain topics. These were then applied in Sketch Engine’s Wordlist application, which allows searches of lemmas from a predefined list of words. Searches were run for all 20 sub-corpora, and – as with general word groups before – frequency data was collected in a spreadsheet that allowed the creation of comparative tables, as well as the calculation of overall corpus ratios and percentage differences from corpus ratios (to

indicate how individual leaders were over- or under-indexing against those ratios). See sections 4.3 and 4.4 for analytical exploration of such clusters.

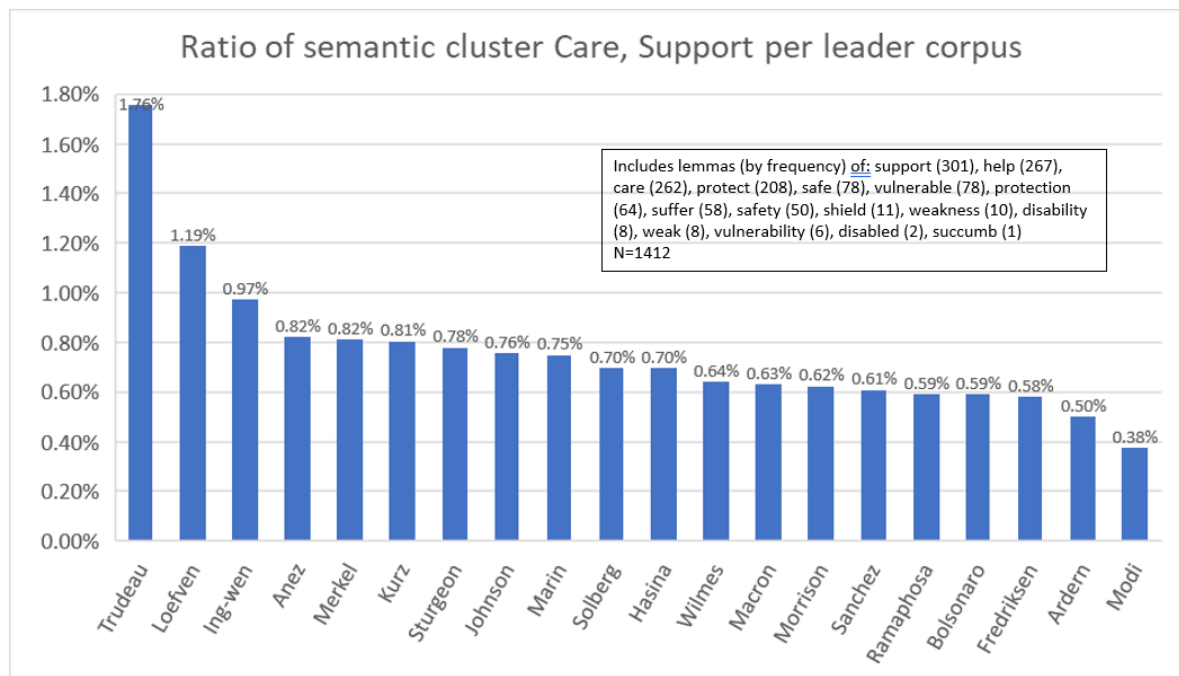


Figure 14 [own design]: Prominence of semantic cluster “care, support” in individual leaders’ corpora

Framing and positioning are two concepts that help explore the social construction of discourse (Gordon 2015). The two concepts are similar, but have “a different disciplinary background – sociology and anthropology for framing, psychology for positioning” (Gordon 2015, p.324). They also serve different purposes: Framing denotes the way in which “definitions of a situation” (Goffman 1986, p.10) are generated when someone chooses to “select some aspects of a perceived reality and make them more salient in a communicating text” (Entman 1993, p.52). Framing is similar to priming, the act of “calling attention to some matters while ignoring others” (Iyengar and Kinder 1987, p.63). Positioning describes the way in which our selves are constructed through discourse (Davies and Harré 1990). Discourse analysts draws on framing as a way to explore how shared meaning is being generated, and on positioning as a way to explore narratives (Gordon 2015, p.325).

Figure 17 shows how the semantic cluster ‘Care, Support’ is over- and under-indexing across the 20 leaders’ speeches (frequency as a % ratio of word count, compared to corpus ratio)

Prominence of "care and support" frame in female and male speeches (1,412 words)

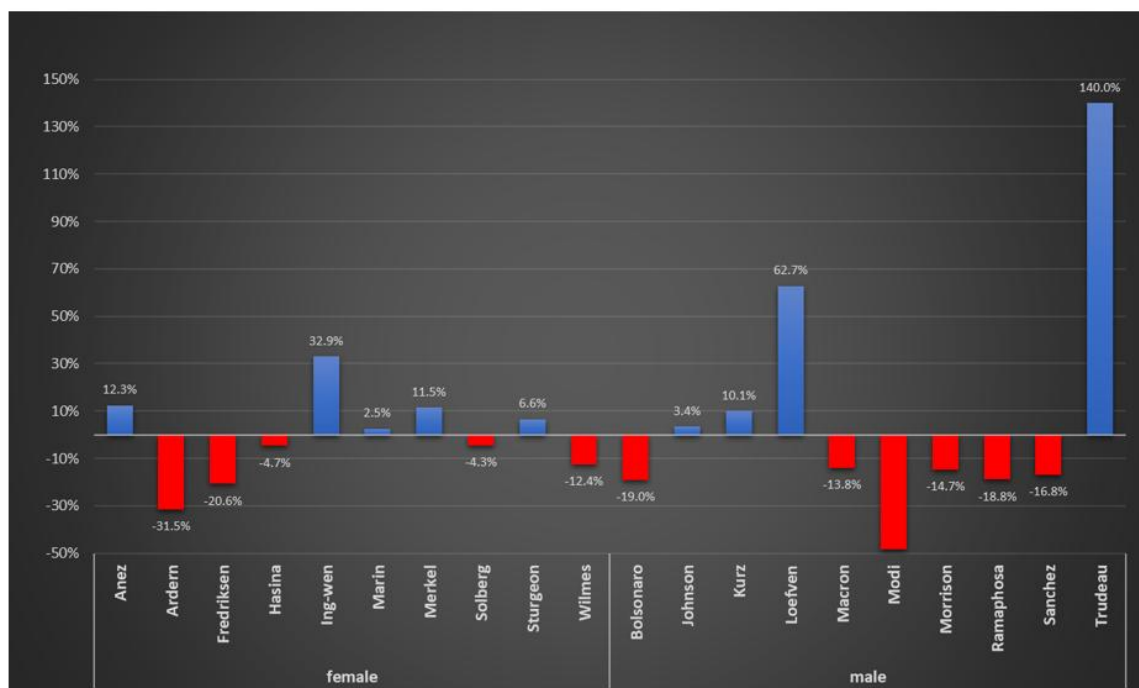


Figure 15 [own design]: Over- and under-indexing of semantic cluster "care, support" in individual leaders' corpora

Another core concept in the toolbox of cognitive communication effects, and thus relevant for discourse analysis, is agenda-setting (McCombs and Shaw 1972). Originally a hypothesis of mass media effects, it has evolved into a broader framework of mapping out the dynamic relationships between communicators, channels and audiences that lead to the social construction of topic salience (Baird 2010). Framing and priming are seen as conceptually related to agenda-setting (Weaver 2007). All three concepts are applied in the discourse analytical part of this study. The topical salience is highlighted by Musolf et al. (2022) in their introduction to *Pandemic and Crisis Discourse*: "The public debates about the pandemic have articulated a vast range of critical reflections on communication: agenda-setting, categorization and metaphorization of the illness and the administrative responses to it, perceived 'performances' of specific governments and administrations in dealing with it" (p.1).

[3.4.8 Metaphor and the discourse-historical approach](#)

Another core area of discourse analytical investigation is metaphor. Semino et al. (2016) discuss framing as a "central function of metaphor" (p.625) which helps to "explain how choices of

metaphor may relate to people's views and opinions on specific issues in specific contexts" (p.629) – in other words, how conceptions of knowledge manifest in linguistic choices. A similar connection between framing and metaphor, this time in the context of communicating COVID-19 related health policy in Romania and the UK, is made by Neagu (2022), who stresses that the "notion of 'framing' applied in metaphor analysis is very useful especially when people communicate about sensitive issues such as cancer, AIDS, terror, drugs, poverty or climate change" (p.255).

If concepts such as framing, priming and agenda-setting are linked to "cognitive effects of political communication" (Scheufele 2000), and political communication itself becomes more complex as the intricacies of modern societies increase (Kok and van den Heuvel 2019a), then any attempt to infer meaningful data and insights from an analysis of communication requires "a model of multicausal, mutual influences between different groups of persons within a specific society and relationships between different societies" (Wodak 2001, p.63f.). This is the premise of the Discourse-Historical Approach (DHA) and two complementary frameworks for metaphor identification and assessment regarding intent, the Metaphor Identification Procedure (MIP) and the Critical Metaphor Analysis (CMA). Together, MIP, CMA and DHA form a qualitative three-step approach of metaphor analysis that is building on the largely quantitative CADS approach outlined above.

This three-step design enables metaphor analysis

- On the micro level (identification): Following the MIP protocol (Pragglejaz Group 2007), empirical linguistic evidence (the 100 speeches selected for analysis) is examined to identify metaphors by comparing an expression's basic, literal meaning against its contextual meaning.
- On the meso level (interpretation): Following the Charteris-Black's CMA protocol (2004, 2011), the discursive function of the identified metaphors is assessed to reveal the underlying ideologies, speaker intentions, and the ways in which language is used to persuade or legitimise power.
- On the macro level (contextualization): Following the DHA protocol (Wodak 2001; Musolff 2014; Reisigl 2017), these linguistic and rhetorical findings are contextualized within their broader socio-political and historical environments

The overarching approach in this study is DHA and its "endeavour to work with different approaches, multimethodically and on the basis of a variety of empirical data as well as background information" (Wodak 2001, p.65). A leading proponent of combining metaphor analysis and DHA is

Musolff (2014, 2016), who highlights DHA's context- and "data-driven approach that starts from documented usage examples and focuses on interpreting their sociopolitical 'situatedness' and effects" (Musolff 2016, p.5). Both Musolff (2022b) and Wodak (Wodak 2021, 2022a) use DHA in their COVID-19 analyses – as do a number of other researchers (Forchtner and Özvatan 2022; Raupp 2022; Wang 2022; Altamimi 2023a). Conceptional, methodological and operational inputs from these and similar studies inform this study.

[3.4.9 Ambition and expectations](#)

In the spirit of metamodern humble knowledge generation, this study does not aim to provide once-and-for-all answers to complex questions regarding the right, wrong, or at least better way for political leaders to conduct public health discourse in order to achieve certain outcomes, such as compliance to restrictive measures.

The ambition is to shed some more light, to "poke a little hole here or there in the thick fence that surrounds the vast territory of social structures and relationships" (Mautner 2019, p.12). Equally, correlating the quantitatively and qualitatively evidenced discursive styles of leaders with manifest outcomes of their governments' policies allows at best directional conclusions. COVID-19 has been characterised as a syndemic (Fronteira et al. 2021) or a "super wicked problem" (Auld et al. 2021) for exactly the reason that both as a health, and a wider social problem, it interacts with its environment in often unpredictable ways. Political leadership and public health discourse play an important role in minimising adverse outcomes, however their impact is neither absolute, nor can it be isolated.

Discourse analysis, increasingly supported by computer linguistic tools, provides the means "for not only exposing selfish and populist agendas but also for highlighting examples of effective and appropriate leadership" (Jaworska and Vásquez 2022, p.3). The following chapter provides a range of good and bad examples, as well as some outcome measures.

[3.5 Ethics](#)

This study follows established ethical principles for social research concerning data collection, analysis, and dissemination of findings (Denscombe 2007). Following CADS practice, all primary data consist of published political speeches and official public communications drawn from governmental websites and open-access broadcast channels (for example, YouTube), which were checked for authenticity and accuracy. Gillings et al. caution that seemingly unlimited access to content "can

encourage an indiscriminate ‘all you can eat’ approach to corpus building” (p.47). It is the researcher’s responsibility to make sensible choices regarding content, as well as analysis tools, methods and frameworks.

Given a particular topic and research questions what kind of, and how much data (=content) is required? What methods and frameworks are appropriate for the study to yield meaningful and relevant results? Where and how is the content available? Do copyright issues have to be considered? In an area where digital innovation constantly changes the playing field, ethical guidelines regarding research processes – social practices as well as research engagement need to be constantly adjusted (Tagg and Spilioti 2022, p.91). Therefore, Tagg and Spilioti call for “an approach to research ethics as a contextualized process of decision-making that is not limited to the initial stages of research design but takes place at various critical junctures of the research process” (ibid.).

The analysis uses licensed text analysis software (Sketch Engine, academic license) and other digital tools whose technical capabilities and limitations are critically discussed as part of the methodological reflection. Perplexity AI (PRO license) – an AI-based LLM research tool – was used for the calculation of statistical significance and for the initial stage of metaphor identification according to the MIP protocol. All results were cross-checked and remain the sole responsibility of the researcher. This study contains no unverified AI-generated claims. The use of AI tools in corpus analytics is picked up again in the conclusion – scope for future research (section 5.2).

The main ethical considerations for this study are threefold:

- one, to ensure that COVID-19 related outcome data (infection rates, mortality metrics, economic data) is sourced from verified sources and interpreted with the appropriate level of data literacy;
- two, to treat in particular non peer-reviewed, pre-published content with a level of caution; the nature of the COVID-19 pandemic, with academic research and sense-making happening in real time and on the basis of constantly evolving empirical bases, makes the inclusion of non peer-reviewed, pre-published content expedient; however, there is a risk of including poor quality research that needs to be mitigated; and
- three, in a CADS framework, exploring individual political leaders’ performances through their public speeches through DHA, the researcher needs to constantly reflect on, and ensure critical distance; Chilton and Schäffner (2002, p.27) point to the role of the researcher as social actor with interests and values, rather than being a fully objective generator of neutral data.

That last point in particular is critical. The researcher is the co-author of a critical account of the UK government's handling of the COVID-19 pandemic (Lilleker and Stoeckle 2021), and lived in London during the pandemic, thus being a participant observer both of the UK government's policies, and public and media responses. This includes extensive media coverage of governmental 'lockdown parties', the resignation of Boris Johnson as a result of being found dishonest to parliament, and ongoing findings from the UK Government's COVID-19 inquiry (Reicher 2024). The participant observer in these events will find that his or her pre-existing ideological orientation will impact the way that he or she processes this information, and in turn, this will further impact their ideological orientation – the way they see, interpret, understand and respond to the world. This does not mean that they cannot generate *good research*. However, transparency regarding these conditional factors helps with credibility.

3.6 Summary & Conclusion

This section provides a detailed discussion of the research philosophy and methodology for a study that investigates the influence of conceptions of knowledge on political discourse during the COVID-19 pandemic, with a specific focus on public health communication and the performance of political leadership through leaders' public speeches. From an understanding of COVID-19 as both reflection, and manifestation of a complex *multi-crisis*, a research philosophy is developed that builds on the concept of the social construction of reality, including the social construction of science and research itself. Modern and postmodern ways of thinking about the world – *conceptions of knowledge* – are being discussed, and are both found to be too limiting for theorisation in a world of wicked problems. Metamodern theorising is being introduced as a concept that accommodates self-critical, reflective intellectual humility. This is a way to conduct scientific research that favours abductive reasoning – the inference to the best available explanation – over inductive or deductive reasoning. Following Josephson Storm's (2021) description, this approach is described as *Zetetic abduction to acquire humble knowledge* – a never-ending search for better answers. This is particularly significant in light of the manifold knowledge-related challenges which became evident during and after the COVID-19 pandemic. These relate to the lack of knowledge, the impermanence of knowledge, but also to the overreliance on a particular type of knowledge. With regard to wicked social problems or societal grand challenges, this is discussed in the context of Hindmoor and McConnell's (2013) concepts of "backward mapping" (hindsight rationalisation) and "forward mapping" (a form of abductive learning). This leads to the conclusion that the world today, and the world in future, is better served by intellectually humble leaders capable of forward mapping. The empirical evidence gathered in this study supports this argument.

The theory and methods section of this chapter first looks at some general characteristics of the COVID-19 pandemics and asks why so many early warning signals appear to have been missed, why so many dots don't seem to have been connected – why, overall, there seems to have been so little learning from previous public health crises, but also from one stage of the pandemic in one country or region, to the next. Answers are provided on a societal and cultural level, as well as institutional, and finally individual cognitive level. This leads to a discussion of political discourse, leadership as discourse and the role and function of ideology in the social construction of discourse – ultimately a form of storytelling. Investigating pandemic narratives leads back to questions around the production and application of knowledge (Tavory and Timmermans 2019) in dealing with a “super wicked problem” (Auld et al. 2021). Discourse analysis as a boundary-spanning array of quantitative and qualitative methods is identified as the appropriate mixed methods approach for this study. Within discourse analysis, the discourse-historical approach (DHA), first introduced by Wodak (2001), was chosen as the best suited framework as it combines interdisciplinary research with social, political and historical perspective, triangulation of theory, methods and data, and a focus on the practical application of results (Reisigl and Wodak 2016, pp.31-33).

Wodak (2021, 2022a) herself applies DHA to COVID-19 discourse, as do a number of other researchers, including Musolff (2022a), Boukala & Serafis (2022) and Radibratovic (2021). Integrated into the DHA are approaches focusing on framing and priming, agenda-setting and in particular the choice of metaphor as a rhetorical tool employed by political leaders in their speeches with MIP used for metaphor identification and CMA for metaphor interpretation.

To meet the requirements of a mixed methods approach to research, corpus-assisted discourse studies (CADS, see Partington 2004; Gillings et al. 2023) is chosen as the quantitative research methodology. This combines digital capabilities in content acquisition and processing with a robust framework of theories and methods to investigate political leaders' pandemic discourse.

The CADS research design encompasses

- the acquisition of content and building of the analysis corpus – transcripts of five public speeches each by 10 female, and 10 males heads of state, a total corpus of 100 speeches;
- uploading the corpus into the Sketch Engine online analysis tool (including part-of-speech tagging);
- investigating the corpus and its sub-corpora (by individual head of state) through a range of largely, though not exclusively, quantitative corpus-linguistic processes (including single- and multi-word frequencies and distribution; keyness, collocations, concordances, Thesaurus and Word Sketches);

- investigating the corpus and its sub-corpora through a number of discourse-analytical theories and processes (including framing, priming and positioning; agenda-setting; use of metaphor).

In keeping with its metamodern ‘humble’ research philosophy, this study does not aspire to uncovering evident truths about the nature of political communication during the COVID-19 pandemic.

Ethical considerations for this study focus on the correct use and interpretation of COVID-19 related outcome data, the cautious use and interpretation of non peer-reviewed studies, and finally, the researcher’s critically-reflective awareness of their role as social actor with interests and values, rather than impartial observer and generator of data.

Research questions addressed by the CADS approach include the following discursive characteristics of technocratic, populist and empathetic female and male leaders:

RQ1: Is gender a factor in the preference of certain word groups?

RQ2: Do certain leadership types and gender go together in the preference of certain word groups?

RQ3: Is gender a factor in the preference of certain semantic clusters and use of metaphors?

RQ4: Do certain leadership types and gender go together in the preference of certain semantic clusters and use of metaphors?

Related to the four research questions above, there are a further three, regarding the relationship between conceptions of knowledge, leader gender and grand challenges:

RQ 5: Do modern and postmodern conceptions of knowledge show gender prevalence?

RQ 6: Do metamodern conceptions of knowledge show gender prevalence?

RQ 7: Are metamodern conceptions of knowledge more effective in dealing with grand challenges?

The various sections of the following chapter, from quantitative comparisons of word groups and semantic clusters by individual leader as well as by gender, and the qualitative views by country and individual leader, address these research questions, as well as the broader questions related to modern, postmodern and in particular metamodern conceptions of knowledge (the latter being the central gap in knowledge that this study has identified and addressed through research).

4. Analysis and Findings

4.1 Introduction

Language and speech are the result of conscious and unconscious choices by the communicator.

While communication as a whole is intentional and purposeful, its constituents - words, phrases, sentences, style, register – are not always the result of deliberation. And while language and speech in public communication usually result from controlled, deliberate processes, the outcome of such communication, the impact on audiences cannot be controlled. The best a communicator can hope for is that he or she put enough consideration of topic, audience interest and context into crafting a message, for it to have the intended impact on the target audience. Equally, the means employed by the communicator to achieve a certain end (i.e. audience impact) do not follow a linear cause and effect logic (Adi and Stoeckle 2025). Therefore, any findings derived from linguistic analysis ought to be framed in terms of tendencies and likelihoods, rather than binary categories. This caveat applies to the argument of this thesis in general, as well as specifically to every observation and interpretation.

In an acute and evolving public health crisis, the intended outcome of a country leaders' public communication with the population can become a 'matter of life and death' since compliance with public health measures impacts the spread of a contagious disease and subsequently, mortality rates. The COVID-19 pandemic was a global crisis and thus allows the comparison between countries of their leaders' communication and leadership styles, as well as public health outcomes such as infection and reproduction rates and, ultimately, excess mortality. Outcomes regarding public sentiment, or the economic impact of the restriction of movement up to the level of strict lockdown measures can also be compared.

How did political leaders *construct the pandemic* in public speeches? What is their communicative style, characterised through distinct lexical patterns and choices, and what can be inferred from those patterns and choices, regarding their ideology, their mindset and intention? Moreover, how successful were these leaders in dealing with the pandemic, its immediate and longer-term medical impacts, but also regarding social, political and economic outcomes? In their comparison of the Australian and New Zealand Prime Ministers' COVID-19 related communication during 2020, Power and Crosthwaite (2022) state that it is "important to ask whether political leaders perform gender in communication about COVID-19, and whether gender is involved in shaping their communicative style" (p. 412). Furthermore, if styles are "realised by diverse semiotic resources ... 'interpreted iconically as evidence of a difference in ... speakers' values' and social identities ... or "ways of

being”, in their semiotic aspect” (p.415), then they are also representations of the speaker’s mindset and conception of knowledge, if not ideology.

This study looks at public speeches of ten female and ten male country leaders from the very early stages of the pandemic (around the first lockdown in March 2020), to the latter stages in 2020 (the second and third waves) and into 2021, when vaccines were widely and effectively used, and the manifold longer-term impacts of the pandemic became clearer.¹ Speeches were chosen as monoglossic communication, where the speaker gets to make their point without interruption and questioning, and thus has the most control over presentation (including of self) and message (Taylor 2022, p.603). The analysis is conducted in stages, combining a corpus-analytical and discourse-analytical approach, where “the combination of qualitative and quantitative approaches [provides] an opportunity to triangulate the methodological approach and so to approach the data in different ways, thus leading to different perspectives” (Taylor 2022, p.608).

In practice, the research was carried out in two distinct parts:

1. Digital text analysis of the corpus of speeches via Sketch Engine. This reveals quantitative patterns which informed the subsequent metaphor analysis.
2. Qualitative metaphor analysis, based on previous text analysis. This was done in three steps:
 - a. Micro-level metaphor identification (MIP). This helps validate the metaphor candidates identified in stage 1.
 - b. Meso-level metaphor interpretation (CMA). This explores the rhetorical function of the chosen metaphors.
 - c. Macro-level metaphor contextualisation (DHA). This situates the metaphorical language within socio-political and historical realities.

Perhaps most importantly, this combination of qualitative and quantitative approaches allows for shifts in the methodological approach, allowing the researcher to try out and integrate inductive and deductive approaches into abductive reasoning as a “movement from data to theory and back” (Sastry and Basu 2020, p.5). Wodak (2021) describes her research into COVID-19 communication as an “an abductive and comparative discourse-historical analysis” (p. 4). Linking corpus analysis, linguistic exploration and discourse analysis is thus a systematic way of making inferences through

¹ Not all 20 leaders remained in office across the three phases: Sophie Wilmès stepped down as Prime Minister of Belgium on 1st October 2020, and Jeanine Áñez left her post as President of Bolivia on 8th November 2020. They were nevertheless included in the sample because of their characteristic leadership and communication styles, and the availability of their speeches.

“zetetic abduction” as a metamodern approach to “scholarly knowledge production in terms of abduction or inference to the best explanation” (Josephson Storm 2021, p.222f.).

In her analysis of German Chancellor Angela Merkel’s crisis communication and management, Raupp (2022) states that COVID-19

“provided an opportunity structure for politicians to demonstrate agency and power. At the same time, the complexity and long duration of the crisis posed specific risks for political crisis communication. As the results suggest, it is difficult for a political leader and head of government to maintain his or her course in this crisis” (p.247).

From initial responses to an emerging situation with incomplete and constantly evolving information, to an understanding of the need to *live with the pandemic*, and finally the *game-changing* availability of vaccines, leaders responded to, as well as shaped pandemic realities. This also revealed “not just a discursive crisis, but a crisis of discourse” (Bennett 2019, p.461) with claims and counterclaims blending proven scientific facts, scientific uncertainty and values-based judgements in a potpourri of perspectives that made orientating publics toward the most sensible and effective behaviour all but impossible.

In their study of *Viral Language*, Collins and Koller (2024) suggest that a deeper and broader understanding of public pandemic discourse requires research “to add to our knowledge about diachronic changes over the course of the pandemic and also address cross-cultural differences and possibly gendered aspects of metaphor use” (p. 66). Similarly, Cartier et al. (2022) posit that “the first 10 months of the pandemic is a particularly relevant period as it captures how the reality of the virus and its disease became discursively encoded in a short-term diachronic span of language use” (p. 755). This is what this study does: it looks at the language across ten female and ten male leaders’ speeches from March 2020 into 2021 to identify characteristics, patterns, similarities and differences.

Following Baker’s (2013) advice that “the researcher allows the research to be driven by whatever is found to be salient or frequent in the corpus” (p.26), the analysis is based on the frequency of occurrence of certain words and phrases, as well as word types – identified through ‘part-of-sentence’ tagging in the Sketch Engine concordance software. This approach increases the reliability and replicability of coding and interpretation (compared to the manual coding of entities by researchers), since every researcher using the same content and the same analysis tool will see the same raw results. In this study, the researcher uses a bespoke formula that calculates the prominence of a word (or lemma), word type or a cluster of words as a percentage of the total

words in the sub-corpus (each individual leaders' five selected speeches), to allow a comparison across all twenty leaders. Based on this calculation, the distance from the overall corpus ratio can be expressed as a percentage. Again, these percentages can be compared among leaders (or other aggregates, such as female vs male leaders, or the three identified leadership types of *modern technocrat*, *postmodern populist* and *metamodern empath*). This highlights which leader is over- or under-indexing based on their distance from the corpus ratio, and thus provide pointers for further qualitative investigation into the construction and framing of certain aspects of pandemic discourse. In the sections below, the focus is first on broad characteristics of the overall corpus and constituent sub-corpora, such as sentence length or readability by analysed leader. This is followed by frequency and ratio comparisons of word groups and semantic clusters. These comparisons are then made for the aggregated female and male corpora. This is followed by a discussion of health and economic outcomes per country, before findings for the 20 leaders are presented and discussed separately, sorted alphabetically by country.

4.2 Overall sample

The corpus that was built for this study has a total of 194,037 words and consists of five speeches each from ten female, and ten male political heads of countries. The male sub-corpus is slightly larger than the female sub-corpus, at 104,641 (53.9%) to 89,369 (46.1%) words. All subsequent calculations and discussions of *corpus ratio* refer to the total word count of female plus male sub-corpus. The table below lists dates and length, including total word count and average speech length, for each of the 100 included speeches by country, leader name and gender.

Table 4 [own design]: List of countries, leaders and gender, with dates and length of speeches included in the corpus

Country	Leader	Gender	no. of spee	date 1	date 2	date 3	date 4	date 5	Word count	Avg length	length 1	length 2	length 3	length 4	length 5
Australia	Morrison	male	5	18/03/2020	02/04/2020	05/08/2020	31/12/2020	06/04/2021	10882	2176	4830	1625	2049	688	1690
Austria	Kurz	male	5	15/03/2020	03/04/2020	14/09/2020	26/12/2020	06/07/2021	6697	1339	1429	1414	1412	400	2042
Bangladesh	Hasina	female	5	15/03/2020	25/03/2020	08/07/2020	26/09/2020	20/09/2021	6956	1391	361	2738	581	2049	1227
Belgium	Wilmès	female	5	17/03/2020	19/03/2020	05/04/2020	17/09/2020	26/09/2021	7484	1497	1362	742	1218	2034	2128
Bolivia	Añez	female	5	15/03/2020	17/03/2020	21/03/2020	25/03/2020	23/09/2020	5349	1070	963	537	910	1465	1474
Brazil	Bolsonaro	male	5	24/03/2020	31/03/2020	22/09/2020	24/12/2020	21/09/2021	5227	1045	588	932	1836	445	1426
Canada	Trudeau	male	5	13/03/2020	23/09/2020	20/11/2020	31/12/2020	18/06/2021	5861	1172	643	1597	2245	271	1105
Denmark	Fredriksen	female	5	11/03/2020	13/03/2020	06/10/2020	01/01/2021	24/09/2021	14272	2854	2355	1377	7120	2575	845
Finland	Marin	female	5	16/03/2020	26/03/2020	29/04/2020	31/12/2020	28/04/2021	6927	1385	1702	1951	1578	915	781
France	Macron	male	5	16/03/2020	13/04/2020	22/09/2020	31/12/2020	12/07/2021	18853	3771	2628	3541	6874	1941	3869
Germany	Merkel	female	5	18/03/2020	23/03/2020	23/04/2020	31/12/2020	17/11/2021	9059	1812	1619	775	3413	962	2290
India	Modi	male	5	19/03/2020	29/03/2020	03/04/2020	26/09/2020	25/09/2021	7919	1584	1812	2260	838	1502	1507
New Zealand	Ardern	female	5	21/03/2020	23/03/2020	25/03/2020	17/08/2020	24/09/2021	8574	1715	1207	1819	1876	1149	2523
Norway	Solberg	female	5	18/03/2020	29/05/2020	26/09/2020	01/01/2021	22/09/2021	7280	1456	789	841	1754	2373	1523
Scotland	Sturgeon	female	5	17/03/2020	24/03/2020	07/10/2020	04/01/2021	08/07/2021	12813	2563	983	1879	3586	4068	2297
South Africa	Ramaphosa	male	5	15/03/2020	23/03/2020	28/12/2020	31/12/2020	30/09/2021	11772	2354	2085	2865	3276	1347	2199
Spain	Sanchez	male	5	13/03/2020	04/04/2020	25/09/2020	29/12/2020	25/10/2021	20509	4102	924	3375	3394	10249	2567
Sweden	Loefven	male	5	22/03/2020	08/09/2020	22/11/2020	20/12/2020	14/09/2021	10320	2064	740	3981	853	830	3916
Taiwan	Ing-wen	female	5	19/03/2020	01/04/2020	20/05/2020	31/12/2020	10/10/2021	10682	2136	1501	941	3785	1407	3048
UK	Johnson	male	5	12/03/2020	23/03/2020	31/10/2020	31/12/2020	22/09/2021	6601	1320	1077	898	1774	687	2165

As discussed in 2.5.6, based on a number of studies in each case, individual leaders were given labels for primary leadership archetype, secondary leadership archetype, and related *grand narrative era*

conception of knowledge, i.e. modern, postmodern or metamodern. These are mentioned in the discussion of quantitative results and references to research questions, as well as in the metaphor analysis (4.5).

The speeches cover

- the first stage of COVID-19, from around the time of the WHO declaring it a pandemic on 12th March 2020, the first travel restrictions and national lockdowns, to the easing of first wave restrictions in April/May 2020;
- the second stage of COVID-19, from July/August and the build-up of the second wave, to the beginning of 2021 (including various Christmas and New Year addresses by leaders);
- the third stage of COVID-19, from April 2021 with the impact of global vaccination efforts and more informed management of new waves and variants.

44 of the speeches cover the first phase, with about 36.4% of total word count. 37 of the speeches cover the second phase, with about 43.5% of word count. The third phase is covered by 19 speeches, with 20.2% of word count. Average speech length during phase 1 is 1,604 words. This increases significantly to an average of 2,279 words per speech in phase 2, when speeches are less focused on emergency measures, and more on longer-term implications and the future post pandemic. In phase 3, the average drops slightly, to 2,060 words.

Figure 18 below lists the word count for the 20 sub-corpora ranges from more than 20,000 words at the top end (Pedro Sánchez), to just over 5,000 words at the low end (Jair Bolsonaro). Individual speeches vary widely, from Justin Trudeau's brief New Year's address (271 words) to Pedro Sánchez's end of year address to parliament (10,249 words). Of the 100 selected speeches, 29 have fewer than 1,000 words; 35 have between 1,000 and 2,000 words; 20 have between 2,000 and 3,000 words; 11 have between 3,000 and 4,000 words; only five speeches have more than 4,000 words, with the three highest being Emmanuel Macron (6,874 words, 22nd September 2020), Mette Frederiksen (7,120, 6th October 2020), and Pedro Sánchez (10,249, 29th December 2020).

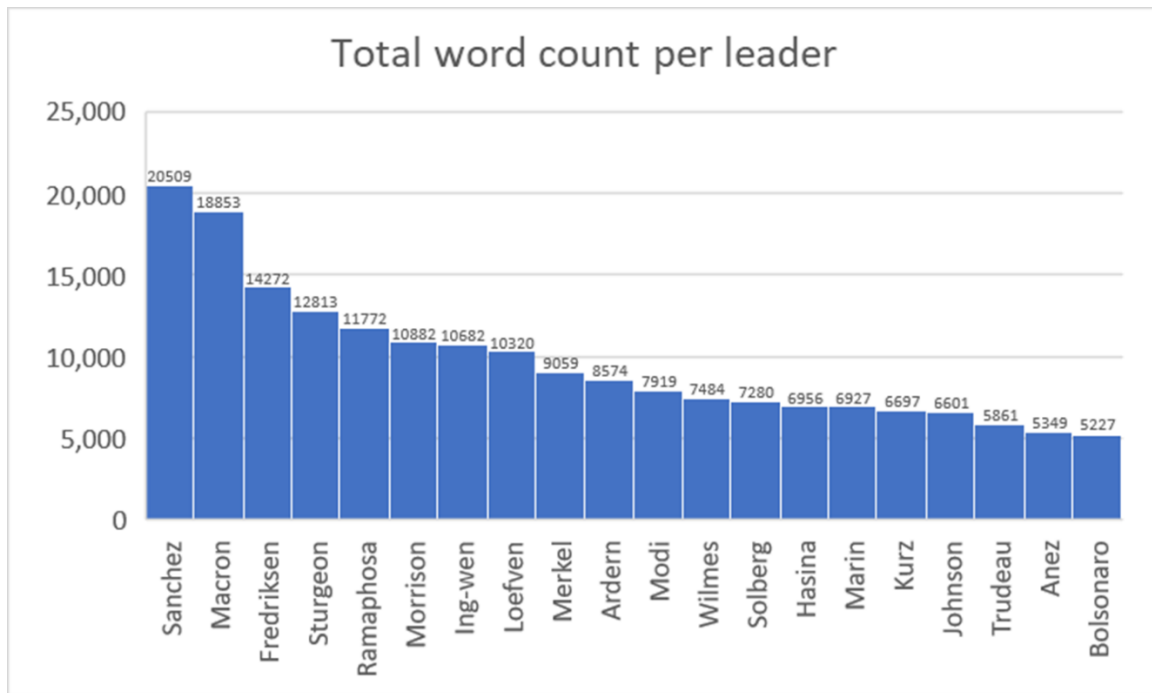


Figure 16 [own design]: Word count for every leader's sub-corpus, ranked by volume

The speeches vary in context and audience focus, with some aiming directly at the general public as televised addresses, such as Angela Merkel's speech from 18th March 2020, which won a 'speech of the year' accolade (Rhetorik 2020). Many were part of regular press conferences, with the leaders using introductory remarks to address the public, or televised addresses to parliament. Where possible, public holiday addresses such as Christmas or New Year were included, since leaders often employ a more reflective, emotional voice for such events. Addresses to the UN General Assembly (UNGA) in September/October 2020 and 2021 were also included, where they had a significant COVID-19 focus. Another reason for the inclusion of UNGA addresses by national leaders was their broad availability in full text format in English. Most speeches also cover topics other than COVID-19. Their full inclusion is justified because a) they show how the leaders embed the COVID-19 discussion within wider agendas and b) they represent the overall style and register of the speaker.

Figure 19 below lists the average word count per speech per leader, indicating that (at least some) male technocratic European leaders lean toward longer speeches, whereas populist leaning leaders in developing countries lean toward shorter speeches.

Comparison of sentence length

One of the units of analysis in this study is ‘sentence’. With regard to speeches, this can be criticised: “Sentence- level structures are only indirect and impoverished reflections of the interplay of linguistic forms that emerge in oral discourse” (Hopper 2023, p.414). For the purposes of this study, sentences are recognised in as far as they can be gleaned from transcripts of spoken text (see Chafe 2015, pp.392-393 for sentences as ‘Centers of Interest’). Average sentence length varies between analysed leader. Pedro Sanchez has the highest average (about 28 words per sentence), and Mette Frederiksen has the lowest average (about 14 words). Shorter statements can convey authority and certainty (Charteris-Black 2018, p.105). It can also highlight an informal and direct style that conveys the language of everyday life and common people, reducing social distance (Charteris-Black 2018, p.167). A study of US Congressional speeches, Božić Lenard (2016) found that there was no statistically relevant gender effect on the length of sentences in speeches, whereas female politicians appeared to use longer sentences and more complex language “due to the female politicians feeling that they needed to prove themselves more than their male colleagues, hence the higher and more scholar[ly] preparation for speeches” (p.1422).

Populist leaders might be more likely to use shorter sentences than empathetic leaders, and technocratic leaders might be the most likely to use longer sentences. However, personal style and register, occasion and audience as well as cultural differences are also likely to be factors in sentence length. Figure 21 below shows that the average sentence length in the corpus varies from just over 28 words per sentence (Sebastian Kurz), to less than half that, at 13.5 words per sentence (Mette Frederiksen). There is some correlation between sentence length, and readability – the working assumption being that shorter sentence length is correlated with higher readability (i.e. a lower readability score): Mette Frederiksen has the shortest average sentence length, and Justin Trudeau the third-lowest; Trudeau also has the second-lowest readability score, and Frederiksen the third-lowest. Other factors play a role here, such as cultural and personality differences between leaders. It is notable that the four leaders with the highest average sentence length (Kurz, Sánchez, Johnson, Bolsonaro) and six of the top eight are all male. The two leaders with the shortest sentences on average are female (Frederiksen and Solberg), as are five of the lowest seven. Most speeches were delivered in the respective national language and were either made available as English transcripts on government websites, or translated by the AI-based translation function available in Word 365. All translations were thoroughly sense-checked by the researcher.

The data suggests that male leaders with populist or technocrat leanings are more likely to use longer sentences, whereas female leaders, or male leaders with empathetic leanings, are more likely to use shorter sentences.

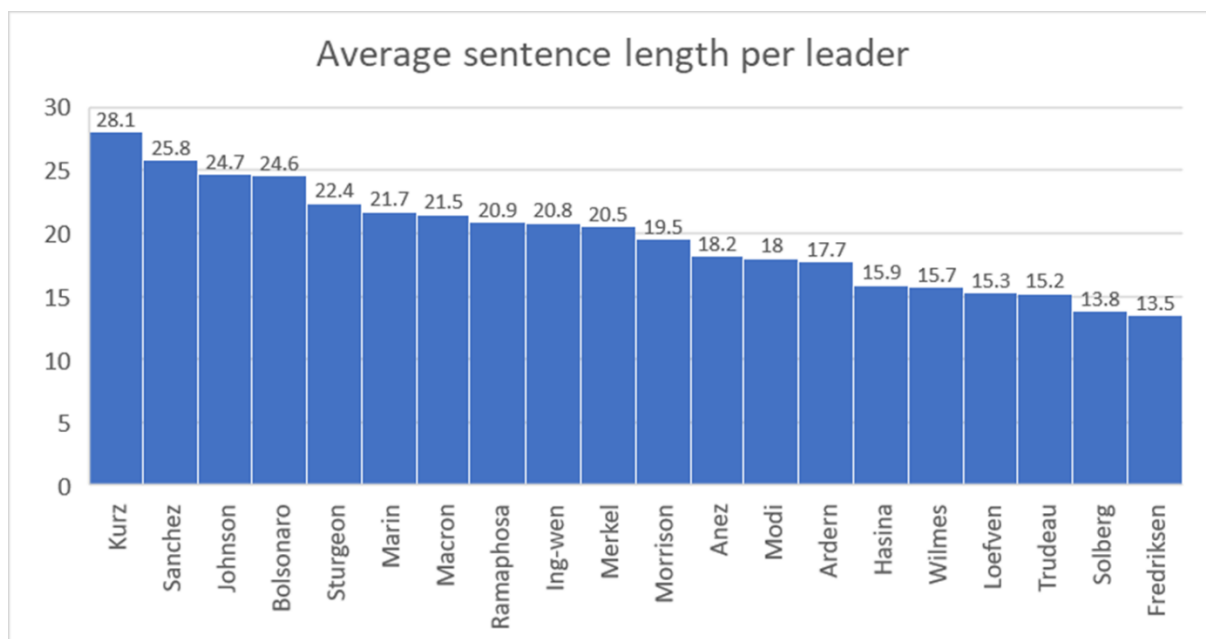


Figure 19 [own design]: Average sentence length per leader sub-corpus (based on Voyant Tools calculation)

Comparison of readability (based on Coleman Liau index)

Average readability based on the 20 sub-corpora is 10.24, based on Voyant Tool's application of the Coleman-Liau index (Coleman and Liau 1975), which equates to a reading age of about 16. The scores among the leaders in the corpus range from a reading age of about 18.5 at the high end (Sanna Marin), to about 14 at the low end (Boris Johnson). Similar to sentence length, readability can be assumed to be correlated with ideology (Schoonvelde et al. 2019) and thus leadership types, as well as gender (Mulac et al. 2013). For example, a more technocratic leadership type might have a more complex way of making an argument and would thus represent a higher reading age. Also, as stated by Božić Lenard (2016), female leaders might feel they have to 'prove themselves' through language choices.

At the same time, both populist and empathetic leaders might tend toward making a simpler argument, and thus represent a lower reading age. There is some indication in the data that these are valid assumptions: Boris Johnson, who has the lowest readability score (and thus the lowest reading age), represents the populist leadership type. Justin Trudeau, with the second lowest readability score, represents the empathetic leadership type. At the other end of the spectrum, with a readability score that is about 50% higher than Johnson's or Trudeau's, both Sanna Marin (with the highest score) and Tsai Ing-wen (with the second highest score) have some technocratic leaning – even though Sanna Marin is generally seen as an empathetic leader. On the other hand, Sophie Wilmès (a technocratic leader) and Jair Bolsonaro (a populist leader) have almost identical

readability scores. The differences in readability have a range of impacting factors, however all of these appear to have a limited impact by themselves. Sanna Marin is a young female Scandinavian leader and shows the highest readability score of all the twenty analysed leaders. Mette Frederiksen is also a young female Scandinavian leader, however she has one of the lowest readability scores in the sample. Syntactic as well as lexical observations help guide further qualitative investigations that help contextualise and explain data points from a rhetorical and discursive perspective. By themselves, however, they usually carry limited explanatory weight and must therefore not be overinterpreted.

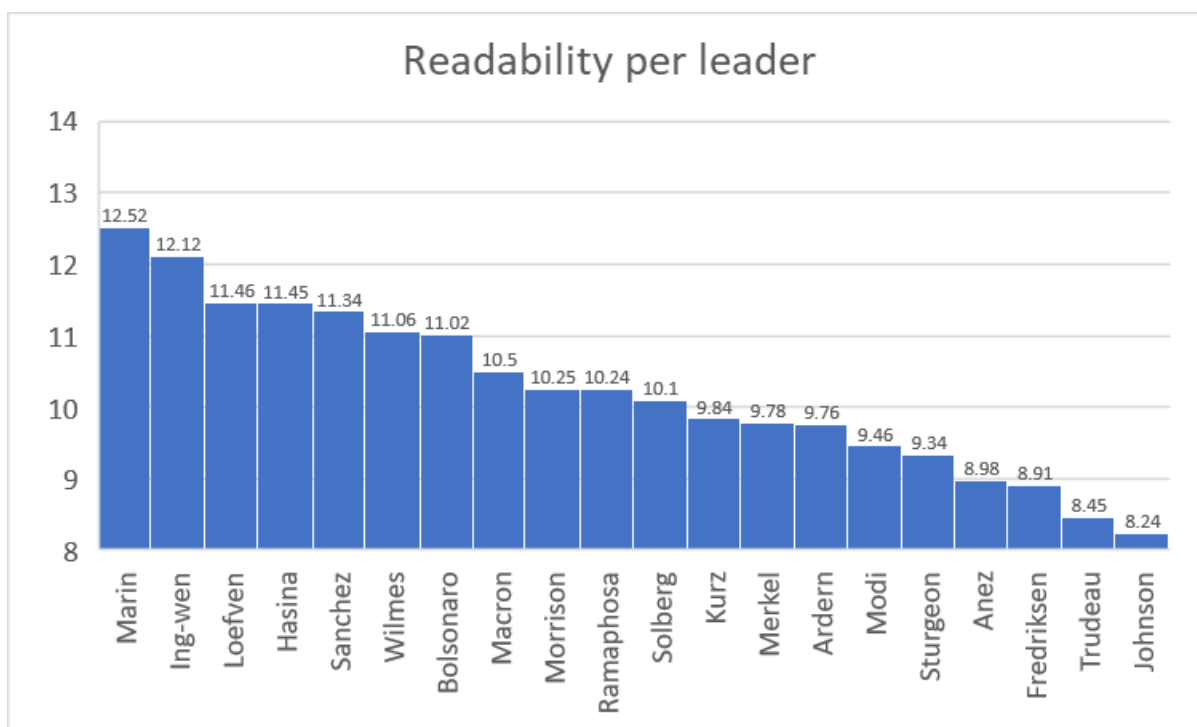


Figure 20 [own design]: Readability per leader sub-corpus, based on Voyant Tools' use of Coleman-Liau index (https://en.wikipedia.org/wiki/Coleman-Liau_index)

4.3 Female vs Male analysis clusters

This section first looks at the prominence of word groups in the aggregate scores from the female and male sub-corpora as a distance from the corpus ratio, then it applies the same metric to a number of semantic clusters, to explore similarities and differences between male and female leaders. The relationship between language and gender in politics is a well-researched field (Ahrens 2009b; Charteris-Black 2009a; Koller and Semino 2009; Sorrentino and Augoustinos 2016). It has

gained new interest during the COVID-19 pandemic (Dada et al. 2021; Power and Crosthwaite 2022), and this study adds to that research. As shown in 4.4 and then further explored in section 4.5, findings for individual leaders' often don't align with aggregate female vs male findings. This is relevant and needs to be discussed in the context of other factors impacting on leaders' discursive behaviour (such as ideology, biography, psychology, and in particular the context of the speech). However, that does not undermine the validity of female vs male sub-corpora comparisons, aggregating the respective scores of the chosen ten female, and male leaders.

The comparisons are between frequencies of observations, as well as distances from calculated means. For the latter, statistical significance has been calculated as a p-value using a two-proportion z test (Wooditch et al. 2021). Results are reported as summaries in the respective sections, referring to scores above and below significance levels without listing individual scores (see appendix for full data tables). Statistically non-significant results are reported and discussed as they are a part of the overall observations, and thus relevant from an exploratory perspective (Visentin et al. 2020).

This section addresses RQ 1: Is gender a factor in the preference of certain word groups?

RQ 3: Is gender a factor in the preference of certain semantic clusters?

4.3.1 Female vs Male discourse corpus characteristics

The female corpus has 89,369 words (46.1% of overall corpus), with an average readability per sub-corpora of 10.4, and an average sentence length of 18 words.



Figure 21: Word cloud of female corpus; from www.voyant-tools.org

semantics and pragmatics” (p.33). Accordingly, this chapter explores those areas and their boundaries, and it also considers stereotypical and self-reinforcing *gender-linked language effects* (Mulac 2006; Mulac et al. 2013), such as women’s alleged use of more emotive, social and inclusive language, and men’s alleged use of more instrumental, impersonal, fact-based and dynamic language. A recent analysis of more than 1,000 TED talks between 1990 and 2017 (32% female and 68% male) comes to similar conclusions regarding continued stereotyping, summarised as ‘warmth for female, competence for male language’ (Meier et al. 2020).

This section addresses RQ1: Is gender a factor in the preference of certain word groups?

This includes frequency distribution, as well as the comparison of prominence (i.e what is the percentage share of a word group in a sub-corpus, compared to the overall corpus ratio) and qualitative analysis of word usage (concordances and comparisons of word lists) for nouns, verbs, adjectives, personal pronouns, modal verbs, and conjunctive adverbs. Where possible, and considering “multifunctionality and the absence of a direct relationship between form and function” (Walsh 2021, p.211), findings will be assessed by individual, gender and assumed leadership style.

The differences between female and male leaders with regard to the prominence of word groups in their speeches are small in most cases: female leaders use adjectives to a slightly higher degree, and male leaders use more verbs. 11 of 20 speakers show a statistically significant deviation in adjective density from the corpus average of 8.41%, while 9 speakers do not differ meaningfully from the norm (see details in section 4.4.1 Comparison of adjective use). 13 of 20 speakers deviate significantly from the corpus-wide verb rate of 17.30%, while 7 show no significant difference (see details in section 4.4.1 Comparison of verb use). The scores are almost even in the use of nouns, even though 16 of 20 speakers show a statistically significant difference in noun density from the corpus average (see details in section 4.4.1 Comparison of noun use). Male leaders use slightly more pronouns – though those differences become much more distinct when broken into the different personal pronouns (see following section). 14 of 20 speakers deviate significantly from the corpus-wide pronoun rate of 7.1% (see details in section 4.4.1 Comparison of pronoun use).

The differences between the two sub-corpora increase when looking at the use of modal verbs and conjunctive adverbs: in both cases, female leaders show higher use (distinctly so in the case of conjunctive adverbs). In the case of modal verbs, differences in modality (Charteris-Black 2018, pp.121-129) are relevant for this study: epistemic modality (e.g. might, must be, could, seem) relates to knowledge, truth, accuracy or certainty. Deontic modality, expressing obligation (e.g. must, have to, should, ought to), permission (e.g. may, can, allowed to) or prohibition (e.g. must not, cannot), relates to authority and agency. Dynamic modality (e.g. can, will, tend to), expressing ability or

inclination, relates to personality and internal properties. This will be discussed further in section 4.4.1 'Comparison of modal verb use'. It should be noted that only 11 of 20 speakers deviate significantly from the corpus modal verb rate of 2.44%, while 9 are statistically indistinguishable from the norm.

Leone (2022) explored the use of modals in spoken British English between 1994 and 2014 and found an overall increase in use, as well as some differences between male and female speakers – although the main observation from 2014 data is one of “increasing similarities between male and female talk” (p.1330). In her critique of Robin Lakoff’s (1975) hypothesis of women tending to use unassertive speech forms, Sommerlund (2017) finds no conclusive evidence but rather “that hedges are multifunctional, and that women may use certain speech forms more than men in some situations, but not in others” (p.25). Recent research findings on hedging through modal verbs as a linguistic device mainly deployed by women confirms this view (Schmauss and Kilian 2023).

The word group results are more distinct when looking at conjunctive adverbs. Especially words expressing alternative viewpoints are used markedly more often by female leaders: one of however, although, though and instead is used 125 times in female speeches, and only 55 times in male speeches. Confronted with the radical uncertainty of COVID-19 (Méndez 2021), one might reasonably expect a cautious, in fact hedging, approach to presenting data in a situation where everything is in flux. The data shows that this is true for some leaders in some situations, but not for all in all situations. Thus the ability to admit to not knowing for certain, the sense to deliberate and see things from different angles can be seen as a form of humility, which has been introduced earlier as one of several metamodern leadership traits. The data indicates that this ability is more likely to express itself in female leaders. 16 of 20 speakers deviate significantly from the corpus conjunctive rate of 0.9%, (see details in section 4.4.1 Comparison of pronoun use)

RQ1 “Is gender a factor in the preference of certain word groups?” can thus be answered affirmatively: gender is a factor in the use of conjunctive adverbs in particular, but also in the use of modal verbs. While the data is less distinct, female leaders also use more adjectives, than male leaders, and male leaders use more verbs. There is almost no difference in the use of nouns.

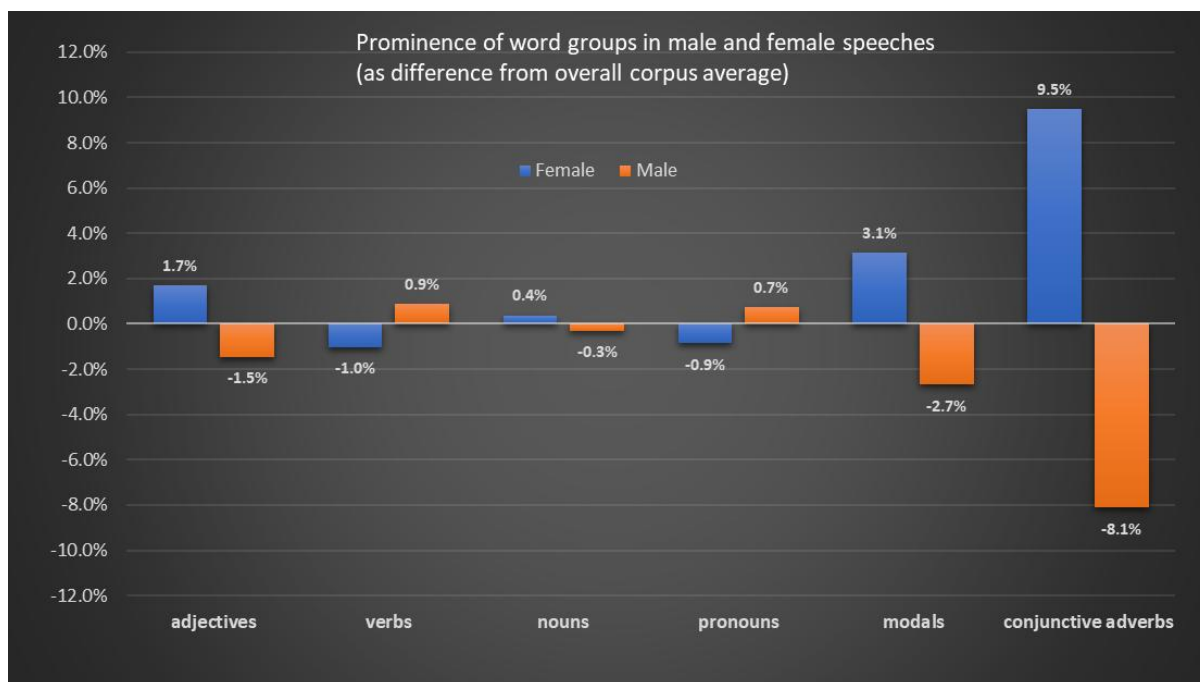


Figure 23 [own design]: Prominence of word groups based on Sketch Engine part-of-sentence tagging in female vs male speeches

Comparison of pronoun use

Pronoun choices are critical factors in political discourse, not least as markers for in-group and out-group status (Van Dijk 2006). Additionally, context and intended audience determine the specific meaning. For example, Darics and Koller (2019) describe six uses of “we” relative to the relationship between communicator, audience and third parties (pp.227-229). Not all uses of “we” are thus inclusive, as political communicators can use it to shift between representations. As Charteris-Black (2018) points out, “in political rhetoric, speakers use ‘we’ in a rather loose way that could refer either to the speaker alone, to his or her party or to any group who he seeks to represent himself as speaking for – such as the nation or even the whole of humanity” (pp.110-111). While taking these nuances into account, the observations that follow are generally on a broader, more aggregate level.

The overall comparison of pronoun prominence in the female and male sub-corpora shows little difference: male leaders show a slightly higher ratio of pronouns. When broken into 1st, 2nd and 3rd person (singular and plural), however, some distinct patterns emerge. Female leaders use 1st person singular (I, me, my) and plural (we, us, our) more often, than male leaders. The differences become more pronounced for 2nd person (you, your) and 3rd person (they, them, their). On aggregate, male leaders use these pronouns clearly more often, than female leaders. The use of these pronouns is often associated with ‘othering’ – talking about they and them, as opposed to we and us, is a discursive choice of focus and positioning. Similarly, talking about you and your in the context of

pandemic measures might indicate a form of responsibility allocation: not something that is shared by all (including the leader and their government), but something that is the declared responsibility of the addressed (Kazazi 2025).

Statistical significance tests show that 11 of 20 speakers deviate significantly from the corpus average for first-person singular pronouns, while 9 do not. 13 of 20 speakers deviate significantly from the corpus average for first-person plural pronouns, while 7 cluster around the norm. 11 of 20 speakers deviate significantly from the corpus-wide second-person rate, while 9 fall within the expected range. 9 of 20 speakers deviate significantly from the corpus average for third-person plural, while 11 show no meaningful difference. For more detail, see respective sections in 4.4.1.

RQ1 “Is gender a factor in the preference of certain word groups?” can thus be answered affirmatively with regard to the use of specific pronouns: female leaders use 1st person singular and plural slightly more often. The differences are more distinct on 2nd person singular and plural, and 3rd person plural – in both cases, the data skews strongly toward male use.

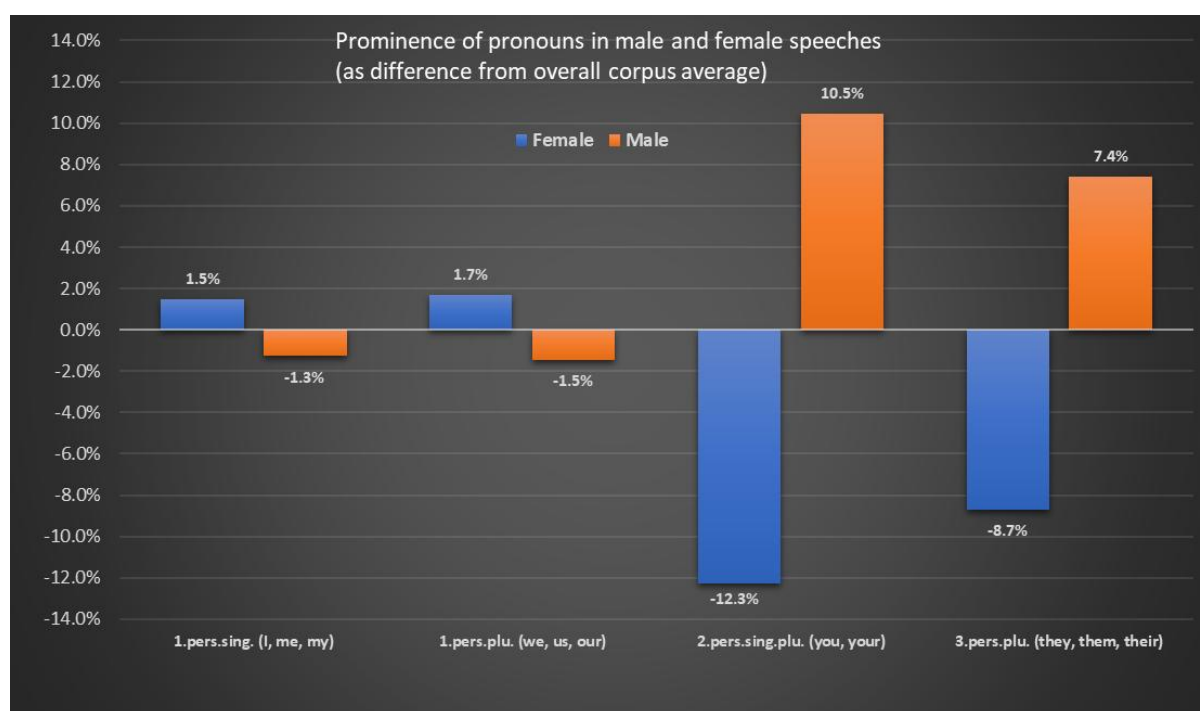


Figure 24 [own design]: Prominence different pronouns (based on Sketch Engine word list searches) in female vs male speeches

[4.3.2 Comparison of discursive frames](#)

The following section looks at a number of frames – defined as distinct clusters of words used in leaders’ speeches – based on aggregate prominence scores (over- and underrepresentation vs total average) in the female, and male sub-corpora. The included lemmas, or basic word forms, are listed alphabetically in the chart, and by frequency of use, divided into female and male. Salient individual observations are mentioned and then followed up in more depth in the metaphor analysis (4.5).

The data is presented in a ‘trptych’, grouping together the female vs male comparisons of three different frames. In each case, there is a common assumption of the female, or the male cohort displaying a stronger preference for the use of words making up the semantic cluster of the frame (even though in some cases, that expected preference may be weak or ambiguous). In the first case, the frames are War (male preference expected), Family (female preference expected), Suffering (expectation not clear). In the second case, the frames are Science (expectation not clear, though perhaps leaning female), Listen and Learn (female preference expected), Resilience (male preference expected). In the third case, the frames are Empathy (female preference expected), Control (expectation not clear, though perhaps leaning male), and Crisis (expectation not clear, though perhaps leaning male due to choice of strong and hyperbolic words in the semantic cluster). In the fourth case, the frames are Community (female preference expected), Natural Force (male preference expected), and Inequality (expectation not clear, though perhaps leaning female due to similarity to Empathy frame).

This section addresses RQ3: Is gender a factor in the preference of certain semantic clusters?

[Comparison of triptych 1: War, Family, Suffering frames](#)

As expected, male leaders’ speeches have more incidences of lemmas – i.e. all forms of a word – in the semantic cluster representing the War frame, than female leaders. However, the distances from the overall corpus ratio in both cases are smaller than for the other frames analysed (female speeches are 5.6% lower than corpus ratio, male speeches are 4.8% higher). At first sight, this may seem surprising (Luoto and Varella 2021). However, as shown in *4.4.2 Comparison of War frame*, two female leaders (Áñez, Ing-wen) have the highest ratio of War-related language. At the bottom end of the ranking, Sturgeon has the lowest score, followed by Marin the third-lowest, and four of the five bottom scores are by female leaders. Overall, therefore, male leaders use the War frame more than female users, but to a lesser degree, than might have been expected based on other data evidence (Musolff 2022a; Schermerhorn and Vescio 2022).

10 of 20 speakers deviate significantly from the corpus war frame rate of 0.4% (of total words in the corpus), with four above (Ing-wen, Áñez, Modi, Macron) and six below the threshold (Sturgeon, Frederiksen, Marin, Kurz, Merkel, Morrison) – though the non-significant middle group of 10 speakers is notably large, suggesting that war framing is a feature many leaders use at roughly average levels while a clear minority appear to adopt or reject it.

In the same way as general expectation would be for male leaders to use the War frame more often, than female leaders, the reverse expectation would be for female leaders to use the family frame more often. The data confirms this, with female speeches using Family related language 11.2% more than the corpus ratio, whereas male speeches do so 9.6% less often. As discussed in 4.4.2

Comparison of Family frame, Áñez's score is way ahead of the other leaders in that respect, with the lemma family accounting for half of her uses of expressions within the frame (39 out of 79 in total). This is mainly due to her regular references to 'Bolivian families' (instead of, for example, citizens) in her addresses. See 4.5 for more qualitative insight on Áñez. 11 of 20 speakers deviate significantly from the family frame rate, with 5 significantly above (Áñez, Modi, Hasina, Trudeau, Johnson) and 6 significantly below (Wilmes, Sanchez, Macron, Solberg, Ramaphosa, Morrison). The family frame is rhetorically significant in COVID-19 communication as it can construct the pandemic as a domestic, intimate threat requiring personal responsibility at the household level.

The Suffering frame, including language referring to the various adverse consequences of the pandemic, had no clear upfront expectation regarding a gender preferences. However, the data reveals that the distance between the male sub-corpus (6.6% higher presence) and the female sub-corpus (7.8% lower presence) is larger, than in the War frame. In fact, eight of the ten highest ratios are by male leaders (Sturgeon in third and Merkel in fourth place are the only exceptions). Only 6 of 20 speakers deviate significantly from the suffering frame rate of 0.3% (of total words in corpus), with 4 above (Ramaphosa, Sturgeon, Merkel, Kurz) and 2 below (Morrison, Ing-wen). The remaining 14 form a broad, normally distributed middle group – making the suffering frame, like the empathy frame, relatively uniformly distributed across the corpus with only a handful of clear outliers.

RQ3: "Is gender a factor in the preference of certain semantic clusters?" can thus be answered affirmatively with regard to the "war" and "family" frames, with "family" showing a stronger gender leaning than "war". The "suffering" frame leans male, which is somewhat surprising.

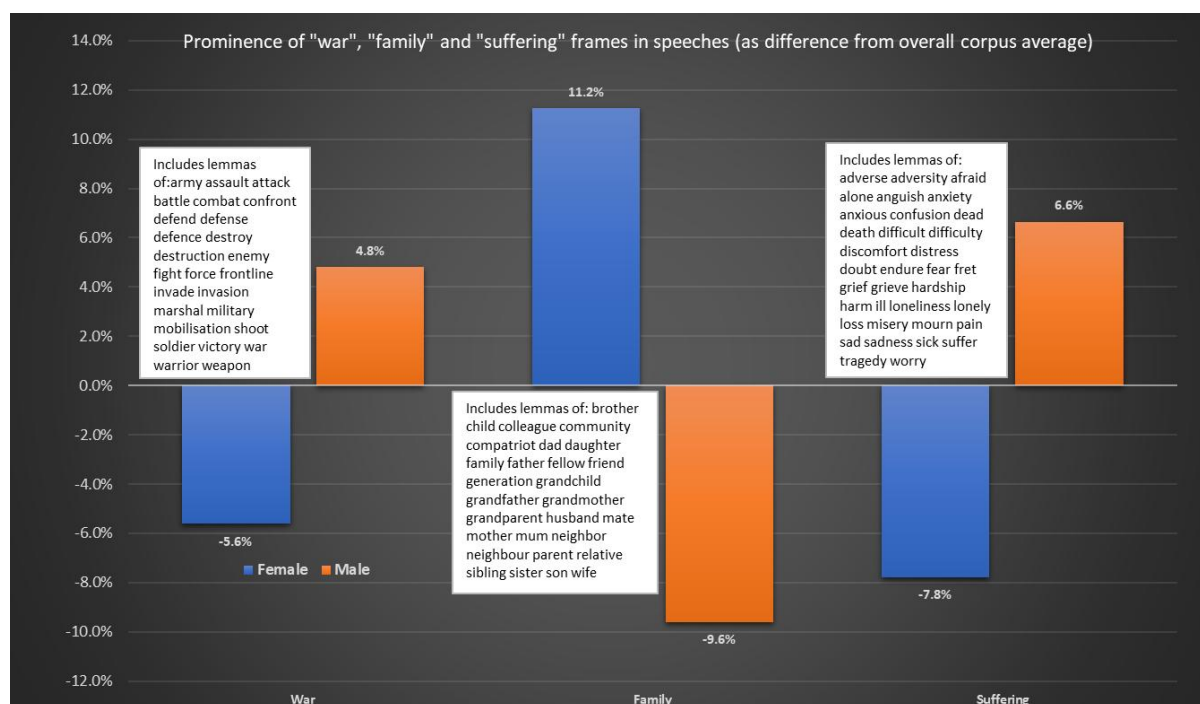


Figure 25 [own design]: Prominence of war, family and suffering frames in female vs male corpora (based on Sketch Engine word list searches)

Table 5 below shows the distribution of lemmas in the semantic cluster for the War frame. Most of the same expressions are top of both rankings, though it is notable that more directly aggressive martial expressions such as combat, attack or war, occur about twice as often in the analysed male speeches, than they do in female speeches.

Table 5 [own design]: War frame comparison of lemma frequency and sub-corpus presence in female vs male corpora (based on Sketch Engine word list searches; percentages indicate share of total)

	War frame	Female				War frame	Male		
	Lemma	Frequency	Sub-Corpora	%		Lemma	Frequency	Sub-Corpora	%
1	fight	63	9	18.2%	1	fight	94	10	20.8%
2	force	46	10	13.3%	2	force	49	10	10.9%
3	conflict	26	4	7.5%	3	war	34	6	7.5%
4	military	20	3	5.8%	4	combat	30	8	6.7%
5	defense	20	4	5.8%	5	defence	26	7	5.8%
6	war	19	6	5.5%	6	threat	23	7	5.1%
7	threat	17	5	4.9%	7	confront	19	6	4.2%
8	battle	17	5	4.9%	8	military	16	6	3.5%
9	combat	14	7	4.0%	9	battle	16	4	3.5%
10	defence	12	2	3.5%	10	frontline	13	6	2.9%
11	struggle	12	5	3.5%	11	victory	11	3	2.4%
12	damage	9	4	2.6%	12	attack	11	5	2.4%
13	weapon	9	4	2.6%	13	damage	10	6	2.2%
14	harm	8	2	2.3%	14	conflict	10	5	2.2%
15	defend	8	3	2.3%	15	struggle	9	6	2.0%
16	beat	6	6	1.7%	16	command	8	3	1.8%
17	enemy	6	4	1.7%	17	weapon	8	4	1.8%
18	army	5	2	1.4%	18	beat	8	5	1.8%
19	troop	5	2	1.4%	19	defend	7	4	1.6%
20	confront	4	3	1.2%	20	destruction	7	4	1.6%
21	destruction	4	3	1.2%	21	harm	7	3	1.6%
22	frontline	4	3	1.2%	22	destroy	6	5	1.3%
23	attack	4	3	1.2%	23	soldier	6	3	1.3%
24	command	2	1	0.6%	24	enemy	5	4	1.1%
25	victory	2	2	0.6%	25	army	4	3	0.9%
26	destroy	2	2	0.6%	26	defense	3	1	0.7%
27	soldier	1	1	0.3%	27	restrain	2	1	0.4%
28	invade	1	1	0.3%	28	assault	2	2	0.4%
29	mobilisation	1	1	0.3%	29	extinction	1	1	0.2%
	Total	347			30	shoot	1	1	0.2%
					31	extinguish	1	1	0.2%
					32	invasion	1	1	0.2%
					33	mobilisation	1	1	0.2%
					34	marshal	1	1	0.2%
					35	warrior	1	1	0.2%
					Total	451			

Table 6 below shows the distribution of lemmas in the semantic cluster for the Family frame.

Unsurprisingly, given the main purpose of the selected speeches, the lemma home tops the list of expressions in the semantic cluster. This is made up largely of appeals to stay at home, work from home, not leaving one's home, and similar. Overall, the lemma family ranks before child, however female leaders mention children more often, than family.

Table 6 [own design]: Family frame comparison of lemma frequency and sub-corpus presence in female vs male corpora (based on Sketch Engine word list searches; percentages indicate share of total)

	Family frame	Female				Family frame	Male		
	Lemma	Frequency	Sub-Corpora	%		Lemma	Frequency	Sub-Corpora	%
1	home	120	10	25.5%	1	home	109	10	24.4%
2	child	87	10	18.5%	2	family	101	10	22.6%
3	family	79	9	16.8%	3	child	77	10	17.2%
4	citizen	70	7	14.9%	4	citizen	51	6	11.4%
5	parent	23	5	4.9%	5	parent	37	8	8.3%
6	household	21	5	4.5%	6	household	18	4	4.0%
7	father	20	5	4.3%	7	grandparent	9	7	2.0%
8	brother	14	3	3.0%	8	mother	8	6	1.8%
9	mother	11	5	2.3%	9	relative	7	6	1.6%
10	relative	7	5	1.5%	10	father	6	4	1.3%
11	sister	7	3	1.5%	11	sister	6	3	1.3%
12	grandparent	4	1	0.9%	12	brother	6	3	1.3%
13	husband	2	2	0.4%	13	dad	3	3	0.7%
14	wife	2	2	0.4%	14	mum	2	2	0.4%
15	son	1	1	0.2%	15	husband	1	1	0.2%
16	mum	1	1	0.2%	16	wife	1	1	0.2%
17	daughter	1	1	0.2%	17	son	1	1	0.2%
	Total	470			18	kin	1	1	0.2%
					19	daughter	1	1	0.2%
					20	mom	1	1	0.2%
					21	sibling	1	1	0.2%
						Total	447		

Table 7 below shows the distribution of lemmas in the semantic cluster for the Suffering frame. It is not immediately obvious why the Suffering frame is employed more often in male speeches. Some expressions stand out for their gender leaning: women leaders mention death twice as often, as male leaders. Suffering and suffer, on the other hand, appears almost three times as often in male speeches, than in female ones. Worry gets articulated three times more often in male, than in female speeches.

Table 7 [own design]: Suffering frame comparison of lemma frequency and sub-corpus presence in female vs male corpora (based on Sketch Engine word list searches; percentages indicate share of total)

	Suffering frame	Female				Suffering frame	Male		
	Lemma	Frequency	Sub-Corpora	%		Lemma	Frequency	Sub-Corpora	%
1	difficult	63	10	25.6%	1	difficult	63	9	18.9%
2	death	28	8	11.4%	2	suffer	42	7	12.6%
3	alone	19	10	7.7%	3	alone	28	8	8.4%
4	suffer	16	8	6.5%	4	loss	21	7	6.3%
5	loss	15	6	6.1%	5	worry	21	9	6.3%
6	ill	13	5	5.3%	6	difficulty	18	6	5.4%
7	fear	10	5	4.1%	7	death	14	8	4.2%
8	difficulty	10	5	4.1%	8	fear	14	7	4.2%
9	harm	8	2	3.3%	9	doubt	13	5	3.9%
10	doubt	8	5	3.3%	10	sick	12	5	3.6%
11	worry	7	5	2.8%	11	ill	10	2	3.0%
12	afraid	6	4	2.4%	12	hardship	9	5	2.7%
13	sick	6	6	2.4%	13	tragedy	8	5	2.4%
14	endure	5	4	2.0%	14	pain	8	4	2.4%
15	pain	4	4	1.6%	15	mourn	7	3	2.1%
16	lonely	4	2	1.6%	16	harm	7	3	2.1%
17	hardship	3	3	1.2%	17	afraid	6	3	1.8%
18	loneliness	3	3	1.2%	18	loneliness	5	3	1.5%
19	sadness	2	1	0.8%	19	endure	4	4	1.2%
20	anxiety	2	2	0.8%	20	dead	4	3	1.2%
21	adverse	2	2	0.8%	21	distress	3	1	0.9%
22	mourn	2	1	0.8%	22	sad	3	2	0.9%
23	adversity	2	2	0.8%	23	adversity	3	1	0.9%
24	anxious	2	2	0.8%	24	sadness	2	1	0.6%
25	distress	1	1	0.4%	25	anxiety	2	2	0.6%
26	discomfort	1	1	0.4%	26	grieve	2	2	0.6%
27	grieve	1	1	0.4%	27	fret	1	1	0.3%
28	grief	1	1	0.4%	28	confusion	1	1	0.3%
29	anguish	1	1	0.4%	29	lonely	1	1	0.3%
30	tragedy	1	1	0.4%	30	misery	1	1	0.3%
	Total	246				Total	333		

Comparison of triptych 2: Science, Listen and Learn, Resilience frames

During the pandemic, one of the most repeated mantras – not least by the British government – was that decision-makers *follow the science* (Charteris-Black 2021). In this data view, the Science frame gets compared to the Listen and Learn, and Resilience frames. For the Science frame, there was no clear expectation with regard to gender. However, a slight leaning toward the female sub-corpus was assumed, based on the observation that “some male leaders, such as Trump, Bolsonaro and Serbian president Aleksandar Vucic have opted to handle the health crisis adopting a typically masculine approach by privileging highly masculinized views of strength, such as dismissing scientific orthodoxy or refusing to wear a mask” (Baider and Constantinou 2022, p.288). In this analysis, both sub-corpora were close to the corpus ratio, with female speeches showing a 5.7% higher (than corpus ratio) rate of using this frame, whereas male speeches were 4.8% lower. The use of specific expressions is analysed further below. Significance tests show that six speakers use science frame

vocabulary at significantly elevated rates (Ramaphosa, Merkel, Marin, Sturgeon, Johnson, Hasina), whereas seven speakers (Macron, Áñez, Wilmes, Morrison, Sanchez, Frederiksen, Löfven) show significantly low rates.

The second part of the *listen to the science frame* is made up of lemmas contributing to the Listen and Learn frame in this study. The expectation was for higher use in the female sub-corpus, and the data confirms this. However, again the differences are smaller than expected: the appearance of this frame in female speeches is 4.8% higher than the corpus ratio, whereas it is 4.1% lower than the corpus ratio in male speeches. As discussed in 4.4.2 *Comparison of Listen and Learn frame*, five female leaders have the highest ratios for this frame (Áñez, Merkel, Wilmès, Ardern, Sturgeon). However, two female leaders also had the lowest ratios (Hasina, Ing-wen). Only Áñez and Merkel (above), and Ing-wen and Hasina (below) deviate from the average in a statistically significant way.

The Resilience frame overlaps with the War frame (including some lemmas in the semantic cluster), therefore the 5.2% higher than corpus ratio use in male speeches, compared to 6% lower use in female speeches, conforms to expectation. Statistically significantly above corpus average are Áñez, Modi, Macron, Löfven, Wilmes. Merkel, Hasina, Kurz, Ramaphosa, Morrison and Sturgeon are significantly below average.

Female leaders are thus more likely to *listen to the science*, and male leaders are more likely to invoke images of *Resilience* – though there are notable exceptions, which are discussed further in the respective individual leaders' sections.

RQ3: "Is gender a factor in the preference of certain semantic clusters?" can thus be answered affirmatively with regard to all three analysed frames.

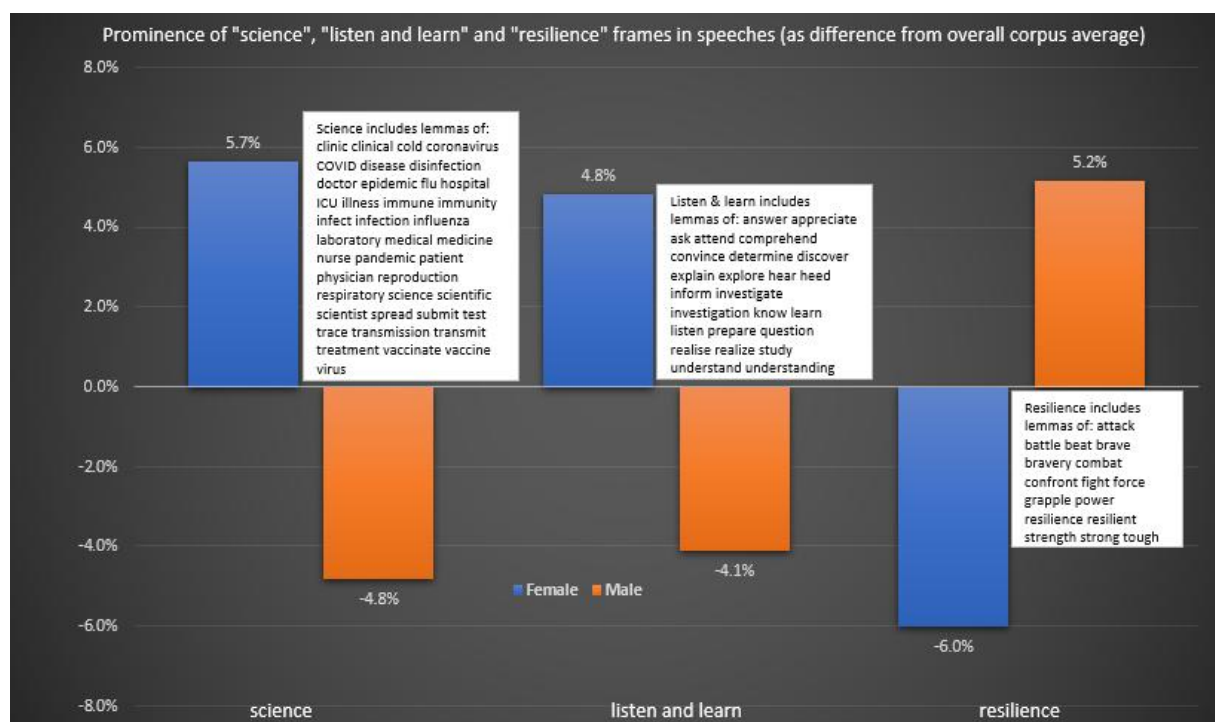


Figure 26 [own design]: Prominence of science, listen and learn, and resilience frames in female vs male corpora (based on Sketch Engine word list searches)

Table 8 below shows the distribution of lemmas in the semantic cluster for the Science frame. For the most common terms used in the context of discuss medical and scientific aspects of COVID-19, the differences between the female and male sub-corpora appear marginal. There are however some expressions that lean more strongly to one of the two groups: female leaders use the term epidemic more than twice as often, as male leaders (68 vs 28). Half of those female mentions of epidemic are by Sanna Marin (who is also the only leader using epidemic significantly more often, than pandemic (34 vs 18). Mentions of either doctor, or nurse occur almost twice as often in male speeches (64 to 33), and science, scientist or scientific are mentioned almost three times as often in male, than in female speeches (57 to 20).

Table 8 [own design]: Science frame comparison of lemma frequency and sub-corpus presence in female vs male corpora (based on Sketch Engine word list searches; percentages indicate share of total)

	Science frame	Female				Science frame	Male		
	Lemma	Frequency	Sub-Corpora	%		Lemma	Frequency	Sub-Corpora	%
1	pandemic	178	10	15.4%	1	pandemic	201	10	16.4%
2	virus	156	10	13.5%	2	virus	157	10	12.8%
3	spread	86	9	7.4%	3	spread	91	10	7.4%
4	coronavirus	75	8	6.5%	4	vaccine	67	10	5.5%
5	vaccine	74	8	6.4%	5	hospital	62	10	5.1%
6	infection	71	10	6.1%	6	coronavirus	59	10	4.8%
7	epidemic	68	8	5.9%	7	infection	54	6	4.4%
8	hospital	58	10	5.0%	8	test	50	10	4.1%
9	test	52	8	4.5%	9	disease	49	8	4.0%
10	COVID	45	4	3.9%	10	vaccinate	41	6	3.4%
11	medical	44	9	3.8%	11	medical	38	7	3.1%
12	disease	37	8	3.2%	12	doctor	33	10	2.7%
13	patient	33	9	2.8%	13	nurse	31	9	2.5%
14	transmission	22	3	1.9%	14	epidemic	28	5	2.3%
15	vaccinate	18	4	1.6%	15	COVID	28	9	2.3%
16	doctor	17	7	1.5%	16	science	28	8	2.3%
17	nurse	16	6	1.4%	17	patient	25	8	2.0%
18	treatment	13	5	1.1%	18	infect	25	7	2.0%
19	infect	12	4	1.0%	19	treatment	24	7	2.0%
20	submit	12	8	1.0%	20	scientist	17	8	1.4%
21	science	11	5	0.9%	21	transmission	15	4	1.2%
22	trace	7	4	0.6%	22	medicine	15	8	1.2%
23	illness	7	5	0.6%	23	illness	13	7	1.1%
24	clinic	7	2	0.6%	24	scientific	12	3	1.0%
25	medicine	7	6	0.6%	25	flu	8	5	0.7%
26	scientific	6	4	0.5%	26	submit	8	5	0.7%
27	laboratory	5	3	0.4%	27	trace	6	4	0.5%
28	clinical	5	2	0.4%	28	immunity	6	4	0.5%
29	respiratory	4	2	0.3%	29	clinic	6	3	0.5%
30	scientist	3	2	0.3%	30	laboratory	4	3	0.3%
31	flu	2	2	0.2%	31	cold	4	3	0.3%
32	reproduction	2	2	0.2%	32	clinical	4	3	0.3%
33	immune	2	2	0.2%	33	transmit	3	3	0.2%
34	transmit	1	1	0.1%	34	immune	3	2	0.2%
35	ICU	1	1	0.1%	35	ICU	2	2	0.2%
36	immunity	1	1	0.1%	36	respiratory	2	2	0.2%
37	physician	1	1	0.1%	37	influenza	1	1	0.1%
	Total	1159			38	reproduction	1	1	0.1%
					39	disinfection	1	1	0.1%
					Total	1222			

Table 9 below shows the distribution of lemmas in the semantic cluster for the Listen & Learn frame. Statistically, this frame is used slightly more prominently in female speeches. At the level of lemmas included in the semantic cluster making up the frame, however, the differences seem marginal. While female leaders use ask (88 vs 72), question (42 vs 33) and prepare (36 vs 25) more often, the lemma learn is more prominent in male speeches (31 vs 17), as is hear (27 vs 16). Overall, the differences are less pronounced and unambiguous as expected.

Table 9 [own design]: Listen & Learn frame comparison of lemma frequency and sub-corpus presence in female vs male corpora (based on Sketch Engine word list searches; percentages indicate share of total)

Listen & Learn frame Female					Listen & Learn frame Male				
Lemma	Frequency	Sub-Corpora			Lemma	Frequency	Sub-Corpora		
1 know	127	10	27.2%		1 know	152	10	30.4%	
2 ask	88	9	18.8%		2 ask	72	10	14.4%	
3 question	42	8	9.0%		3 understand	35	10	7.0%	
4 prepare	36	8	7.7%		4 question	33	8	6.6%	
5 understand	31	10	6.6%		5 learn	31	8	6.2%	
6 learn	17	6	3.6%		6 hear	27	8	5.4%	
7 hear	16	7	3.4%		7 prepare	25	8	5.0%	
8 inform	15	6	3.2%		8 determine	18	8	3.6%	
9 answer	13	8	2.8%		9 study	13	4	2.6%	
10 determine	11	6	2.4%		10 inform	13	6	2.6%	
11 explain	10	5	2.1%		11 listen	11	5	2.2%	
12 attend	10	6	2.1%		12 attend	11	4	2.2%	
13 convince	9	3	1.9%		13 appreciate	10	5	2.0%	
14 appreciate	8	5	1.7%		14 explain	8	7	1.6%	
15 understanding	8	5	1.7%		15 answer	8	6	1.6%	
16 study	7	4	1.5%		16 convince	8	4	1.6%	
17 listen	6	4	1.3%		17 explore	5	3	1.0%	
18 realize	5	3	1.1%		18 realise	4	3	0.8%	
19 investigate	3	3	0.6%		19 investigate	4	2	0.8%	
20 investigation	2	2	0.4%		20 understanding	4	4	0.8%	
21 explore	1	1	0.2%		21 discover	3	3	0.6%	
22 comprehend	1	1	0.2%		22 realize	3	2	0.6%	
23 discover	1	1	0.2%		23 heed	1	1	0.2%	
Total	467				24 investigation	1	1	0.2%	
					Total	500			

Table 10 below shows the distribution of lemmas in the semantic cluster for the Resilience frame.

This frame is more prominent in male speeches, and would have been even more so but for the somewhat exceptional discursive pattern of Áñez, who has the highest ratio of Resilience (as well as War) related expressions in her speeches. Some clear patterns emerge: female leaders mention strong or strength 67 times, whereas male leaders do so 117 times. Resilience and resilient appear 23 times in female speeches, but just 9 times in male speeches. Lemmas related to aggressive action, including fight, battle, combat, attack, beat and confront appear almost twice as often in male speeches (178 to 98).

Table 10 [own design]: Resilience frame comparison of lemma frequency and sub-corpus presence in female vs male corpora (based on Sketch Engine word list searches; percentages indicate share of total)

	Resilience frame	Female				Resilience frame	Male		
	Lemma	Frequency	Sub-Corpora	%		Lemma	Frequency	Sub-Corpora	%
1	fight	63	9	19.3%	1	fight	94	10	22.0%
2	power	56	10	17.2%	2	strong	70	10	16.4%
3	strong	51	9	15.6%	3	force	49	10	11.5%
4	force	46	10	14.1%	4	strength	47	7	11.0%
5	tough	20	7	6.1%	5	power	41	8	9.6%
6	resilience	17	8	5.2%	6	combat	30	8	7.0%
7	battle	17	5	5.2%	7	tough	30	5	7.0%
8	strength	16	8	4.9%	8	confront	19	6	4.4%
9	combat	14	7	4.3%	9	battle	16	4	3.7%
10	beat	6	6	1.8%	10	attack	11	5	2.6%
11	resilient	6	3	1.8%	11	beat	8	5	1.9%
12	attack	4	3	1.2%	12	resilience	5	4	1.2%
13	confront	4	3	1.2%	13	resilient	4	3	0.9%
14	bravery	3	3	0.9%	14	brave	3	2	0.7%
15	brave	2	2	0.6%	Total			427	
16	grapple	1	1	0.3%					
	Total	326							

Comparison of triptych 3: Empathy, Control, Crisis frames

This section compares the Empathy frame (expected to be more used by female leaders) with the Control and the Crisis frame – not clearly associated with a gender, but expected to be leaning male. The Empathy frame behaves as expected: female leaders use it 5.2% more (compared to corpus ratio), and male leaders use it 4.4% less. As discussed in section 4.4.2 *Comparison of Empathy frame*, three male leaders are high in the rank order – Löfven in first position, Trudeau in third, and Bolsonaro in fourth. However, six of the eight leaders with highest ratio of Empathy-related lemmas are female (Arden, Ing-wen, Sturgeon, Merkel, Hasina, Áñez). Statistically, only Löfven and Marin (above), and Marcon and Sanchez (below) are outside the norm.

The Control frame, focusing on the suppression and management of the pandemic, was judged not to be clearly gender-discriminating, but likely to be leaning male. This is not borne out by the data, however: the Control frame appears to be clearly favoured by female leaders (16.7% above corpus ratio), as opposed to male leaders (14.3% below corpus ratio). As discussed in 4.4.2 *Comparison of Control frame*, eight of the nine leaders with the highest ratio of Control frame related language are female (Marin, Sturgeon, Solberg, Frederiksen, Arden, Merkel, Wilmès, Ing-wen). The only exception is Ramaphosa, in second place. Marin holds a dominant position, mainly due to her frequent use of the lemma restriction (see table for Control frame below). At the lower end of the ranking, three of the five lowest scores are by male leaders with populist leanings (Bolsonaro, Johnson, Morrison). The two female leaders are Hasina and Áñez. Statistically, Marin, Ramaphosa,

Sturgeon and Ardern are above, and Bolsonaro, Johnson, Morrison, Hasina, Áñez and Sanchez are below the expected range.

The third frame in this data view is Crisis. Here, again, the gender leaning is difficult to determine upfront. However, as outlined above, a male propensity to use more hyperbolic language might point to a more active use of this frame. This is confirmed by the data: language associated with the Crisis frame is 10.3% more likely to be used by male leaders (compared to corpus ratio); female leaders are 12% less likely to do so. In terms of statistical significance, four speakers are above the expected range (Hasina, Marin, Kurz, Löfven), and five are below (Frederiksen, Ing-wen, Sturgeon, Johnson, Morrison).

RQ3: “Is gender a factor in the preference of certain semantic clusters?” can thus be answered affirmatively with regard to all three analysed frames. However, the strength of the gender leaning on “empathy” is somewhat weaker than expected, and both the “control” and “crisis” frames show somewhat unexpected results, especially given the strength of the difference.

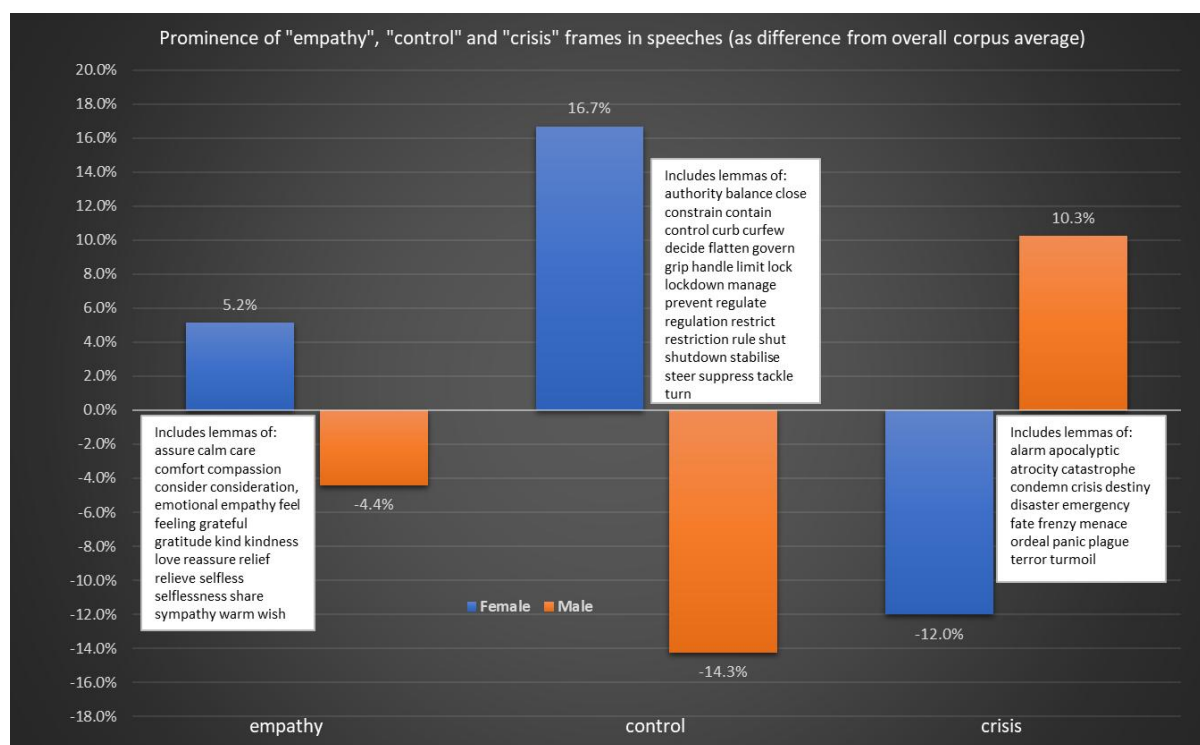


Figure 27 [own design]: Prominence of empathy, control, and crisis frames in female vs male corpora (based on Sketch Engine word list searches)

Table 11 below shows the distribution of lemmas in the semantic cluster for the Empathy frame.

Care is the dominant term in both male and female speeches. Female speakers use consider conspicuously more often than male leaders, whereas male leaders use love and wish more often.

Table 11 [own design]: Empathy frame comparison of lemma frequency and sub-corpus presence in female vs male corpora (based on Sketch Engine word list searches; percentages indicate share of total)

Empathy frame Female					Empathy frame Male				
Lemma	Frequency	Sub-Corpora	%		Lemma	Frequency	Sub-Corpora	%	
1 care	126	10	35.1%		1 care	136	10	35.6%	
2 feel	41	9	11.4%		2 love	38	9	9.9%	
3 consider	41	9	11.4%		3 feel	37	10	9.7%	
4 share	31	9	8.6%		4 wish	32	8	8.4%	
5 love	19	8	5.3%		5 share	28	9	7.3%	
6 wish	18	9	5.0%		6 consider	18	8	4.7%	
7 kind	14	7	3.9%		7 gratitude	15	7	3.9%	
8 assure	14	6	3.9%		8 relief	11	6	2.9%	
9 grateful	11	4	3.1%		9 grateful	9	6	2.4%	
10 relief	9	4	2.5%		10 assure	8	5	2.1%	
11 consideration	8	4	2.2%		11 kind	8	5	2.1%	
12 gratitude	5	4	1.4%		12 feeling	7	4	1.8%	
13 kindness	5	3	1.4%		13 calm	5	2	1.3%	
14 calm	4	3	1.1%		14 sympathy	5	2	1.3%	
15 feeling	4	3	1.1%		15 warm	5	4	1.3%	
16 relieve	2	1	0.6%		16 reassure	4	2	1.0%	
17 compassion	2	2	0.6%		17 relieve	3	2	0.8%	
18 reassure	1	1	0.3%		18 compassion	3	2	0.8%	
19 empathy	1	1	0.3%		19 comfort	3	2	0.8%	
20 selfless	1	1	0.3%		20 emotional	2	1	0.5%	
21 comfort	1	1	0.3%		21 selfless	2	2	0.5%	
22 warm	1	1	0.3%		22 empathy	1	1	0.3%	
Total	359				23 consideration	1	1	0.3%	
					24 selflessness	1	1	0.3%	
					Total	382			

Table 12 below shows the distribution of lemmas in the semantic cluster for the Control frame. As discussed above and in section 4.4.2 *Comparison of Control frame*, Marin's conspicuous use of the term restriction is an important factor.

Table 12 [own design]: Control frame comparison of lemma frequency and sub-corpus presence in female vs male corpora (based on Sketch Engine word list searches; percentages indicate share of total)

Control frame Female				Control frame Male			
Lemma	Frequency	Sub-Corpora	%	Lemma	Frequency	Sub-Corpora	%
1 restriction	97	8	14.9%	1 close	63	10	11.3%
2 close	93	10	14.3%	2 rule	54	9	9.6%
3 rule	62	10	9.5%	3 decide	40	9	7.1%
4 control	55	10	8.4%	4 restriction	37	9	6.6%
5 prevent	51	10	7.8%	5 lockdown	35	8	6.3%
6 turn	42	10	6.5%	6 control	33	9	5.9%
7 decide	41	9	6.3%	7 limit	31	10	5.5%
8 authority	41	8	6.3%	8 prevent	30	7	5.4%
9 limit	33	8	5.1%	9 manage	29	8	5.2%
10 manage	22	7	3.4%	10 authority	27	6	4.8%
11 lockdown	21	5	3.2%	11 regulation	24	6	4.3%
12 regulation	17	5	2.6%	12 contain	23	9	4.1%
13 contain	13	4	2.0%	13 turn	22	9	3.9%
14 tackle	11	8	1.7%	14 balance	22	7	3.9%
15 restrict	11	6	1.7%	15 tackle	18	5	3.2%
16 balance	9	5	1.4%	16 curfew	18	3	3.2%
17 handle	6	4	0.9%	17 flatten	10	4	1.8%
18 curb	6	2	0.9%	18 lock	7	3	1.3%
19 suppress	4	3	0.6%	19 restrict	7	5	1.3%
20 shut	4	3	0.6%	20 handle	6	3	1.1%
21 shutdown	3	3	0.5%	21 curb	5	3	0.9%
22 govern	2	1	0.3%	22 regulate	4	1	0.7%
23 regulate	2	2	0.3%	23 shut	4	4	0.7%
24 stabilize	2	1	0.3%	24 shutdown	4	2	0.7%
25 constrain	1	1	0.2%	25 govern	2	2	0.4%
26 curfew	1	1	0.2%	26 suppress	1	1	0.2%
27 grip	1	1	0.2%	27 constrain	1	1	0.2%
Total	651			28 stabilise	1	1	0.2%
				29 grip	1	1	0.2%
				30 steer	1	1	0.2%
				Total	560		

Table 13 below shows the distribution of lemmas in the semantic cluster for the Crisis frame. Crisis-related language is more prominent in male speeches, mainly driven by the lemma crisis, which appears almost twice as often in male speeches. Two leaders stand out in their invocation of crisis: Kurz uses it 41 times (out of 43 crisis-related expressions), and Löfven, 36 times (out of 48 crisis-related expressions). Some leaders focus on emergency when using the Crisis frame, for example Sánchez (41 out of 69 crisis-related expressions) and Ardern (18 out of 24). Sturgeon uses the Crisis frame only three times in her speeches (referring to emergency in each case).

Table 13 [own design]: Crisis frame comparison of lemma frequency and sub-corpus presence in female vs male corpora (based on Sketch Engine word list searches; percentages indicate share of total)

Crisis frame Female				Crisis frame Male			
Lemma	Frequency	Sub-Corpora	%	Lemma	Frequency	Sub-Corpora	%
1 crisis	108	9	48.0%	1 crisis	191	10	57.9%
2 emergency	75	9	33.3%	2 emergency	85	10	25.8%
3 disaster	12	5	5.3%	3 panic	13	7	3.9%
4 panic	11	6	4.9%	4 disaster	12	4	3.6%
5 destiny	6	3	2.7%	5 alarm	10	4	3.0%
6 ordeal	3	1	1.3%	6 destiny	6	1	1.8%
7 turmoil	2	1	0.9%	7 condemn	4	3	1.2%
8 fate	2	2	0.9%	8 ordeal	3	1	0.9%
9 terror	2	2	0.9%	9 frenzy	2	1	0.6%
10 atrocity	1	1	0.4%	10 turmoil	1	1	0.3%
11 alarm	1	1	0.4%	11 apocalyptic	1	1	0.3%
12 plague	1	1	0.4%	12 catastrophe	1	1	0.3%
13 menace	1	1	0.4%	13 plague	1	1	0.3%
Total	225			Total	330		

Comparison of triptych 4: Community, Natural Force, Inequality

This section compares the Community frame (expected to be more used by female leaders) with the Natural Force frame (expected to be more used by male leaders) and the Inequality frame (where preference by gender seems to be unclear, although a slight preference by female leaders can be assumed).

Counter to expectations, the Community frame is used 3.9% more often by male leaders (compared to corpus ratio), and 4.5% less than corpus ratio by female leaders. Modi, Ing-wen, Macron, Trudeau are above the statistically expected range, Morrison and Sturgeon are below.

The Natural Force frame behaves as expected, with male leaders using it 15.1% more often than corpus ratio, whereas female leaders do so 17.7% less often. Based on low total numbers (153 mentions in total), Ramaphosa, Ing-wen and Johnson show reliably significant rates (all above the expected range).

The most unexpected result overall is the distribution of the Inequality frame. One might expect leaders from non-Western countries – and female leaders more so, than male leaders – to use the Inequality frame in their speeches. However, the actual distribution is different. Of the non-Western leaders, Hasina in third place is highest in the ranking. Modi is sixth, Bolsonaro seventh, Áñez tenth, and Ramaphosa seventeenth. The two highest placed leaders are left-leaning Western males in Sánchez and Löfven. The distribution, albeit based on a relatively low overall incidence count of 271, shows a clear gender preference, with male leaders using this frame 30% more often, than corpus average. Female leaders do so 35.1% less often. 9 of 20 speakers deviate significantly from the

expected range. Sanchez and Löfven are above, and Morrison, Johnson, Ing-wen, Sturgeon, Kurz, Ramaphosa, Maring are below the range.

RQ3: “Is gender a factor in the preference of certain semantic clusters?” can thus be answered affirmatively with regard to the “community”, “natural force” and “inequality” frames, although the direction and extent of the difference varies.

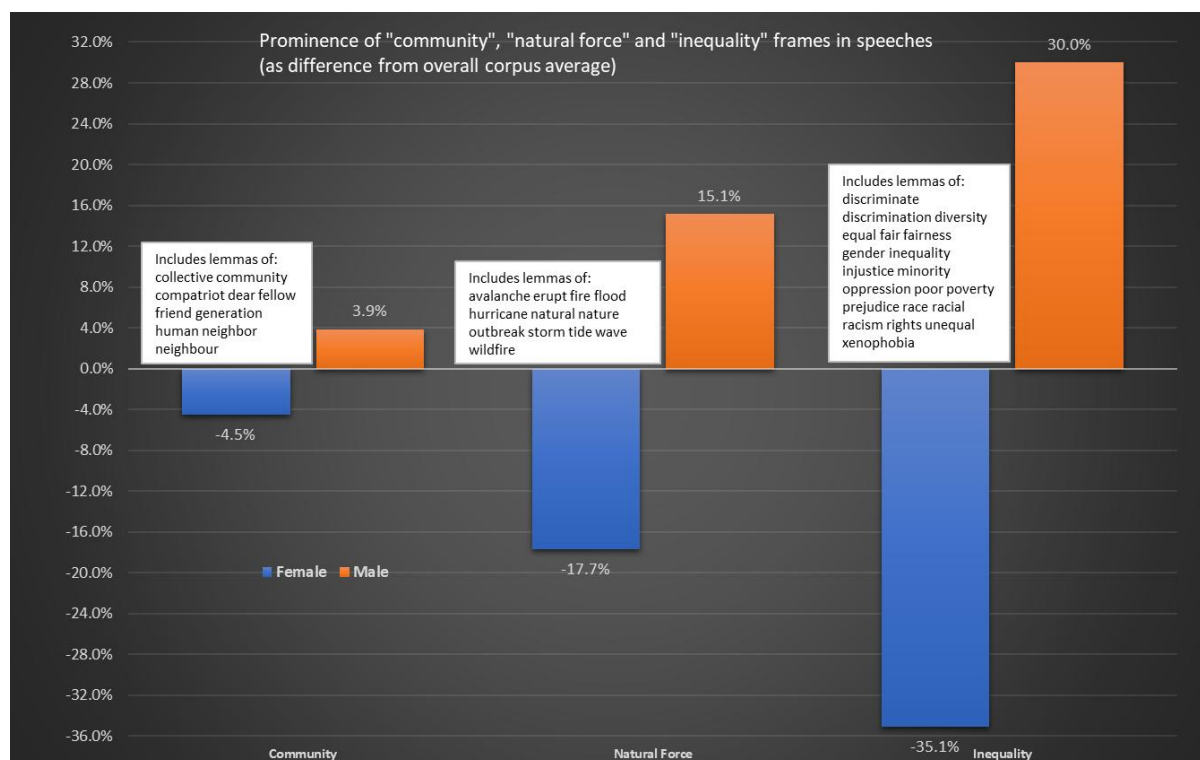


Figure 28 [own design]: Prominence of community, natural force and inequality frames in female vs male corpora (based on Sketch Engine word list searches)

Table 14 below shows the distribution of lemmas in the semantic cluster for the Community frame. While the frame is somewhat more prominent in male speeches, the lemma community is used more often by female leaders (112 vs 62). The lemma friend, on the other hand, appears almost four times as often in male, than in female speeches (78 vs 20). Modi accounts for a third of those mentions by male leaders (he generally addresses his audience as friends in his speeches). Several leaders show a strong preference for the lemma community. These include Ing-wen (35 of 77 incidences of Community frame), Frederiksen (22 of 46) and Ardern (18 of 38).

Table 14 [own design]: Community frame comparison of lemma frequency and sub-corpus presence in female vs male corpora (based on Sketch Engine word list searches; percentages indicate share of total)

Community frame Female				Community frame Male			
Lemma	Frequency	Sub-Corpora	%	Lemma	Frequency	Sub-Corpora	%
1 community	112	10	36.5%	1 friend	78	10	19.9%
2 human	42	10	13.7%	2 community	62	9	15.9%
3 dear	37	8	12.1%	3 human	56	8	14.3%
4 fellow	29	4	9.4%	4 dear	45	6	11.5%
5 generation	26	7	8.5%	5 generation	38	10	9.7%
6 collective	22	8	7.2%	6 fellow	36	6	9.2%
7 friend	20	8	6.5%	7 collective	31	4	7.9%
8 neighbor	11	5	3.6%	8 compatriot	23	3	5.9%
9 neighbour	7	4	2.3%	9 neighbour	17	6	4.3%
10 compatriot	1	1	0.3%	10 neighbor	5	2	1.3%
Total	307			Total	391		

Table 15 below shows the distribution of lemmas in the semantic cluster for the Natural Force frame. There are only 153 incidences overall, and male leaders use this frame significantly more often. Two expressions that stand out are wave (32 times in male speeches vs 13 times in female speeches) and fire (9 vs 1). Ramaphosa alone uses the lemma wave as often, as all ten female leaders put together.

Table 15 [own design]: Natural Force frame comparison of lemma frequency and sub-corpus presence in female vs male corpora (based on Sketch Engine word list searches; percentages indicate share of total)

Natural Force frame Female				Natural Force frame Male			
Lemma	Frequency	Sub-Corpora	%	Lemma	Frequency	Sub-Corpora	%
1 outbreak	21	6	36.2%	1 wave	32	6	33.7%
2 wave	13	5	22.4%	2 outbreak	18	6	18.9%
3 nature	10	5	17.2%	3 nature	13	5	13.7%
4 natural	4	4	6.9%	4 natural	13	6	13.7%
5 flood	4	3	6.9%	5 fire	9	3	9.5%
6 fire	2	2	3.4%	6 tide	3	2	3.2%
7 wildfire	1	1	1.7%	7 flood	2	2	2.1%
8 erupt	1	1	1.7%	8 avalanche	2	1	2.1%
9 storm	1	1	1.7%	9 wildfire	1	1	1.1%
10 avalanche	1	1	1.7%	10 storm	1	1	1.1%
Total	58			Total	95		

Table 16 below shows the distribution of lemmas in the semantic cluster for the Inequality frame. Counter to expectations, this is used markedly more often by male leaders. Another expectation would be for this frame to be more prominent in non-Western leaders' speeches. That is not the case, however. In fact, the prominence of the lemma inequality is driven by a single leader's high use: Sánchez employs it 27 times (out of 41 incidences in male speeches, vs a total of seven

incidences in female speeches). As highlighted in 4.2 *Comparison of Inequality frame*, Sánchez and Löfven have the highest ratio of Inequality-related expressions in their speeches. Löfven mentions racism seven times in his speeches, whereas it barely features in any of the other leaders' speeches (only Trudeau and Bolsonaro mention it once).

Table 16 [own design]: Inequality frame comparison of lemma frequency and sub-corpus presence in female vs male corpora (based on Sketch Engine word list searches; percentages indicate share of total)

Inequality frame Female					Inequality frame Male				
Lemma	Frequency	Sub-Corpora	%		Lemma	Frequency	Sub-Corpora	%	
1 poverty	15	6	18.5%		1 inequality	41	4	21.6%	
2 equal	11	6	13.6%		2 poverty	25	5	13.2%	
3 gender	10	3	12.3%		3 fair	21	5	11.1%	
4 race	8	4	9.9%		4 poor	20	6	10.5%	
5 inequality	7	4	8.6%		5 equal	18	5	9.5%	
6 fair	6	5	7.4%		6 gender	18	3	9.5%	
7 poor	6	3	7.4%		7 discrimination	9	6	4.7%	
8 oppression	4	2	4.9%		8 racism	9	3	4.7%	
9 minority	3	2	3.7%		9 injustice	5	2	2.6%	
10 diversity	3	3	3.7%		10 race	5	3	2.6%	
11 prejudice	2	1	2.5%		11 minority	4	4	2.1%	
12 discriminate	2	2	2.5%		12 diversity	4	3	2.1%	
13 discrimination	1	1	1.2%		13 oppression	3	1	1.6%	
14 injustice	1	1	1.2%		14 rights	3	2	1.6%	
15 xenophobia	1	1	1.2%		15 unequal	2	1	1.1%	
16 rights	1	1	1.2%		16 racial	1	1	0.5%	
Total	81				17 xenophobia	1	1	0.5%	
					18 fairness	1	1	0.5%	
					Total	190			

[4.4 Individual leader analysis clusters](#)

This section follows the same structure as section 4.3, but instead of aggregating the ten female and ten male leaders' speeches to a female and a male sub-corpus, it displays and compares mainly quantitative observations across the individual leaders.

This section addresses

RQ 1: Is gender a factor in the preference of certain word groups?

RQ 2: Do certain leadership types and gender go together in the preference of certain word groups?

RQ 3: Is gender a factor in the preference of certain semantic clusters?

RQ 4: Do certain leadership types and gender go together in the preference of certain semantic clusters?

[4.4.1 Comparative views of word groups](#)

The focus in this section is on data comparisons, including some broad inferences and qualitative illustrations. In the metaphor analysis section (4.5), the analysis is geared toward qualitative exploration. The quantitative results from the comparative section serve as pointers for the qualitative metaphor analysis.

This section addresses

RQ 1: Is gender a factor in the preference of certain word groups?

RQ 2: Do certain leadership types and gender go together in the preference of certain word groups?

Comparison of noun use

The use of nouns can be seen as an indication of more technocratic language. Populists might use more nouns, than empathists. Male leaders might use more nouns, than female leaders. The ratio of nouns in the overall corpus is 25.4% of the word count (49,949 words). There is almost no difference between the female (25.5%, 22,820 words) and male (25.4%, 26,529 words) corpora. Ratios vary between 21.3% at the low end (Johnson), and 31.1% at the top end (Marin). It is notable that the four leaders with the lowest ratio of nouns in their speeches are all native English speakers (Johnson, Sturgeon, Morrison, Trudeau). While three speakers (Solberg, Ardern, Áñez) are within the expected range (i.e. noun density close to corpus average), Marin, Hasina, Löfven, Ing-wen, Bolsonaro, Modi, Ramaphosa are significantly above, whereas Merkel, Macron, Wilmes, Kurz, Trudeau, Morrison, Frederiksen, Johnson, Sturgeon, Sanchez are significantly below.

High nominal density relative to overall word count in a corpus can be interpreted as being indicative of a more formal, abstract and information-rich style (Jiang and Hyland 2016). As a linguistic choice, it adds to a more formal factual and technical tone of the discourse. Collins and Koller (2024) discuss “academic writing as a compressed, informational discourse, characterised by the frequent use of phrasal complexity features, such as complex noun phrases”. In the given context of public health communication in a pandemic, such informational discourse can be seen as conveying a focus on detail and accuracy, and can thus be expected to be prominent in technocratic leaders’ speeches. This includes “items transferred from a more expected word class to another, such as the verbs ‘adapt’ or the adjective ‘resilient’ being transformed into the nouns ‘adaptation’ and ‘resilience’” (Bevitori and Russo 2023, p.338), which contributes to a more abstract, technocratic register.

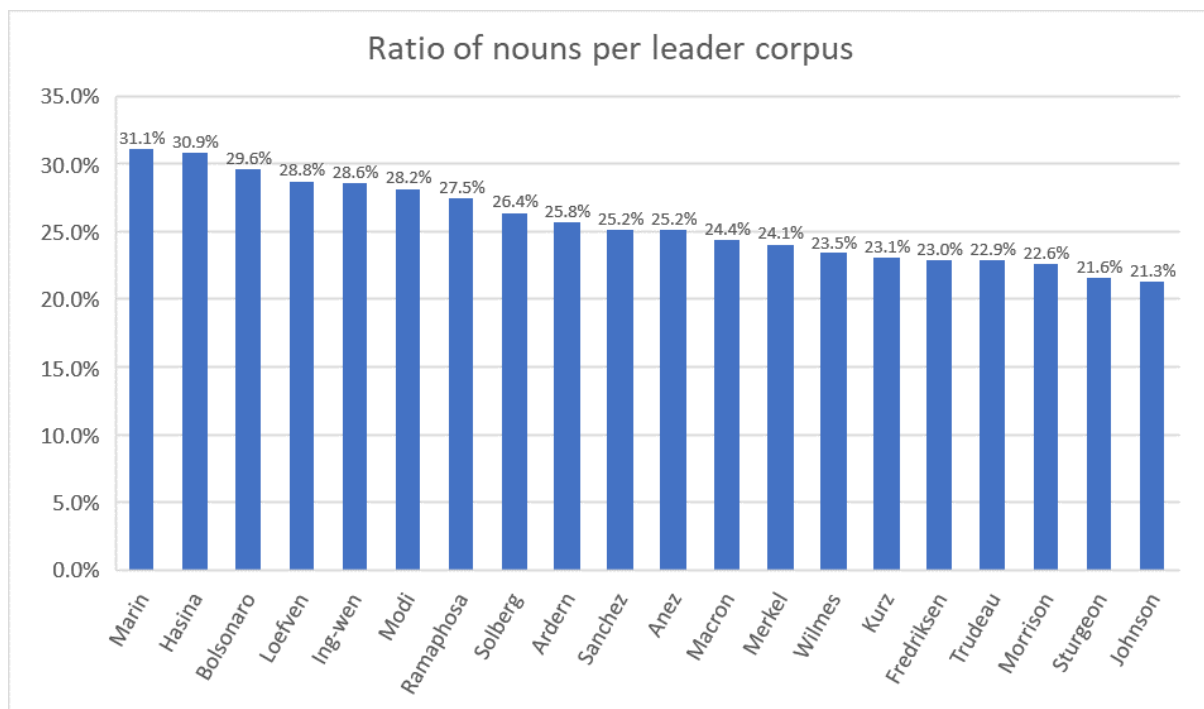


Figure 29 [own design]: Percentage of nouns in leader sub-corpora

The distances from the overall corpus ratio of nouns to individual sub-corpora is comparatively small at just over 20% at the high end (Marin 22.3%, Hasina 21.5%), and -16.1% (Johnson) and -15% (Sturgeon) at the low end. The data provides no clear indication for a male preference of nouns, and no clear correlation between above average noun use and technocratic leaning.

RQ 1: Gender is not a distinct factor in the preference of nouns

RQ2: Leadership type is not a distinct factor in the preference of nouns

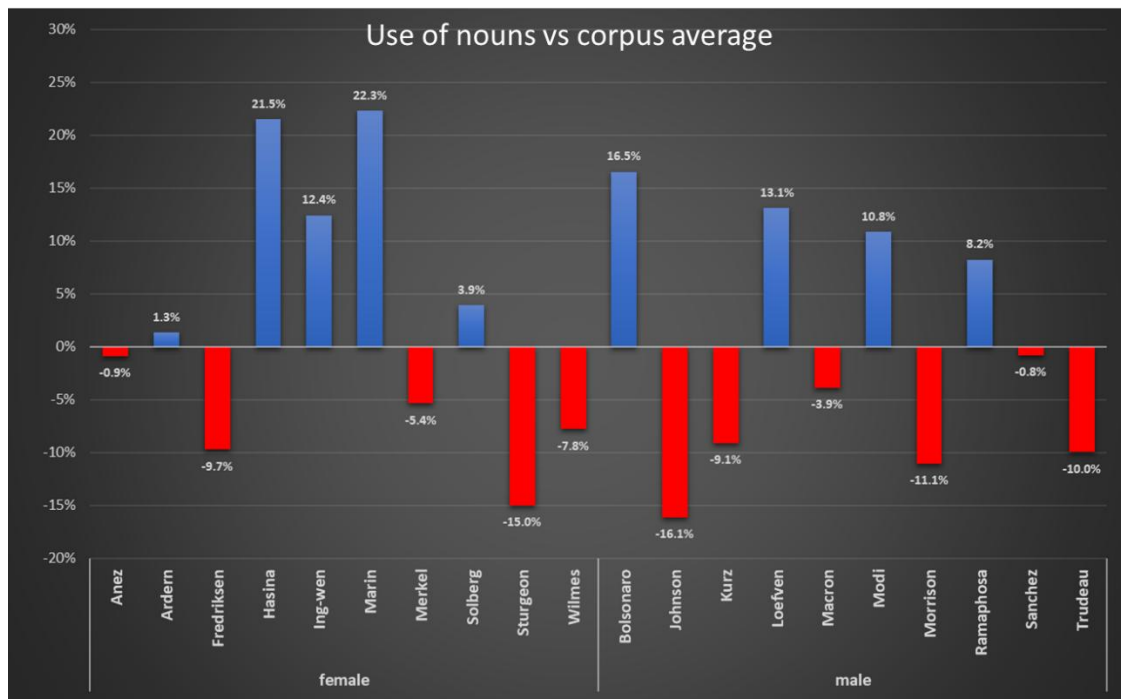


Figure 30 [own design]: Prominence of nouns in leader sub-corpora as distance from overall score

Comparison of verb use

A simplified argument regarding the use of verbal expressions – backgrounding transitivity and intransitivity, active and passive voice, for example – states that the conspicuous use of verbs can be seen as an indication of action-orientation and might be more notable among male, than female leaders (for evidence of gender difference (and similarity) in political speech, see Božić Lenard 2016; Wang and He 2020). The ratio of verbs in the overall corpus is 17.3% of the word count (33,564 words). There is only a minor difference between the female (17.1%, 15,306 words) and male (17.4%, 18,258 words) corpora. Ratios vary between 14.9% at the low end (Bolsonaro), and 21% at the top end (Trudeau). It is notable that the four leaders with the lowest ratio of nouns in their speeches are all native English speakers (Johnson, Sturgeon, Morrison, Trudeau). The distribution is comparatively even, with the top score being around 40% higher, than the lowest score. 15 of the 20 sub-corpora have a verb ratio of between 16.1% and 18.5%. In eight cases (Johnson, Frederiksen, Ramaphosa, Kurz, Marin, Añez, Merkel, Macron), the results are statistically consistent with the corpus average. Six speakers (Trudeau, Morrison, Löfven, Solberg, Ardern, Sturgeon) are statistically significantly above the expected range, indicating a more verbally dynamic or action-oriented rhetorical style (see below). Modi, Ing-wen, Hasina, Bolsonaro, Sanchez, Wilmes are below the expected range.

The use of a high number of verbs relative to overall word count in a corpus can be considered as indicative of a communication style that is dynamic and agentic, focused on doing and action (Formanowicz et al. 2017; Pietraszkiewicz and Formanowicz 2023). For a more in-depth discussion of agency and use of verbal expressions, see (Darics and Koller 2019; Koller 2020b). Generally, a leader with a higher-than-average use of verbal expressions creates a sense of urgency, immediacy, as well as agency and assertiveness: the speaker takes an active, leading role. However, while it is tempting to point to populist leaders using verbs more often, than other leaders, the empirical evidence is inconclusive. For example, Zanotto et al. (2024) in their analysis of Italian populist rhetoric found that “that the “simplistic” language features previously described in the literature are not robust predictors of populism. This suggests that the characteristics defining populist statements are highly dependent on the specific dataset and the language being analysed, thus limiting the conclusions drawn in previous research” (p.61). Thus, as with all observations regarding discourse, data evidence must always be understood contextually.

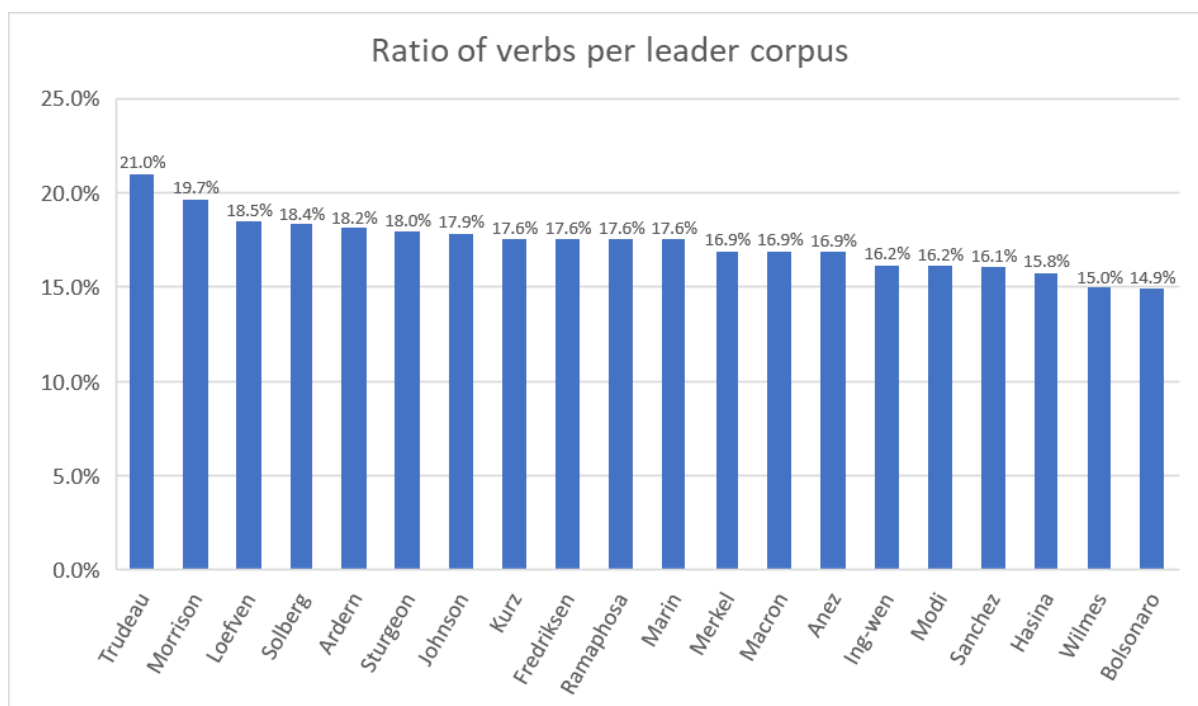


Figure 31 [own design]: Percentage of verbs in leader sub-corpora

The relatively even distribution of verb ratios in the 20 sub-corpora is also visible in the distance scores from the corpus ratio: only two leaders at the higher end (Trudeau, 21.5%; Morrison, 13.5%),

and two at the lower end (Bolsonaro, -13.7%; Wilmès , -13.3%) differ more than 10% from the overall ratio.

RQ 1: Gender is a weak factor in the preference of verbs

RQ2: Leadership type is not a discernible factor in the preference of verbs

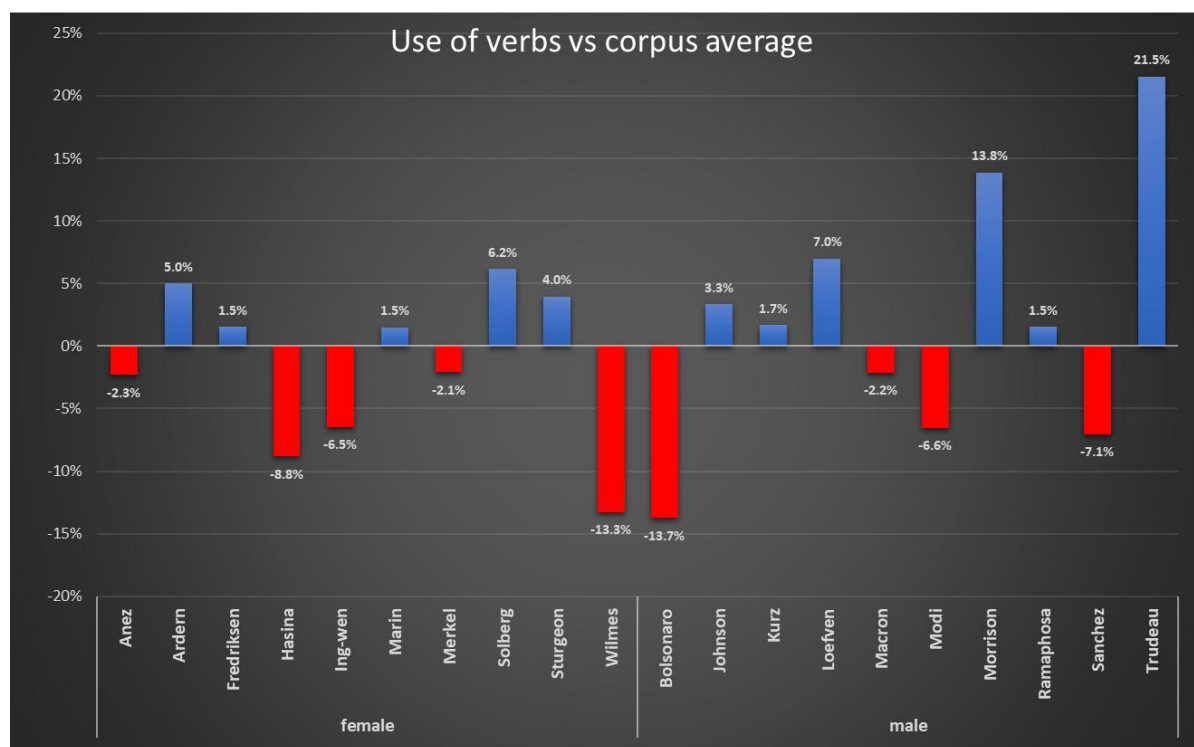


Figure 32 [own design]: Prominence of verbs in leader sub-corpora as distance from overall score

Comparison of adjective use

Data evidence suggests that “male speech ... is characterised by a comparatively limited reference to emotion” (Baker and Brookes 2025, p.25). Empathy and passion, on the other hand, are seen as “stereotypically feminine traits ... and that there is indeed no doubt that these characteristics are culturally associated with femininity” (Koller and Semino 2009, p.28). Thus the conspicuous use of adjectives can be deemed an indication of an affective register and is likely to be more notable among female, than male leaders . However, while this assumption is theoretically grounded (Kuznyetsova et al. 2023), the empirical evidence is less clear. For example, in a study of male and female U.S. presidential candidates from 2012 to 2020, Wang and He (2020) found “no significant gender-based usage difference of adjective in general” (p.118).

The ratio of adjectives in the overall corpus is 8.4% of the word count (16,323 words). The female corpus (8.6%, 7,648 words) is showing a somewhat higher ratio of adjectives, than the male corpus (8.3%, 8,675 words) corpora. Ratios vary between 6.6% at the low end (Trudeau), and 10.3% at the top end (Ing-wen). Statistical significance testing shows that Ing-wen, Löfven, Sanchez, Merkel use adjectives at a significantly higher than average rate, whereas Johnson, Macron, Modi, Áñez and Trudeau are at the other end of the scale.

The use of a high number of adjectives relative to overall word count in a corpus is indicative of a leader's choice to illustrate and visualise a topic or context. The use of adjectives adds emotion and atmosphere, as well as perspective and opinion to the delivery of a speech, making it more engaging and persuasive. The choice of adjective – e.g. descriptive (black, white, tall, round), evaluative (good, bad), comparative (bigger, biggest) – allows inferences as to the speaker's intention and ideology. For example, Ing-Wen mentions international 42 times, and global 34 times to frame her message in a way that emphasizes Taiwan's position in the region and the wider world:

“The COVID-19 pandemic is global, and conditions in each country affect all other countries. We cannot stop the spread of COVID-19 simply by preventing an outbreak within Taiwan. All members of the international community must pool their capabilities and work together to overcome this challenge” (Ing-Wen, 01 04 2020)

In contrast, Bolsonaro mentions global just once, and international six times – none of which refer specifically to COVID-19 and/or Brazil's role beyond national interests.

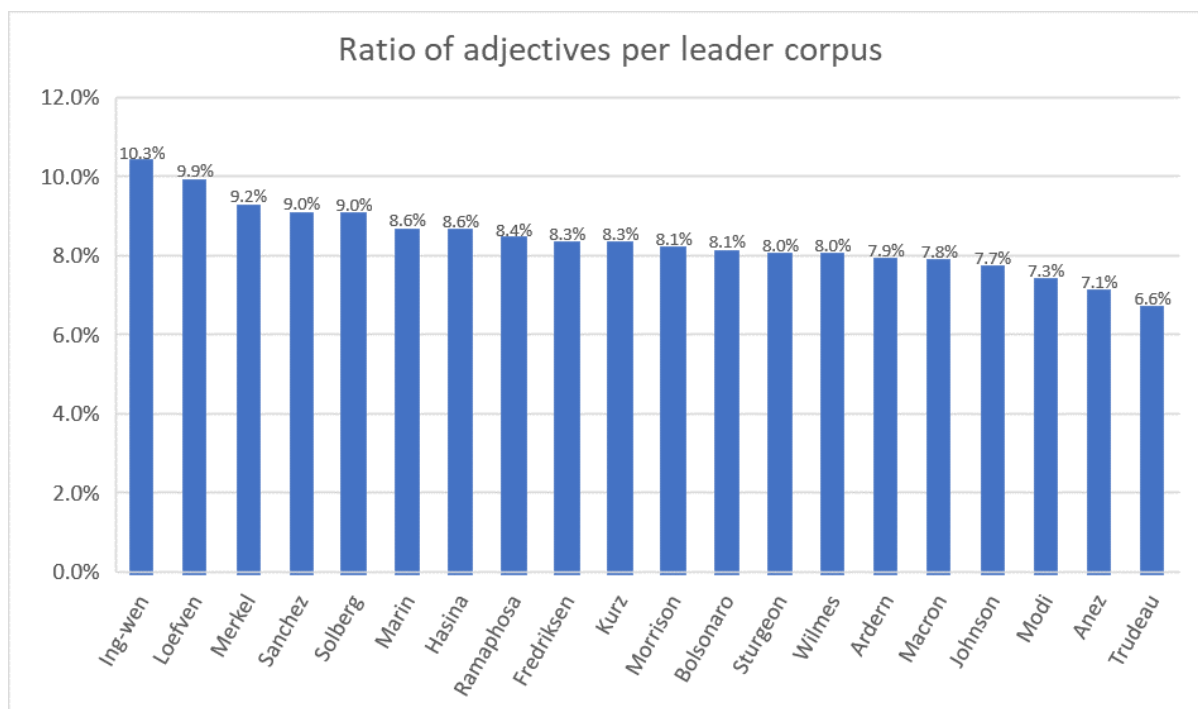


Figure 33 [own design]: Percentage of adjectives in leader sub-corpora

The relatively even distribution of adjective ratios in the 20 sub-corpora is also visible in the distance scores from the corpus ratio: only two leaders at the higher end (Ing-wen, 23%; Löfven, 17.1%), and three at the lower end (Trudeau, -21.1%; Áñez, -16%; Modi, -12.6%) differ more than 10% from the overall corpus ratio. There is very little discernible correlation between leadership type and adjective use. Female leaders have a somewhat higher adjective ratio in their speeches, than male leaders.

RQ 1: Gender is a factor (albeit weak) in the preference of adjectives

RQ2: Leadership type is not a consistent indicator or predictor of the preference of adjectives

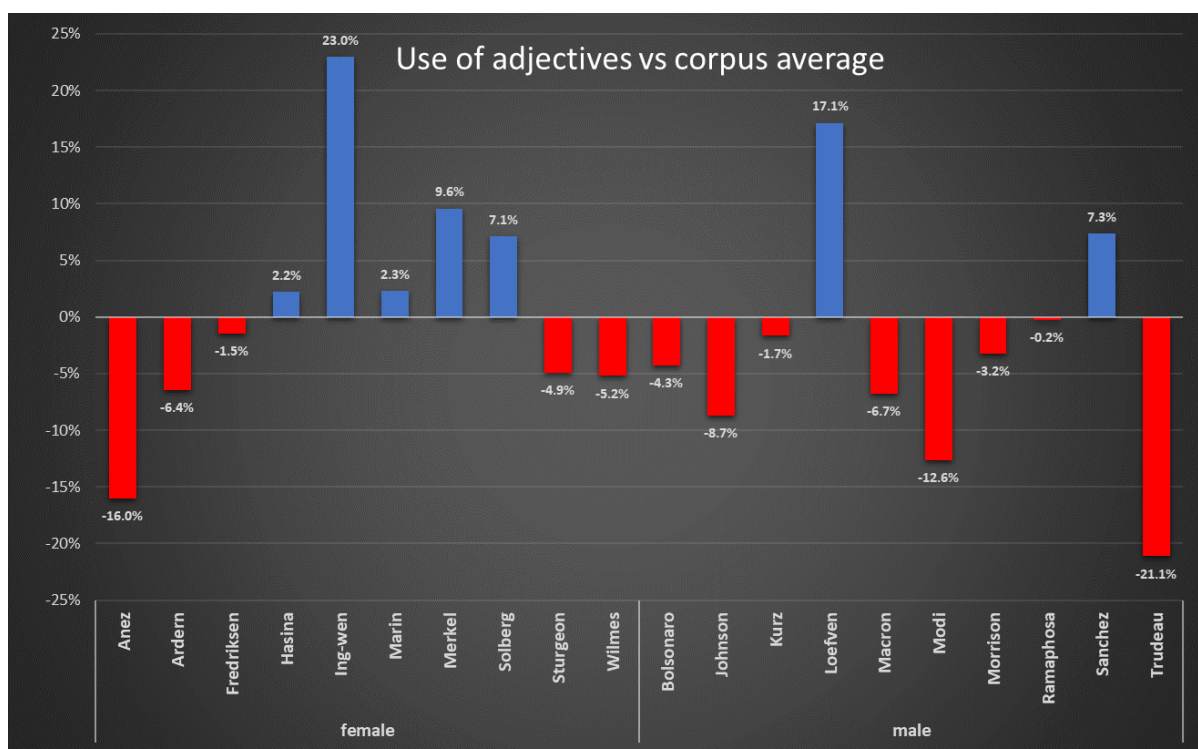


Figure 34 [own design]: Prominence of adjectives in leader sub-corpora as distance from overall score

Comparison of personal pronoun use

The ratio of personal pronouns in the overall corpus is 7.1% of the word count (13,695 words). The ratios are almost even between the female corpus (7%, 6,255 words) and the male corpus (7.1%, 7,440 words) corpora. Ratios vary between 4.1% at the low end (Marin), and 10.6% at the top end (Trudeau). The distribution among the 20 sub-corpora is wider than in the word groups with higher frequencies (nouns, verbs, adjectives), with the top score more than 1.5 times that of the lowest score. It is notable that both the highest and lowest scores are distinctly higher (and lower) than the following scores.

14 of 20 speakers deviate significantly from the corpus-wide pronoun rate of 7.1%. Trudeau, Morrison, Johnson, Añez, Merkel, Macron are significantly above average. The pattern for Morrison, and Trudeau is consistent across both verbs and pronouns, pointing to a more interpersonal and dynamic register. Ramaphosa, Bolsonaro, Hasina, Sanchez, Löfven, Marin are all statistically significantly below the average.

The use of a high number of personal pronouns relative to overall word count in a corpus is indicative of a speaker's (conscious or unconscious) attempt to relate to and connect with an audience. The choice of personal pronoun indicates how the speaker intends to relate to the audience. Different types of connections are being fostered, depending on whether the speaker uses

first person singular (I = individuality, assertiveness, agency), first person plural (we = inclusiveness, unity, shared responsibility), second person plural (you = engagement, involvement, assignment of responsibility), or third person plural (they = distance, detachment, othering). Because of their significance in public discourse, these different personal pronouns are discussed separately below.

For example, the inclusive first person plural (we, us, our) makes up half of Trudeau's personal pronoun use, whereas Modi uses an inclusive address much less (28% of his pronoun use).

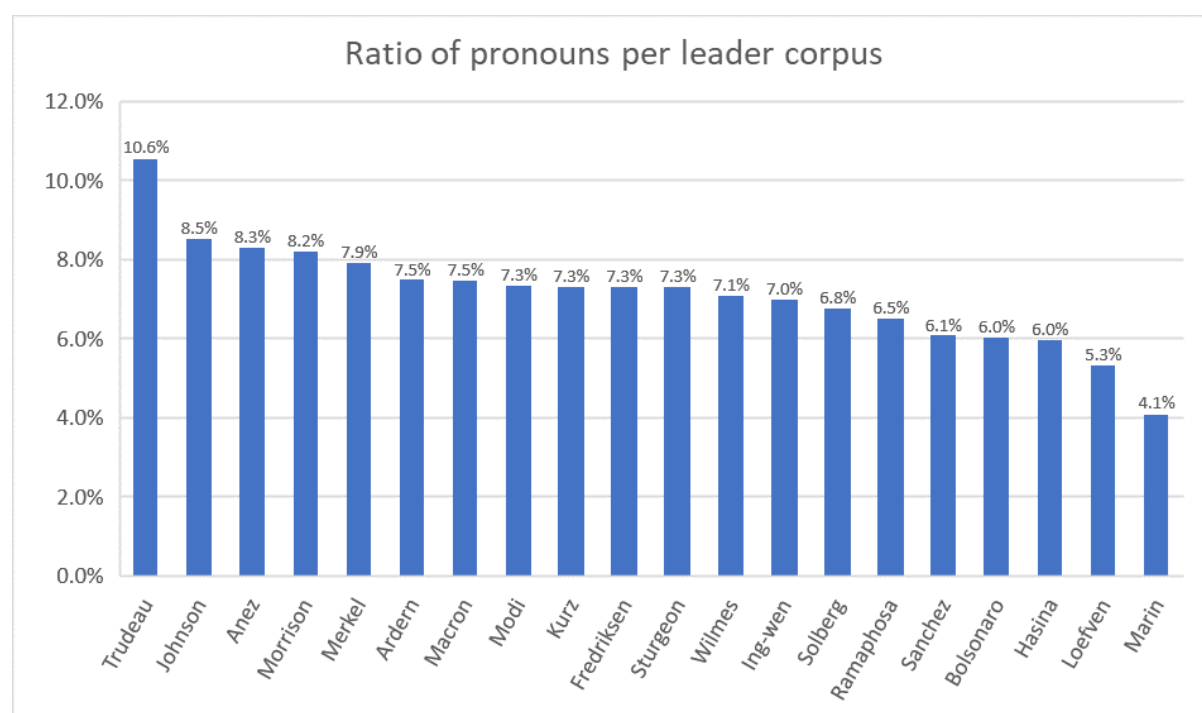


Figure 35 [own design]: Percentage of personal pronouns in leader sub-corpora

The wider distribution of frequencies of personal pronouns in the 20 sub-corpora (compared to nouns, verbs and adjectives) is also visible in the distance scores from the corpus ratio. At the top end, Justin Trudeau's frequency ratio of personal pronouns is almost 50% higher, than the overall corpus ratio. Boris Johnson (20.5% higher), Jeanine Áñez (17.6%), Scott Morrison (16.3%) and Angela Merkel (12.1%) also stand out. At the lower end, Sanna Marin stands out (-41.9%). Stefan Löfven (-24.2%), Sheikh Hasina (-15.3%), Jair Bolsonaro (-14.6%) and Pedro Sánchez (-13.6%) also show distinct scores.

Marin's conspicuous score is an indication of formality and distance to her audience, and might be due to either personal or cultural factors, or both. The relatively low scores for other Nordic leaders

– with the exception of Frederiksen – point to regional cultural norms being a factor here. This pattern repeats across all types of personal pronouns.

RQ 1: Gender is a factor in the preference of specific pronouns (see sections below)

RQ2: Leadership type is a factor in the preference of specific pronouns (see sections below)

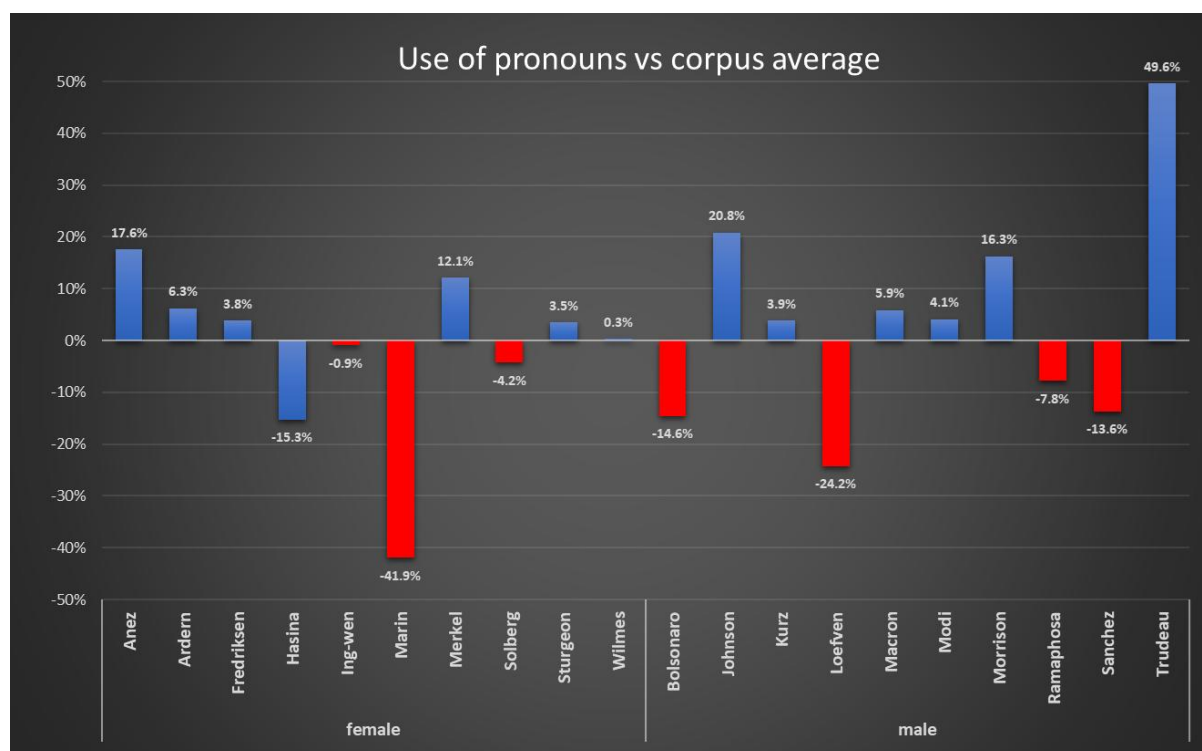


Figure 36 [own design]: Prominence of personal pronouns in leader sub-corpora as distance from overall score

The frequency distribution of personal pronouns in relation to the research questions in this study requires further specification, since the choice of choice of pronoun – I vs we vs you etc. – indicates distinctive discursive constructions which allow inferences as to leadership style: high use of 1st person singular might indicate a dominant, responsible (or, in a more critical perspective, self-important) leader, whereas high use of 1st person plural might indicate a more collaborative and inclusive style. 2nd person singular or plural, on the other hand, might indicate a leader who places more responsibility on their people. The following data views discuss 1st person singular, 1st person plural, 2nd person singular and plural, and 3rd person plural in turn.

Comparison of 1st person singular use

The use of 1st person singular in speeches is indicative of a leader's agency and confidence regarding their specific role. The conspicuous use of 1st person singular pronouns might be more notable among male, than female leaders. It might also be more notable among populists, than empaths, and perhaps least so among technocrats.

The ratio of 1st person singular pronouns in the overall corpus is 1% of the word count (2,019 words). The ratios are almost even between the female (1.1%, 944 words) and the male (1%, 1,075 words) corpora. Ratios vary between 0.2% at the low end (Marin, n=14), and 1.7% at the top end (Merkel, n=150). The distribution among the 20 sub-corpora is much wider than in the word groups with higher frequencies (nouns, verbs, adjectives), with the top score more than eight times that of the lowest score. The distribution at the top end (Merkel, 1.7%, Kurz, 1.6%, Áñez, 1.6%, Sturgeon, 1.5%) is less distinct, than the distribution at the lower end (Marin, 0.2%; Ramaphosa, 0.4%, Löfven, 0.4%; Solberg, 0.7%).

In terms of statistical significance, Merkel, Sturgeon, Kurz, Áñez, Morrison all use 1st person singular above expectations. Solberg, Frederiksen, Löfven, Ramaphosa, Marin all have below expectation scores.

The use of 1st person singular makes the speech personal and authentic, and also conveys authority and authenticity to generate a personal connection with the audience. In Altamimi's (2023a) exploration of WHO discourse practices, the use of first-person pronouns conveys authority and commitment to resolve the crisis. Baker and Brookes (2025) describe how "language can perform acts by bringing states of affairs into being" (p.15). Such performative speech acts are common in political discourse. For example, the expression "I promise" creates a commitment and thus a strong bond between speaker and audience, with resolution the state of affair being brought into being (Austin 1962):

"Dear Ladies and Gentlemen, **I promise** you that we, as the Federal Government, will do everything humanly possible to ensure that we get through this crisis" (Kurz, 15 03 2020)

"And **I promise** to continue to spend my days, my weeks, together with you, on building a stronger Sweden" (Löfven, 20 12 2020)

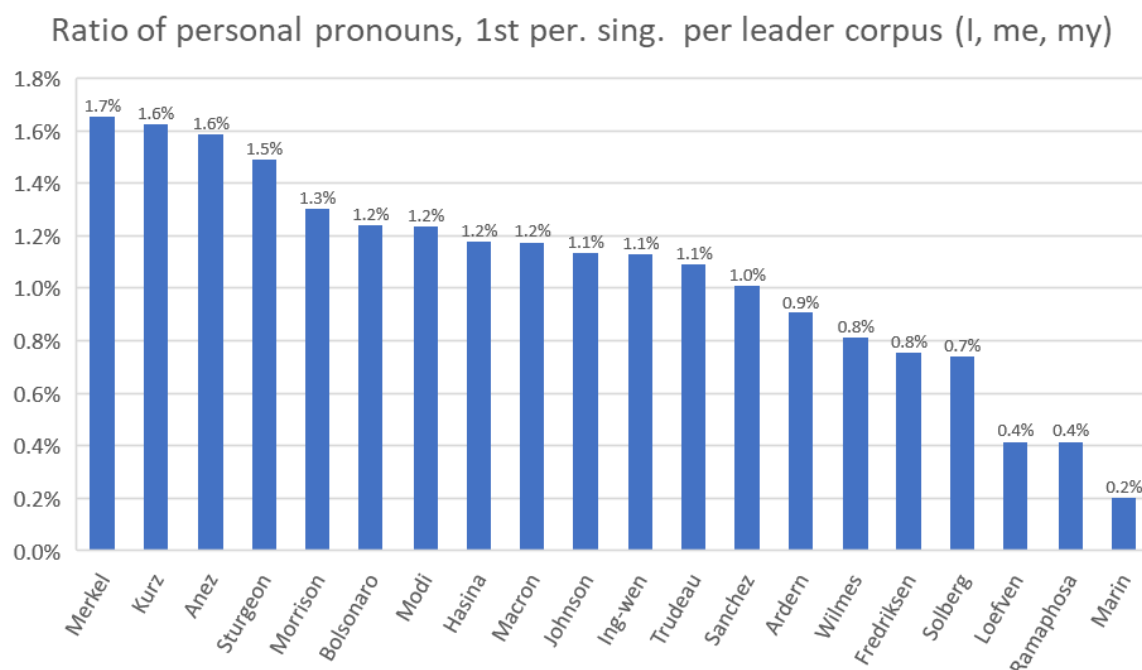


Figure 37 [own design]: Percentage of 1st person singular personal pronouns in leader sub-corpora

As noted before, the distance scores of frequencies distributions for the overall corpus ratio appear to increase with lower volumes. This can also be seen in the distance scores of 1st person singular use, where the top three results are more than 50% higher than the corpus ratio (Merkel, 59.1%; Kurz, 56.4%; Añez, 52.7%). Similarly, at the lower end, three scores are at least 60% lower than the corpus ratio (Marin, -80.6%; Ramaphosa, -60%; Löfven, -60%).

The data does not indicate a preference of 1st person singular by male leaders, but shows a leaning toward populist leaders.

RQ 1: Gender is not a significant factor in the preference of 1st person singular pronouns

RQ2: Leadership type is not a consistent or reliable factor in predicting the preference for 1st person singular pronouns

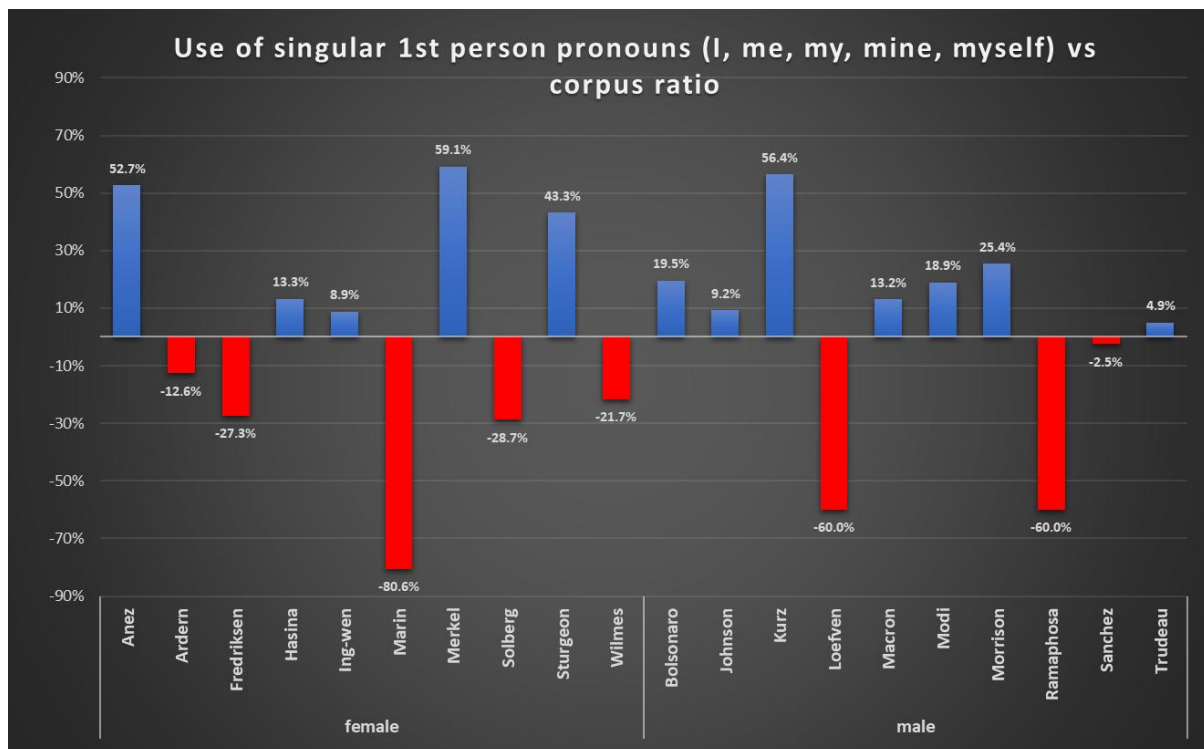


Figure 38 [own design]: Prominence of 1st person singular personal pronouns in leader sub-corpora as distance from overall score

Comparison of 1st person plural use

The use of 1st person plural in speeches is indicative of a leader's intention to create a sense of communion with the audience, to stimulate solidarity and shared responsibility. The conspicuous use of 1st person plural might be more notable among female, male leaders. It might also be more notable among empaths, than populists, and perhaps least so among technocrats.

The ratio of 1st person plural pronouns in the overall corpus is 3.6% of the word count (6,945 words). The ratios are almost even between the female corpus (3.6%, 3,254 words) and the male corpus (3.5%, 3,691 words) corpora. Ratios vary between 2.1% at the low end (Modi), and 5.3% at the top end (Trudeau), with the top score more than 150% higher, than the lowest score. While 16 of the 20 sub-corpora have ratios of between 3.1% and 4.6%, Trudeau stands out at the top end (5.3%, against 4.6% for Ing-wen in next place). At the lower end, Modi (2.1%), Marin (2.4%) and Löfven (2.5%) are clearly behind the next lowest score (Sturgeon, 3.1%).

13 of 20 speakers deviate significantly from the corpus average for first-person plural pronouns, while 7 cluster around the norm. Trudeau, Ing-wen, Johnson, Ramaphosa, Ardern, Frederiksen, Macron are all above average, whereas Hasina, Sanchez, Sturgeon, Marin, Löfven, Modi are all below.

The use of “we” implies a “they”, thus creating in- and out-groups, an “us-versus-them” dynamic that is often part of populist rhetoric. For example, preceded by the adverb “together”, the use of “we” evokes a shared endeavour, shared burden and shared achievement:

“...we haven't seen this sort of thing in Australia since the end of the First World War. But **together we** are, of course, up to this challenge.” (Morrison, 18 03 2020)

“2020 has been difficult. It reminded us of our vulnerabilities. It was even more unfair for the most vulnerable. But **together we** emerge even more united, and having learned a lot.” (Macron, 31 12 2020)

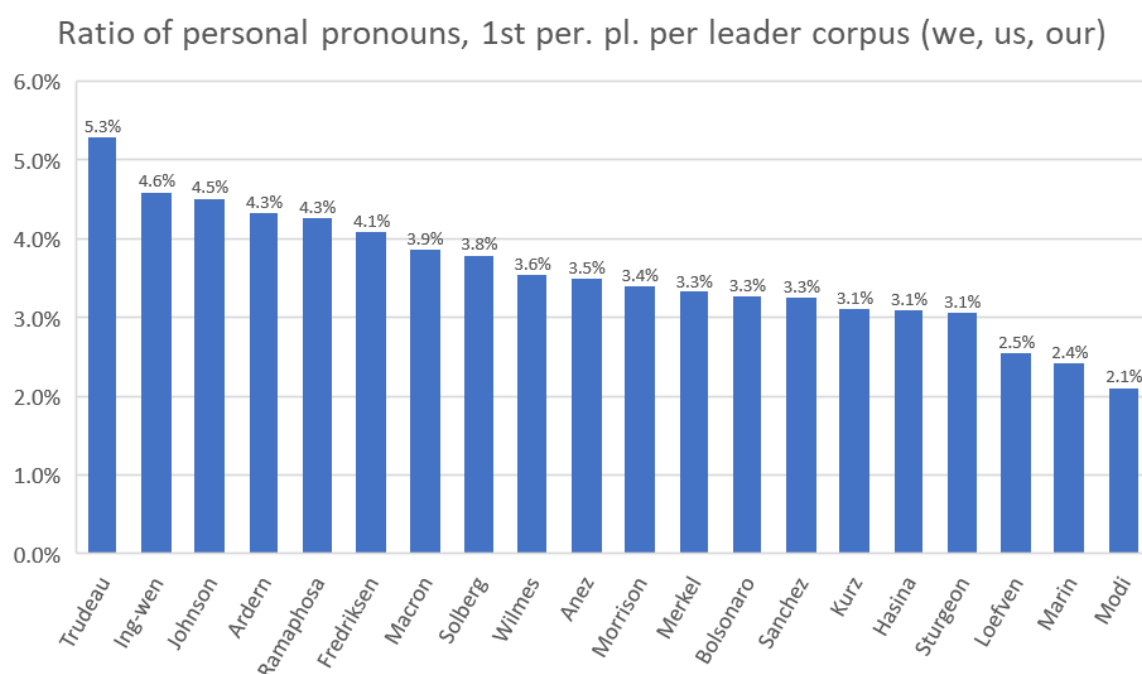


Figure 39 [own design]: Percentage of 1st person plural personal pronouns in leader sub-corpora

The distance scores of 1st person plural use from the overall corpus ratio show Trudeau as a clear outlier (47.8% distance, followed by Ing-wen, 28.4%). At the lower end, Modi (-41.1%), Marin (-32.2%) and Löfven (-28.8%) stand out.

There is little discernible correlation between leadership type and 1st person plural use, and some indication that female leaders use this form more regularly.

RQ 1: Gender is not a significant factor in the preference for 1st person plural pronouns

RQ2: Leadership type is not a discernible factor in the preference of 1st person plural

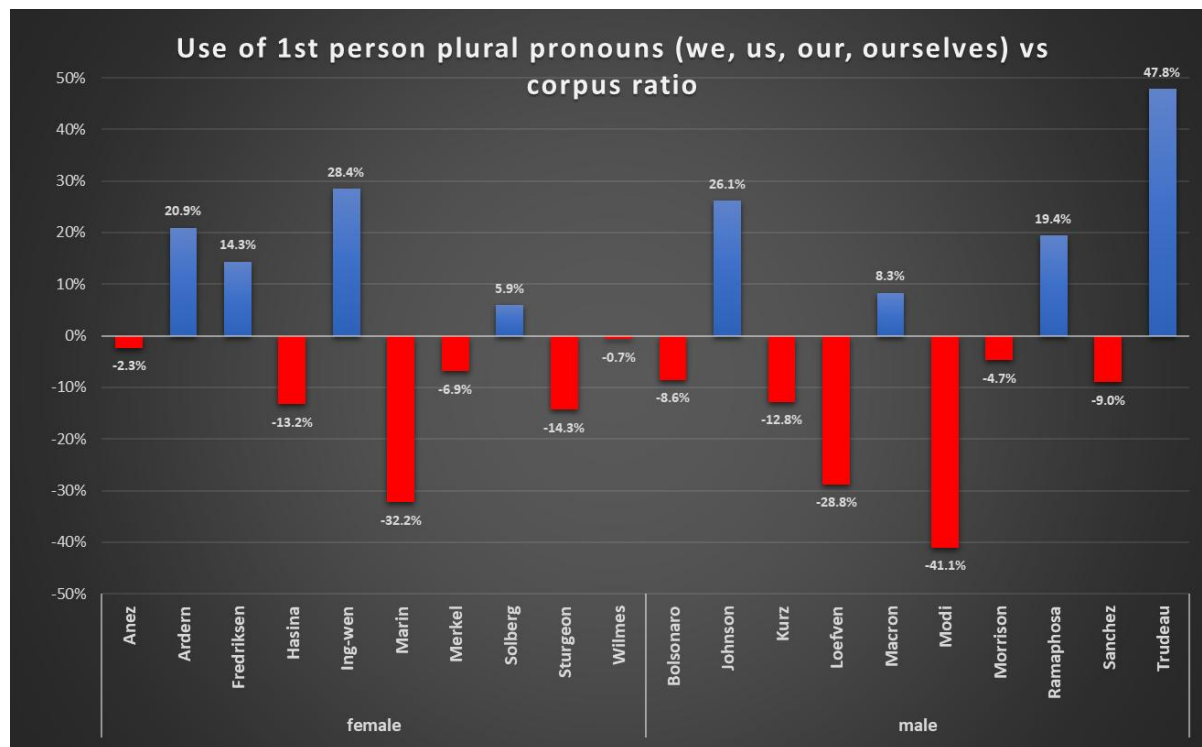


Figure 40 [own design]: Prominence of 1st person plural personal pronouns in leader sub-corpora as distance from overall score

Comparison of 2nd person (singular / plural) use

The use of 2nd person in speeches is indicative of a leader's intention to connect directly with the audience, to create a sense of engagement and intimacy. Formal / inform distinctions (Sie vs Du in 2nd person singular in German, for example) disappear in the English translation 'you'. However, in the case of official speeches, formal address is usually assumed **reference**

The conspicuous use of 2nd person might be more notable among female, than male leaders. It might also be more notable among empathes, than populists, and perhaps least so among technocrats.

The ratio of 2nd person singular or plural pronouns in the overall corpus is 0.68% of the word count (1,316 words). The female corpus ratio is (0.6%, 532 words) is distinctly lower, than the male corpus (0.75%, 784 words). Ratios vary between 0.12% at the low end (Marin), and 1.59% at the top end (Trudeau), with the top score more than twelve times that of the lowest score. Distributions vary widely among sub-corpora.

11 of 20 speakers deviate significantly from the corpus-wide ratio of 0.7%, while 9 fall within the expected range. Trudeau, Modi, Johnson, Löfven, Kurz are all above average. Sanchez, Solberg, Ramaphosa, Ing-wen, Bolsonaro, Marin are all below.

It can be inclusive by generating a bond with the audience (see inclusive rhetoric of Jacinda Ardern in Power and Crosthwaite 2022), directive by issuing instructions (in contrast to Ardern, see Morrison's directive style in Power and Crosthwaite 2022) or suggestive by advising an action (see examples of patient advice in Brookes and Collins 2023).

Inclusive:

“Now I want to **share with you** what will happen while we are all in Alert Level 4 to get ahead of COVID-19.” (Ardern, 23 03 2020)

“And you, our young people, represent this - hope, strength, the enthusiasm of society. And now more than ever, **we need you** because we are all part of the same body I mentioned before.” (Sánchez, 04 04 2020)

Directive:

“**You have to** protect yourself and your family. For the next many days, **you have to** continue displaying this patience” (Modi, 29 03 2020)

“From this evening I must give the British people a very simple instruction - **you must** stay at home.” (Johnson, 23 03 2020)

Concordance of deontic use, more obligation than suggestion (“you should”)

Table 17 Concordance of N-Gram “you should” in overall corpus, sorted by country / leader (from SketchEngine)

1	Bolivia Anez.tx...	Any symptoms, you should immediately consult our professionals because they are most likely to develop more severe cases.
2	Canada Trudeau....	If you need a test, you should be able to get one and get it quickly.
3	Denmark Fredrik...	Fundamentally, once you have been granted a residence permit in Denmark, you should be able to provide for yourself.
4	Scotland Sturge...	If you are over 18 years of age, you should have had your invitation for the first jag by now.
5	UK Johnson.txt	If your friends ask you to meet, you should say No.
6	UK Johnson.txt	If you're clinically vulnerable, or over the age of 60, you should be especially careful to follow the rules and minimize your contacts with others.
7	UK Johnson.txt	So please -- and this is -- this is really important -- unless your clinicians tell you otherwise, you should continue to use the NHS, get your scans, turn up for your appointments and pick up your treatments.
8	Scotland Sturge...	Secondly, if your staff cannot work from home -- you should be asking yourself if your business is contributing something right now that is essential to the fight against Coronavirus, for example making medical supplies or manufacturing essential items, or is it contributing something essential to the wellbeing of the nation -- for example food supplies.
9	UK Johnson.txt	You should not be going shopping except for essentials like food and medicine - and you should do this as little as you can.
10	Sweden Lofven....	But you should also know that as a society we are facing this crisis with our united strength.
11	Denmark Fredrik...	Because in Denmark you should be safe everywhere - at a disco, a residential area or a train station.
12	Australia Morri...	If you hear it from me, if you hear it from a Premier, if you hear it from Dr. Murphy, if you hear it from those official sources and websites, that's the information you should follow.
13	UK Johnson.txt	That's all - these are the only reasons you should leave your home.
14	Canada Trudeau....	So if you're in Alberta, and you come into contact with someone inadvertently who then goes home to Saskatchewan and gets tested positive, you will be alerted that you should maybe get yourself checked.
15	Denmark Fredrik...	There are already a number of countries and areas that you should not travel to.
16	Denmark Fredrik...	I would also like to say right now that you should expect to see the defense at the border.
17	Denmark Fredrik...	So I hope everyone has heard that you should not go on an Easter holiday out of Denmark this year.
18	Scotland Sturge...	If you were shielding and you cannot work from home, our clear advice now is that you should not go into work at all.
19	UK Johnson.txt	From tomorrow, if you have coronavirus symptoms, however mild -- either a new continuous cough or a high temperature -- then you should stay at home for at least 7 days to protect others and help slow the spread of the disease.
20	Scotland Sturge...	If you cannot answer yes to those questions, then in our view you should not continue to be open.
21	Scotland Sturge...	For these businesses the advice - which is very much based on a precautionary principle given that our priority here is the protection of health - is broadly as follows: Firstly, if your staff can work from home -- that is what you should allow them to do.
22	Sweden Lofven....	These are the people for whom you should make sacrifices.

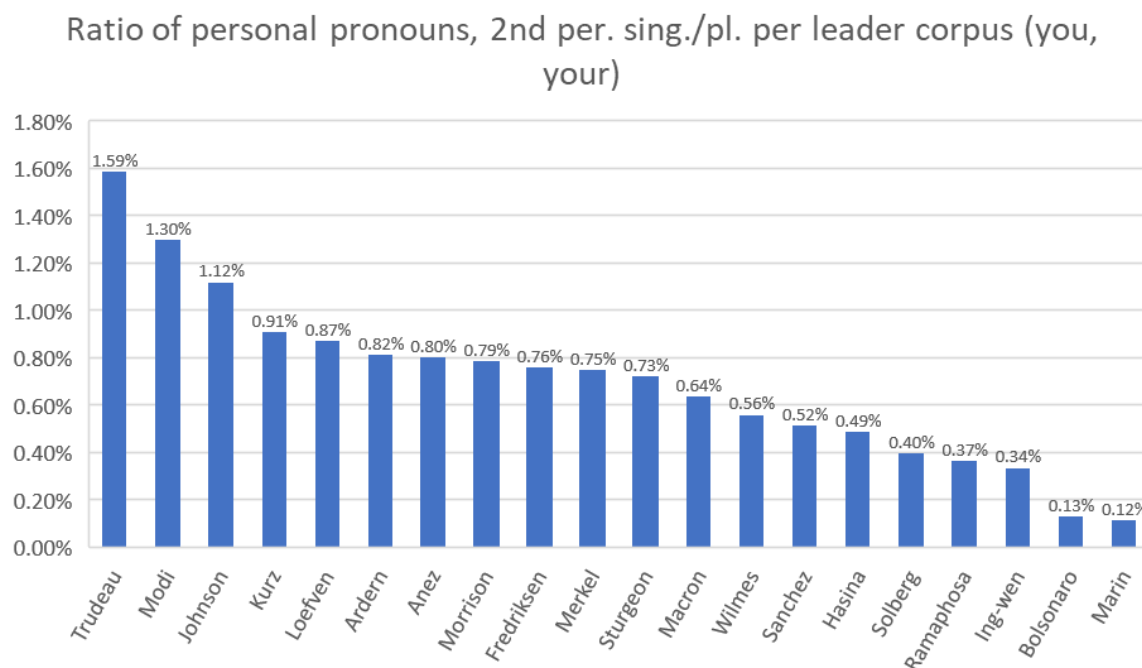


Figure 41 [own design]: Percentage of 2nd person singular/plural personal pronouns in leader sub-corpora

As noted before, the distance scores of frequencies distributions for the overall corpus ratio appear to increase with lower volumes, as expected due to sampling error and increasing variance. This is evident in the distance scores of 2nd person singular and plural use, with distances of 135% (Trudeau), 91.8% (Modi) and 65.3% (Johnson) at the higher end, and -83% (Marin) and -80% (Bolsonaro) at the lower end.

There is a strong correlation between gender and use of 2nd person, and a slight correlations with the populist leadership type.

RQ 1: Gender is a statistically significant factor in the preference of 2nd person addresses (leaning male)

RQ2: Leadership type is not a reliable or consistent factor in predicting the preference for 2nd person addresses

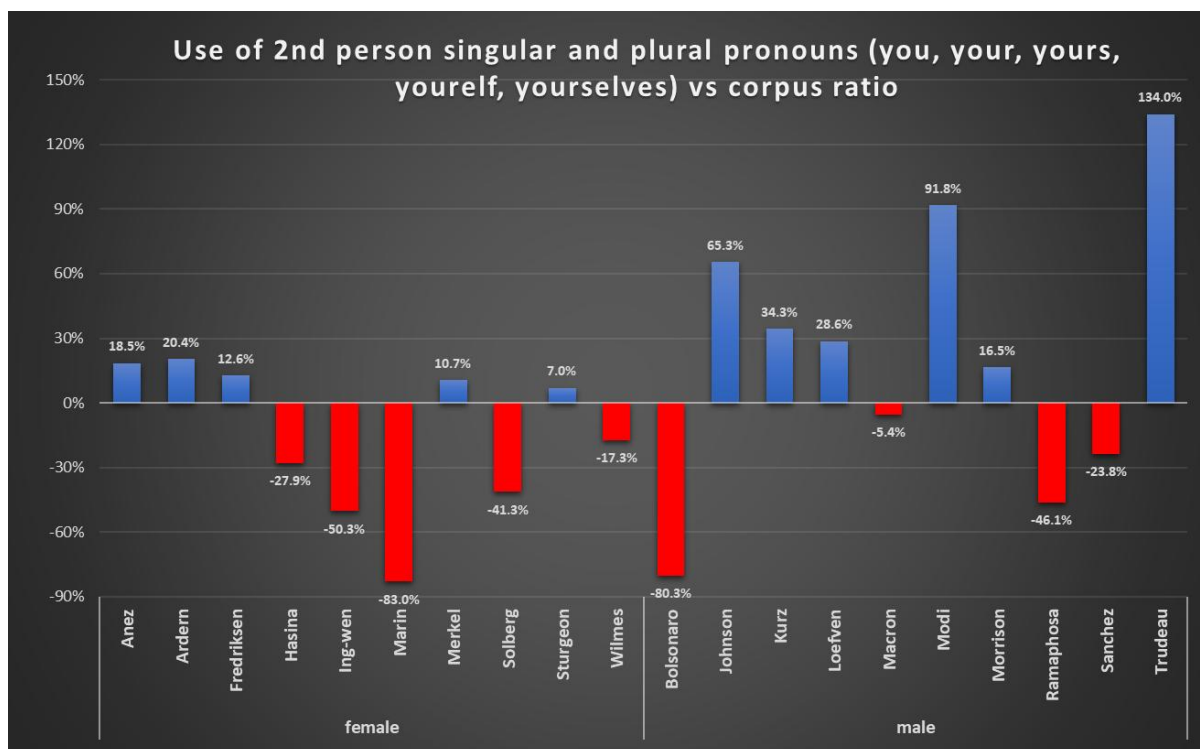


Figure 42 [own design]: Prominence of 2nd person singular/plural personal pronouns in leader sub-corpora as distance from overall score

Comparison of 3rd person plural use

The ratio of 3rd person plural pronouns in the overall corpus is 0.71% of the word count (1,386 words). The female corpus ratio (0.65%, 583 words) is distinctly lower, than the male corpus (0.77%, 803 words). Ratios vary between 0.42% at the low end (Marin), and 1.44% at the top end (Morrison), with the top score more than three times that of the lowest score. Distributions vary widely among sub-corpora. 9 of 20 speakers deviate significantly from the corpus average for third-person plural, while 11 show no meaningful difference. Morrison, Modi, Añez are above average. Morrison's score is more than twice the corpus average, suggesting a discourse style that prominently references out-groups, third parties, or institutional actors. Bolsonaro, Sanchez, Hasina, Kurz, Marin, Frederiksen have statistically significantly low scores.

The use of 3rd person plural in speeches is often indicative of a leader's distance and detachment from the addressed. That distance and detachment can be a sign of 'othering' or blaming, but it can also signal objectivity and professional detachment. The conspicuous use of 3rd person plural might be more notable among male, than female leaders. It might also be more notable among populists, than empaths, and perhaps least so among technocrats.

Detachment:

"I would appeal to every individual to if possible, call at least 10 people on the phone every day, **explaining to them how to protect themselves** from the virus as well as the idea of people's curfew." (Modi, 19 03 2020)

"The only way of handling this, is to face the crisis as a society where everyone takes **responsibility for themselves**, for each other and for our country." (Löfven, 22 03 2020)

Othering / blaming:

"we expect all South Africans to act in the interest of the South African nation and not in **their own selfish interests**." (Ramaphosa, 23 March 2020)

"If you're hearing it from someone just saying **whatever pops into their head or whatever their opinion is** on a particular topic - opinions are interesting but everybody has them. Facts are important." (Morrison, 18 03 2020)

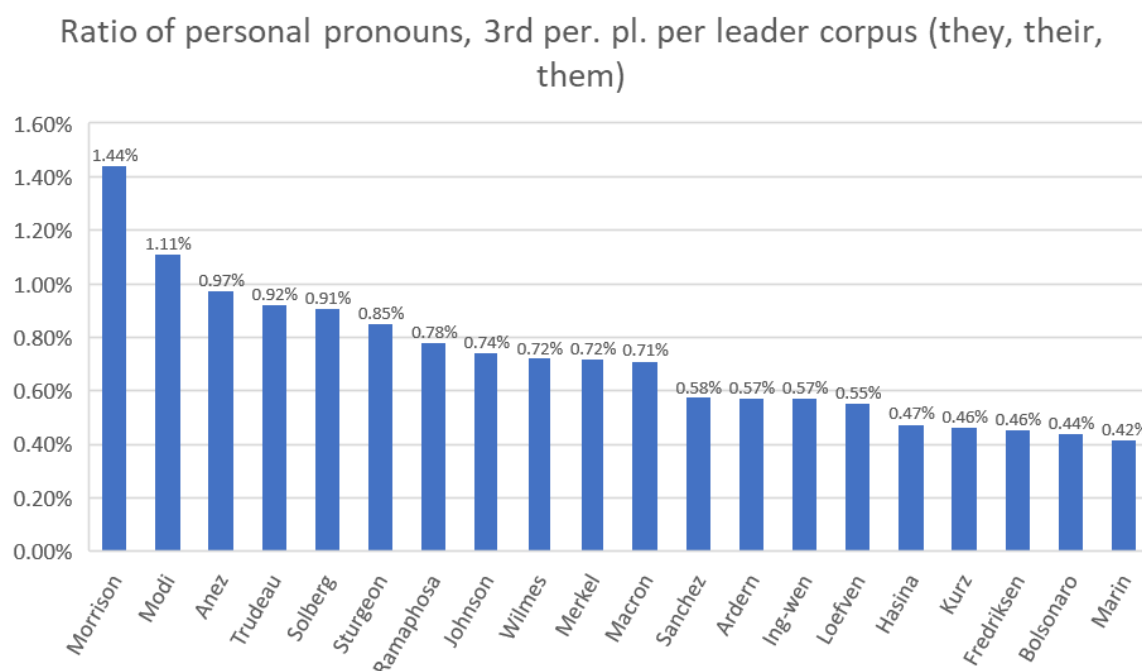


Figure 43 [own design]: Percentage of 3rd person plural personal pronouns in leader sub-corpora

Again, the distance scores of frequencies distributions for the overall corpus ratio are significant at the extreme ends of the spectrum, with Scott Morrison 102% above corpus ratio, followed at some distance by Narendra Modi (55.6%) and Jeanine Áñez (36.1%). At the lower end, five leaders are in a

range of -33% to -41% (Marin, -41.4%; Bolsonaro, -38.4%; Frederiksen, -36.2%; Kurz, -35.2%; Hasina, -33.6%).

There is a strong correlation between gender and 3rd person plural use, and some indication that populists are more likely users of this form.

RQ 1: Gender is a statistically significant factor in the preference of 3rd person addresses (leaning male)

RQ2: Leadership type is not a reliable or consistent factor in predicting the preference for 3rd person addresses

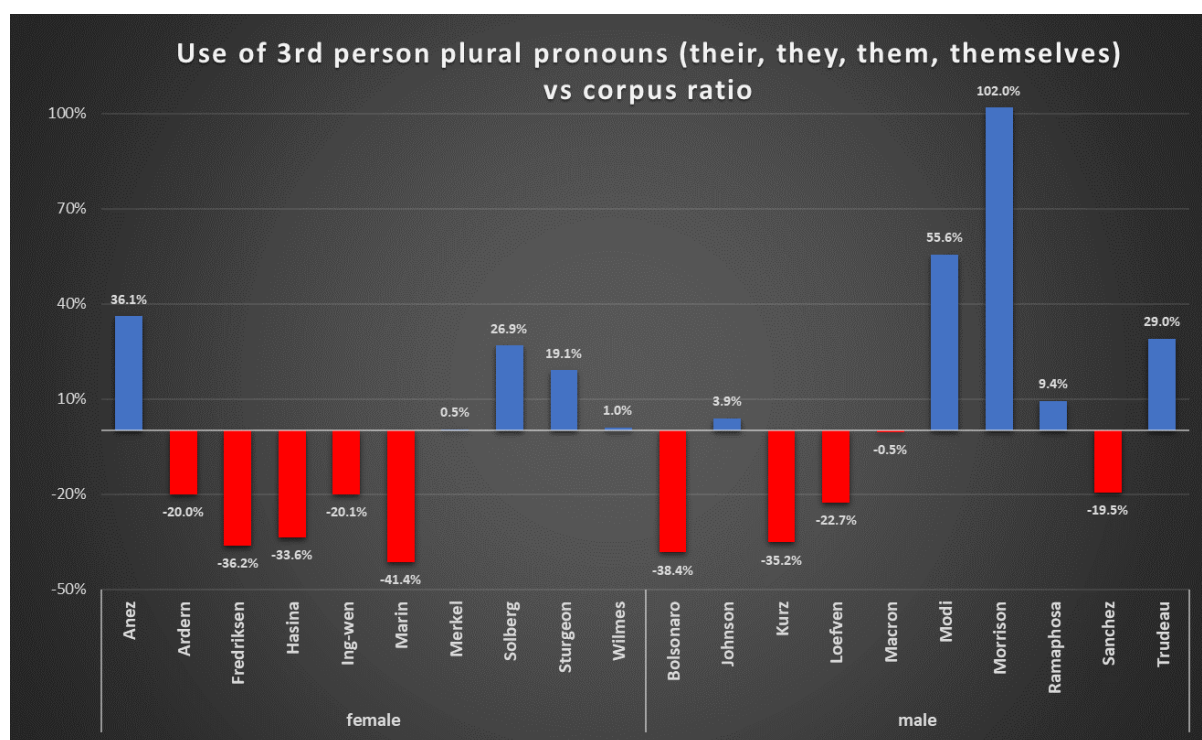


Figure 44 [own design]: Prominence of 3rd person plural personal pronouns in leader sub-corpora as distance from overall score

Comparison of modal verb use

The ratio of modal verbs in the overall corpus is 2.4% of the word count (4,735 words). There is little difference between the female corpus ratio (2.5%, 2,250 words), and the male corpus (2.4%, 2,485 words). Ratios vary between 1% at the low end (Bolsonaro), and 3.4% at the top end (Löfven), with the top score 3.4 times that of the lowest score. Distributions vary widely among sub-corpora. 10 of 20 speakers deviate significantly from the corpus modal verb rate of 2.4%, while 9 are statistically

close to the norm. Löfven, Macron, Ardern, Sturgeon, Frederiksen are all above the significance threshold, whereas Morrison, Modi, Bolsonaro, Hasina, Sanchez are below.

Modality, the “linguistic means for expressing certainty and conviction by conveying what the speaker holds to be true, necessary or desirable” (Charteris-Black 2018, p.292), is a key strategic tool in political discourse. While modality can be expressed by different word groups and combinations thereof (Leone 2022, p.1318), e.g. nouns (possibility, obligation, ability etc.), adjectives (likely, possible, necessary etc.), adverbs (certainly, maybe, perhaps etc.), modal verbs a crucial linguistic mechanism to convey conviction in political speech (see the discussion of 'conviction rhetoric' in Charteris-Black 2018). The use of modal verbs in political speech qualifies and tempers a statement by conveying a sense of, for example, certainty, possibility, authority, politeness, persuasion or obligation. It is thus a critical tool for leaders in engaging their audiences. The conspicuous use of modal verbs might be more notable among female, than male leaders. It might also be more notable among empaths, than populists, and perhaps least so among technocrats.

Certainty:

“The people of this country **will rise** to that challenge. And **we will come through** it stronger than ever. **We will beat** the coronavirus and **we will beat** it together.” (Johnson, 23 03 2020)

Possibility:

“Many regions **might now be spared** the worst. For a number of days now, the number of people in intensive care has gone down. Hope reigns.” (Macron, 13 04 2020)

Authority:

“Where criminality takes a hold on people, the **police must act**. Now, the government proposes that this happens with stricter consequences.” (Frederiksen, 06 10 2020)

Politeness (and gratitude):

“I **would also like to thank** the other political parties in the Storting for their constructive cooperation when the pandemic broke out. And finally, I **would like to express** my sincere thanks to all of you who are following the advice and rules to prevent the infection from spreading.” (Solberg, 01 01 2021)

Obligation (and advice):

“Firstly, if your staff can work from home – that is **what you should allow** them to do.” (Sturgeon, 24 03 2020)

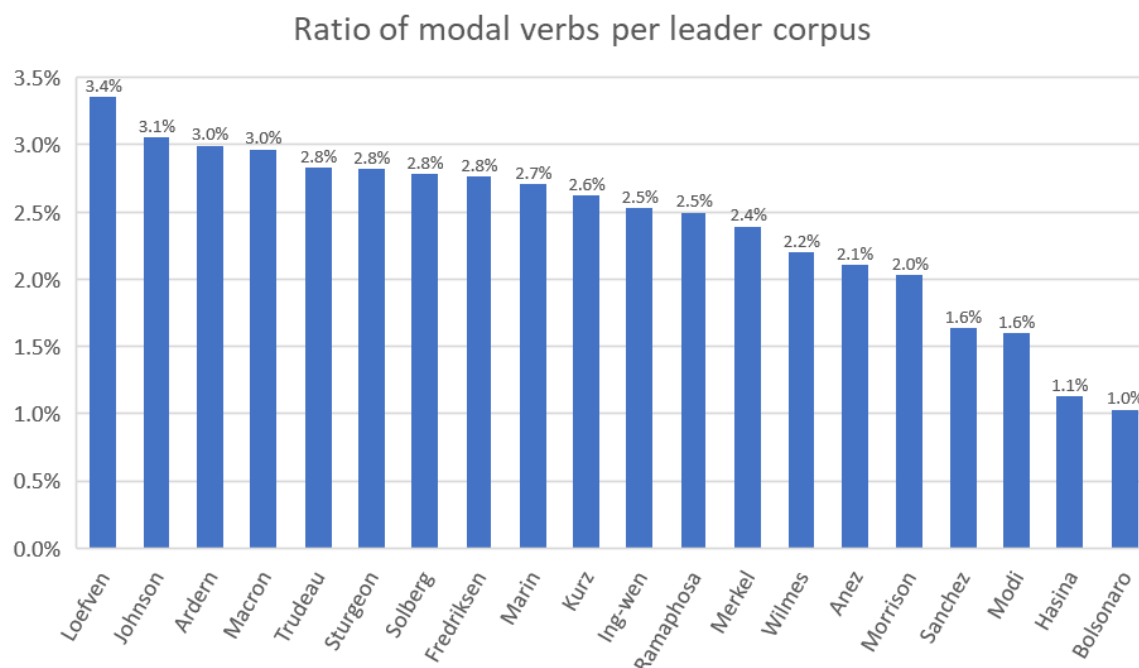


Figure 45 [own design]: Percentage of modals in leader sub-corpora

The distance scores of frequency distributions from the overall corpus ratio are more distinct at the lower end (Bolsonaro, -57.7%; Hasina, -53.5%), than at the top end (Löfven, 37.8%). There is some evidence that female leaders are more likely to use modal verbs, but correlations with leadership type are inconclusive.

RQ 1: Gender is a factor in the preference of modal verbs (leaning female)

RQ2: Leadership type is not a discernible factor in the preference of modal verbs

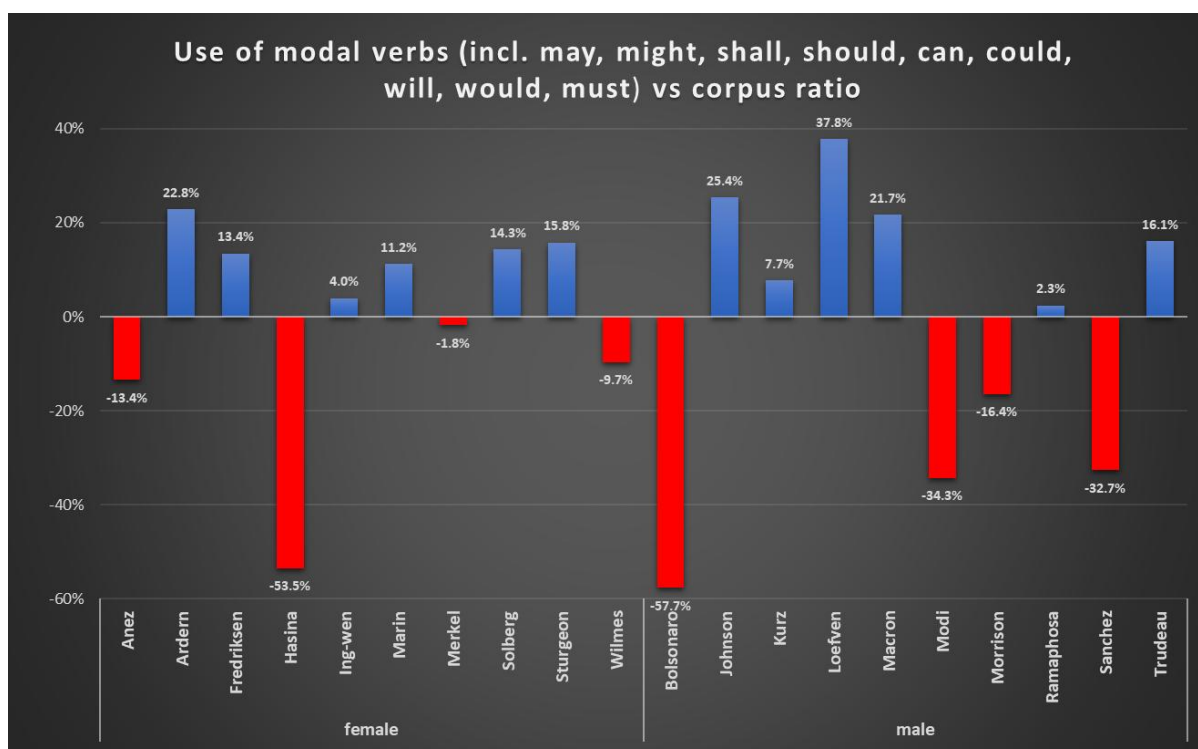


Figure 46 [own design]: Prominence of modals in leader sub-corpora as distance from overall score

Comparison of conjunctive adverb use

The ratio of conjunctive adverbs in the overall corpus is 0.93% of the word count (1,806 words). The female corpus ratio (1.02%, 911 words) is clearly above that of the male corpus ratio (0.86%, 895 words). Ratios vary between 0.55% at the low end (Ramaphosa), and 1.64% at the top end (Kurz), with the top score about three times that of the lowest score. Distributions vary widely among sub-corpora. At the lower end, nine sub-corpora cluster relatively closely together (between 0.55% and 0.7%). It is notable that the top two scores come from German-speaking leaders (Kurz, 1.64%; Merkel 1.55%), which points to cultural idiosyncrasies and/or particular patterns in German syntax. Statistically, six speakers fall within the expected range, whereas Merkel, Kurz, Sturgeon, Sanchez, Marin, Wilmes are all above, and Arden, Macron, Hasina, Añez, Morrison, Solberg, Löfven, Ramaphosa below the range.

Conjunctive adverbs can help enhance the flow and coherence of a speech by explicitly connecting ideas or creating transitions between thoughts and arguments. They are used for emphasis, for introducing examples, for demonstrating contrasts, for conclusions and summaries, or for showing relationships between ideas. The conspicuous use of conjunctive adverbs might be more notable among female, than male leaders. It might also be more notable among technocrats, than empathes, and perhaps least so among populists.

Emphasis:

“So **obviously** the authorities must do their job. **Obviously** there is still a lot to do.” (Wilmès , 17 09 2020)

Introducing examples:

“This has given our country an advantage that is more powerful than any weapon, and more valuable than any oil fund: **Namely**, that we trust each other. It is this trust that will carry us through the crisis we are now facing.” (Solberg, 18 03 2020)

Demonstrating contrasts:

“You must not call the emergency services or go to hospital unless you have a high fever or difficulties breathing, **otherwise** they will not be able to deal with the wave of serious cases which is already on the horizon in some regions.” (Macron, 16 03 2020)

Conclusions and summaries:

“**Ultimately** , this is what a government can only hope for. This is only possible if citizens do something with heart and reason for their fellow human beings, for their country – call it: for the big picture.” (Merkel, 23 04 2020)

Relationships, cause and effect:

“This pandemic to a large extent kept us restricted to our homes. **Consequently**, our economic activities were greatly hampered along with our health systems.” (Hasina, 26 09 2020)

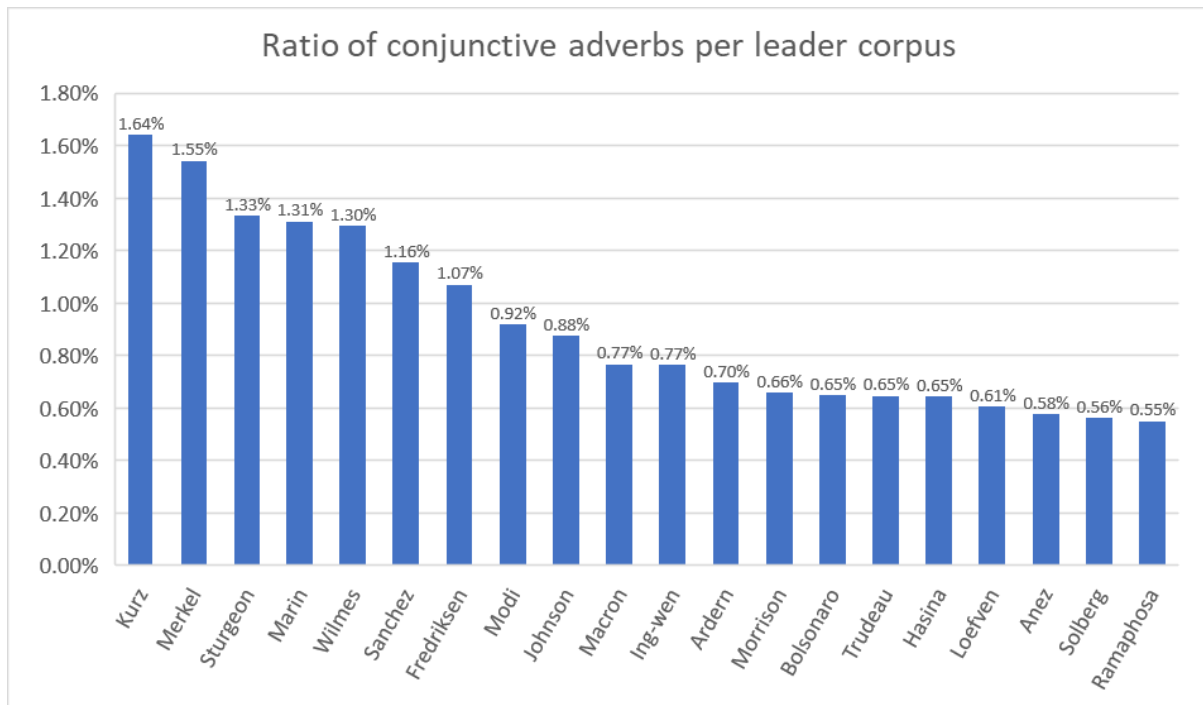


Figure 47 [own design]: Percentage of conjunctive adverbs in leader sub-corpora

The distance scores of frequency distributions from the overall corpus ratio show wide variety, with only two sub-corpora close to the overall corpus ratio. There are five sub-corpora with a percentage distance above the corpus ratio of 39% or more, and nine sub-corpora with a distance of about 25% or more below the corpus ratio.

There is strong evidence that female leaders use more conjunctive adverbs in their speeches, and some, though not conclusive, indication that technocrats and empaths use conjunctive adverbs more often, than populists.

RQ 1: Gender is a statistically significant factor in the preference of conjunctive adverbs (leaning female)

RQ2: Leadership type is not a discernible factor in the preference of conjunctive adverbs

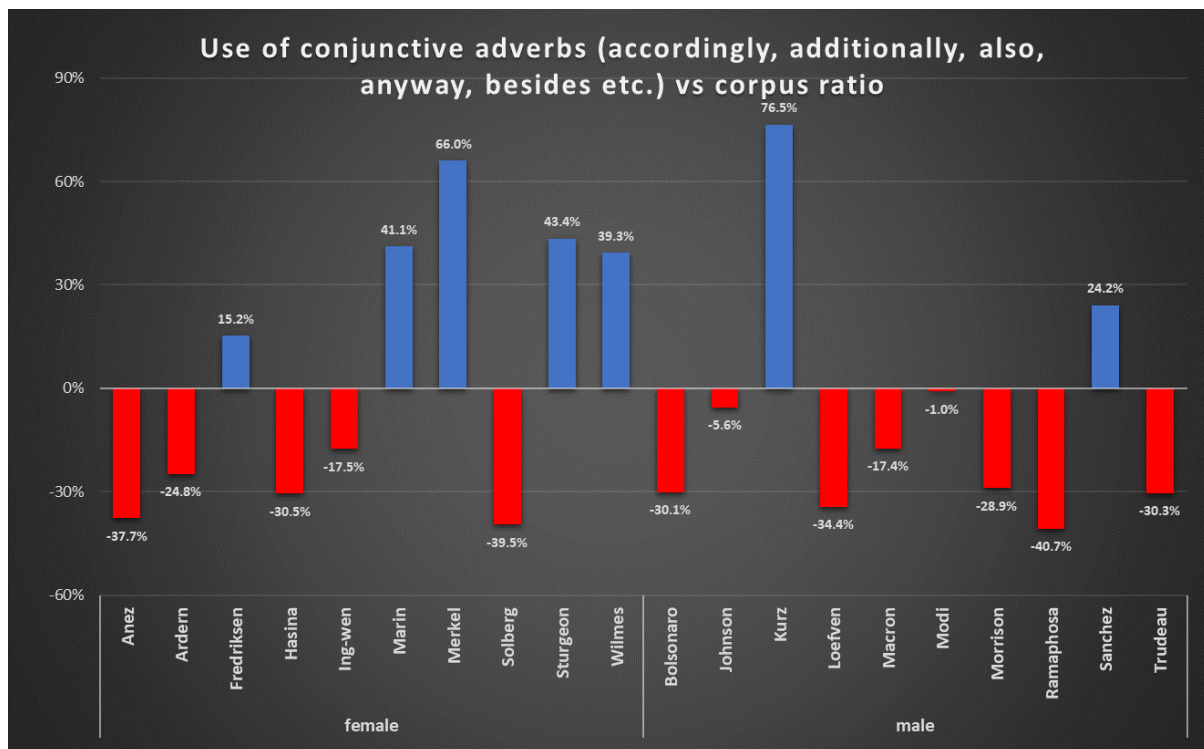


Figure 48 [own design]: Prominence of conjunctive adverbs in leader sub-corpora as distance from overall score

4.4.2 Comparative views of framing

This section explores how individual leaders use particular words, as well as words considered to be belonging to particular semantic clusters, including the use of certain metaphors, to frame their arguments. This contributes to answering research questions, since both conceptions of knowledge informing leadership types, as well as the discursive performance of gender are expected to lead to certain framing preferences and thus word choices. For example, Modi, as a postmodern populist male leader in a tight culture who also has some empathetic leaning (see section 2.5.6) can be expected to use framing through semantic clusters and metaphors associated with strength and fighting, but also compassion, care, community. Marin, as a metamodern empathetic female leader in a more loose culture who has some technocratic leaning can be expected to use framing through semantic clusters associated with compassion, care, community, but also learning, control and science.

This section addresses

RQ 3: Is gender a factor in the preference of certain semantic clusters?

RQ 4: Do certain leadership types and gender go together in the preference of certain semantic clusters?

Communication practices such as framing, priming or agenda-setting have become part of the canon of media effects theory (Scheufele and Tewksbury 2007; Moy et al. 2016). Together with various approaches to explain the use and impact of metaphor in discourse (Lakoff 2006; Semino et al. 2016; Kövecses 2023), they form a bundle of models and theories that help investigate micro and meso aspects of discourse through the exploration of word and expression choices by communicators.

Sketch Engine supports this approach to research through a number of applications, including Word Sketches and Thesaurus. These work well for the exploration of an entire corpus, or the comparison of two corpora. They become less effective for a larger number of sub-corpora, where aggregate data tables are more accessible for comparative investigations. The following section combines automated Sketch Engine analysis capabilities with qualitative research: for a number of semantic fields or contexts, mainly nouns and verbs were chosen as belonging to a particular field. Selections were made based on close examinations of word lists and Thesaurus within Sketch Engine, as well as identifying similar words from the website www.relatedwords.org. Even though relatedwords.org provides no technical explanation for synonym identification, it is useful as a discovery tool and has been used as such in this study.

As outlined in section 3.4.7, this process was used to generate semantic clusters. The results below show the percentage share of those semantic clusters relative to the word count in each of the sub-corpora. The distance from the overall corpus ratio also indicates how weak or strong comparatively the use of the respective semantic cluster is. Unlike the comparison of generic word groups, which provides an insight into often unconscious individual style and register, the choice of words to make a point, express a sentiment, trigger an emotion, instigate an action is seen as a more deliberate act. These choices are representative of a leader's ideology or conception of knowledge, as well as organisational or even systemic role. The following section focuses on comparative insights derived from the data, with some inferences to framing, priming and agenda-setting. Results are assessed against assumptions in research questions. In section 4.5, these are then followed up by qualitative investigations into the specific use of metaphors.

Comparison of War frame

The semantic cluster "War" is expected to be more notable among male, than female leaders. It is also expected to be more notable among populist, than technocratic leaders, and least notable among empathetic leaders. Accordingly, primary populist male leaders Bolsonaro, Johnson, Kurz, Modi and Morrison are expected to be the most active users of this frame, followed by Áñez.

It accounts for 0.41% of the total word count (n=798). Not unexpectedly, though to a lesser extent than perhaps anticipated, the ratio for the female cohort (0.39%, n=347) is lower, than that of the male cohort (0.41%, n=451). The rank order of individual scores reveals that the top positions are held by two non-Western female leaders: Jeanine Áñez and Tsai Ing-wen. Narendra Modi in third, Jair Bolsonaro in fourth and Emmanuel Macron in fifth position are more expected results. At the other end of the ranking, Scott Morrison in 15th and Sebastian Kurz in 18th place are somewhat surprising, given their populist reputation. Nicola Sturgeon is at the low end of the distribution, at some distance from other leaders.

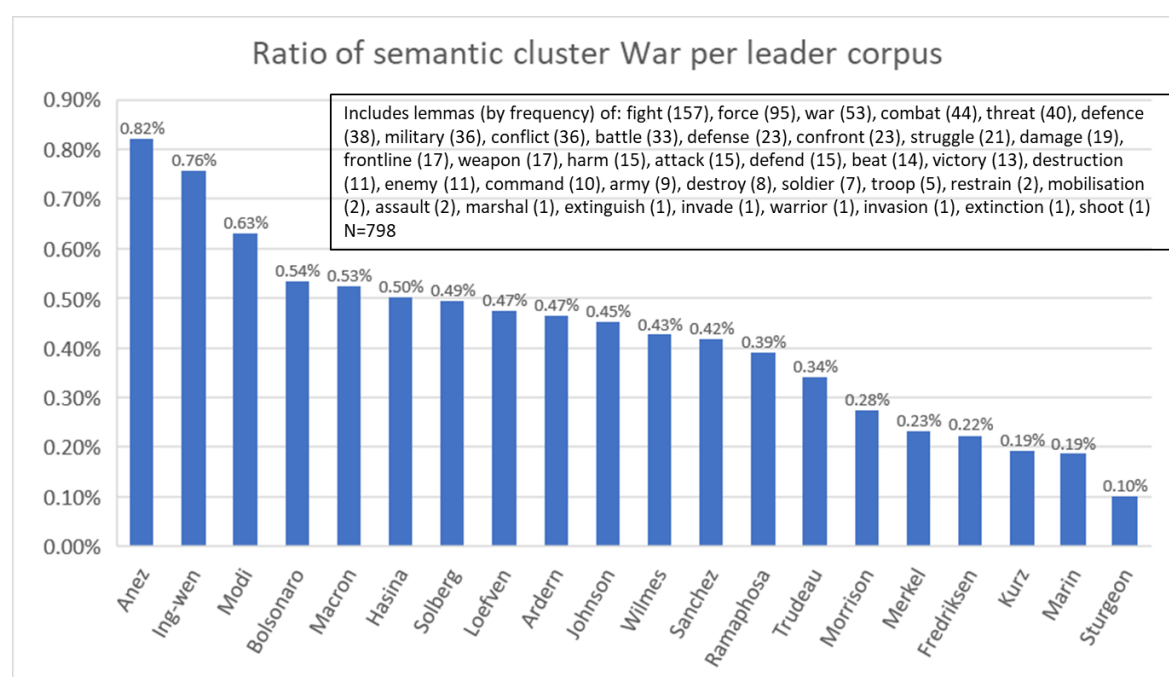


Figure 49 [own design]: Percentage of semantic cluster War in leader sub-corpora

The prominence or distance from the corpus ratio view reveals how far above or below the corpus ratio a sub-corpus is, as a percentage (irrespective of actual frequency, which is relative to different word counts in the sub-corpora). For example, Jeanine Áñez, with 44 occurrences, has a 0.82% score of the War frame (i.e. words belonging to that semantic cluster) as a share of her total word count (n=5,349). Emmanuel Macron, with 99 occurrences, has a score of 0.53%, based on total word count of 18,853.

In the case of the War frame, Áñez's score (0.82%) is twice the corpus ratio (0.41%), with Ing-wen (0.76%) not far behind. At the low end, Sturgeon's score of 0.1% is 75% lower than the corpus ratio, with four other leader's score around 40% to 50% lower than the corpus ratio.

The range of statistical significance (z-score and p-value) shows Ing-wen, Áñez, Modi and Macron above expectation, and Morrison, Merkel, Kurz, Marin, Frederiksen, Sturgeon below.

RQ 3: Gender is not a significant factor in the preference for the "war" frame

RQ 4: The relationship between leadership type and gender in the preference of the "war" frame is inconclusive

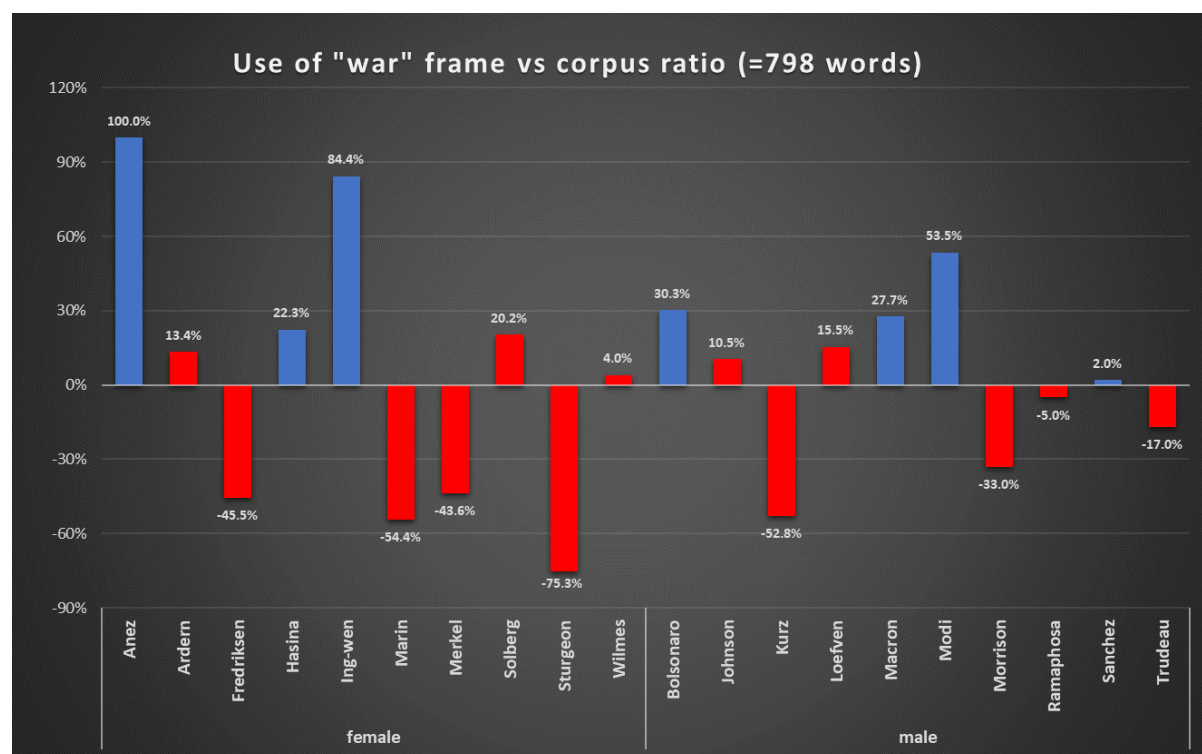


Figure 50 [own design]: Prominence of semantic cluster War in leader sub-corpora as distance from overall score

Ing-wen uses a variety of militaristic terms (defense/defence/defend 21x; military 17x; force 11x; fight 8x; battle 4x; combat 4x; troop 4x etc.), and mixes references to the Taiwanese fight against COVID-19 with wider historic references:

Table 18 Selection of fight references in Ing-wen speeches (from SketchEngine)

1	Taiwan Ing-wen....	The ability of the Taiwanese people to come together to fight COVID-19 and their commitment to protect Taiwan were crucial to our success in the first stage of preventing an outbreak.
2	Taiwan Ing-wen....	The first was our democratic elections, and the second was our success in the fight against COVID-19.
3	Taiwan Ing-wen....	Over the next four years, we will continue to fight for our participation in international organizations, strengthen mutually beneficial cooperation with our allies, and bolster ties with the United States, Japan, Europe, and other like-minded countries.
4	Taiwan Ing-wen....	During the August 23 Artillery War of 1958 in Kinmen, our brave troops fought side by side, without regard for where one another came from.
5	Taiwan Ing-wen....	Over the past 72 years, our military's dedication to protecting our nation, as well as our understanding of why we fight , have been rooted in that conviction, which has been passed down by generation after generation of Taiwanese.

Macron, whose ‘war with the virus’ declarations were regularly discussed by researchers (for example, Papamanoli and Kaniklidou 2022; Sadoun-Kerber and Wahnich 2022), used the lemma fight by far the most among the 20 leaders in the corpus (35 out of a total of 157 mentions). While qualifying the context, he uses the full force of the metaphor, so to speak:

“We are at **war**, admittedly a health **war**: we’re **fighting** neither an **army** nor another nation. But the **enemy** is there, invisible, elusive, and it’s making headway. And that requires our widespread **mobilization**. We are at **war**. All the action of the Government and Parliament must now be geared towards **combating** the epidemic.” (16 03 2020)

Comparison of Family frame

The semantic cluster “Family” is expected to be more notable among female, than male leaders. It is also expected to be more notable among empathetic, than populist leaders, and least notable among technocratic leaders. Accordingly, primary empathetic female leaders Ardern, Frederiksen, Marin and Sturgeon are expected to be the most active users of this frame, followed by Ramaphosa and Trudeau, Bolsonaro and Modi .

It accounts for 0.47% of the total word count (n=917). As expected, the ratio for the female cohort (0.53%, n=470) is higher than that of the male cohort (0.43%, n=447). The rank order of individual scores, however, reveals that gender results vary widely based on leadership type and ideology: the conservative and populist leaning Jeanine Áñez is by some distance the leader that invokes the Family frame most prominently and frequently, often as an opening address in her speeches:

“Good evening Bolivian **families** , as President of Bolivia today I will do everything I have to do to protect Bolivian **families** against the coronavirus.” (15 03 2020)

At the other end of the rank order, the liberal technocrat leaning Sophie Wilmès is – again by some distance – the leader who uses the Family frame the least.

Notably, Áñez leads the rank order in both the War and Family frames. While this seems unusual, Áñez is in fact not the only leader scoring high on both counts: Narendra Modi has the third highest War frame score, and the second highest Family frame score. Áñez’s result is unique, however, in that her score is more than three times that of the corpus ratio on Family, and more than twice that of the corpus ratio on War.

The range of statistical significance shows Áñez, Modi, Hasina, Trudeau, Johnson as the statistically most likely to use family related language. Morrison, Ramaphosa, Solberg, Macron, Wilmes, Sanchez are the least likely.

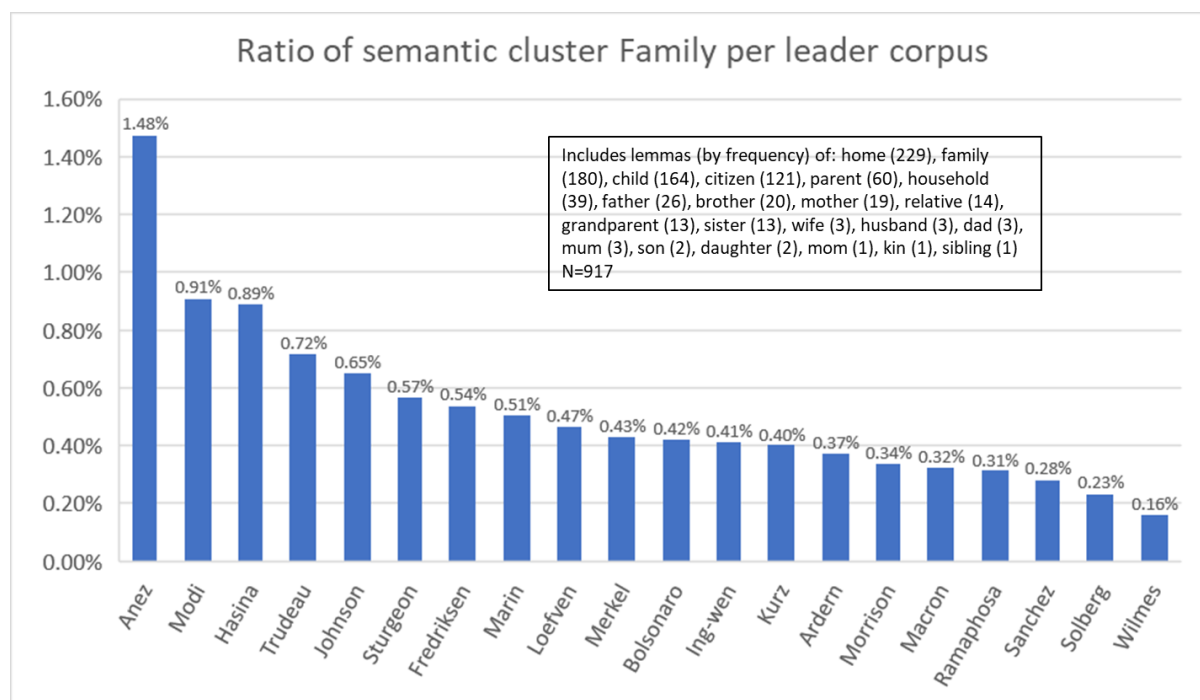


Figure 51 [own design]: Percentage of semantic cluster Family in leader sub-corpora

The prominence view emphasizes how far ahead of all the other leaders Áñez is: her score is more than three times that of the corpus ratio, and more than 50% higher than Modi's in second place. Other leaders scoring significantly above the corpus ratio include Hasina and Trudeau. At the low end, Wilmes's score is just a third of the corpus ratio, with five other leaders also scoring notably lower than the corpus ratio.

RQ 3: Gender is a statistically significant factor in the preference of the "family" frame (leaning female); however, this is driven by Áñez as a 'statistical outlier', and regional cultural factors (Hasina, Modi) also play a role

RQ 4: The relationship between leadership type and gender in the preference of the "family" frame is inconclusive (though populist and empathetic leaders appear more likely to use this frame, than technocrats)

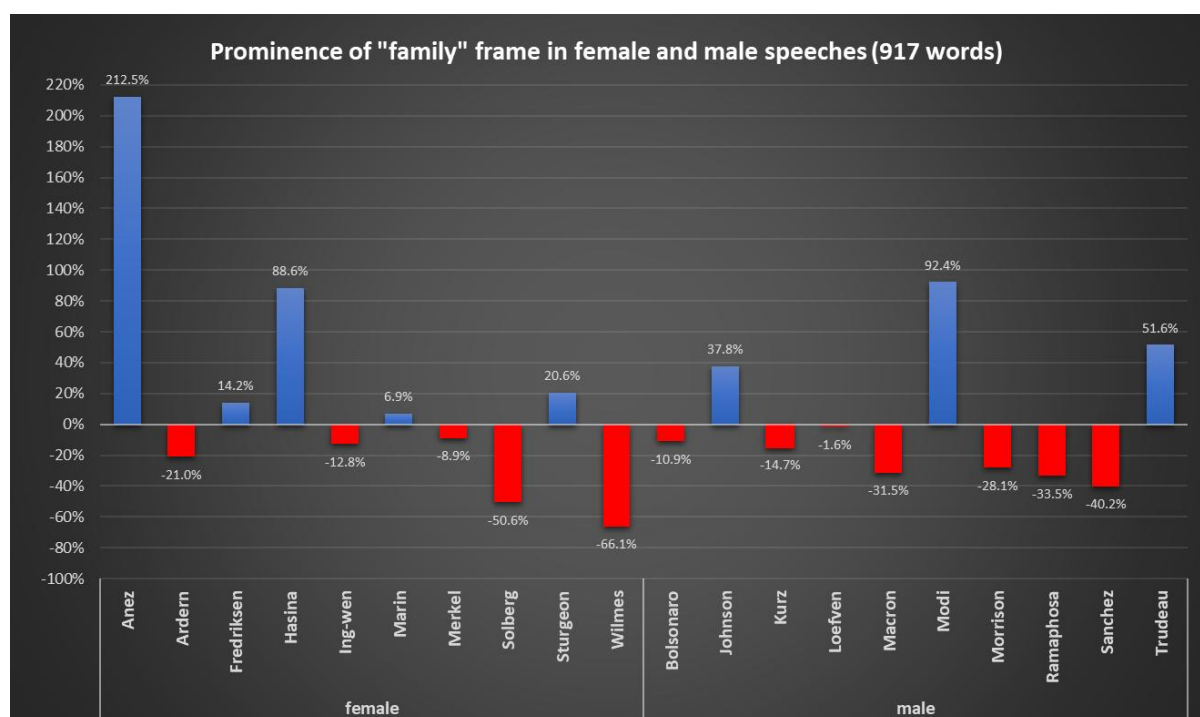


Figure 52 [own design]: Prominence of semantic cluster Family in leader sub-corpora as distance from overall score

Comparison of Community frame

The semantic cluster “Community” is expected to be more notable among female, than male leaders. It is also expected to be more notable among empathetic, than technocratic leaders.

Accordingly, primary empathetic female leaders Ardern, Frederiksen, Marin and Sturgeon are expected to be the most active users of this frame, followed by Ramaphosa and Trudeau, Bolsonaro and Modi.

It accounts for 0.36% of the total word count (n=698). The ratio for the female cohort (0.34%, n=307) is somewhat lower than that of the male cohort (0.37%, n=391). The rank order of individual scores is led by Modi, who regularly addresses his audience as “friends”. Ing-wen’s prominent use of the Community frame is driven by regular references to the international community (found 22 times as an N-Gram in Ing-wen’s subcorpus). See examples in table 19 below:

Table 19 Concordance of Ing-wen's use of the phrase "international community" (from SketchEngine)

1	Taiwan Ing-wen....	The only way for Taiwan to get through this pandemic is to work together with the international community to successfully prevent its spread.
2	Taiwan Ing-wen....	Full international cooperation is the only way to ensure that the international community can win this battle.
3	Taiwan Ing-wen....	All members of the international community must pool their capabilities and work together to overcome this challenge.
4	Taiwan Ing-wen....	Today, I want to tell the international community that Taiwan will actively bolster our cooperation with all countries to prevent the spread of COVID-19.
5	Taiwan Ing-wen....	We are willing to provide assistance to the international community in three areas: face masks, pharmaceuticals, and technologies.
6	Taiwan Ing-wen....	Later on, we will provide even more support to the international community based on our domestic production capacity.
7	Taiwan Ing-wen....	Once we achieve adequate supply to satisfy domestic demand for other medical supplies, we will provide them to help the international community as well.
8	Taiwan Ing-wen....	The Taiwanese people have the kindest hearts in the entire world, and we will always offer help to the international community whenever we are able.
9	Taiwan Ing-wen....	Looking to the future, Taiwan must further connect with the international community .
10	Taiwan Ing-wen....	Throughout this global pandemic, we have been praised for providing selfless assistance to the international community wherever we are able.
11	Taiwan Ing-wen....	Taiwan has been deemed a democratic success story, a reliable partner, and a force for good in the world by the international community .
12	Taiwan Ing-wen....	This is a virtuous cycle, and I can assure the international community that Taiwan will continue to contribute to the world and expand this virtuous cycle further afield.
13	Taiwan Ing-wen....	We believe we have the ability to work with like-minded partners to contribute to the international community .

At the low end of the rank order, Sturgeon has the lowest score by some distance. This may surprise in light of the overall praise she received for her handling of the pandemic and the empathy she expressed in her speeches (Dada et al. 2021).

The range of statistical significance shows Modi, Ing-wen, Macron, Trudeau above average, and Morrison and Sturgeon below.

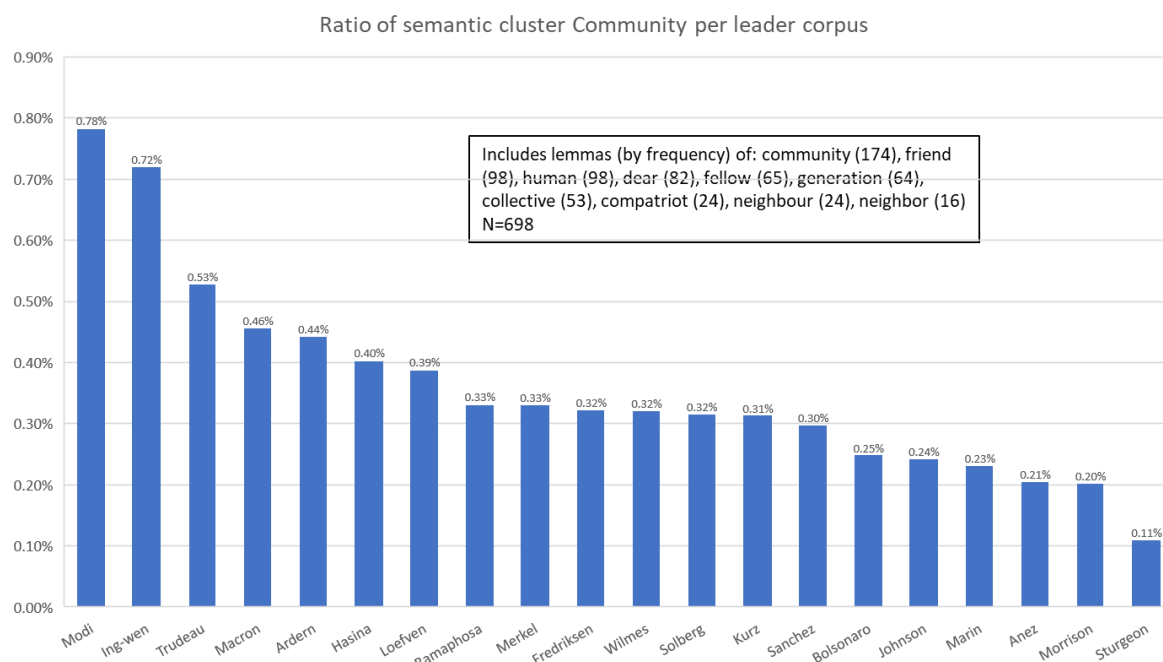


Figure 53 [own design]: Percentage of semantic cluster Community in leader sub-corpora

When looking at the distance from the corpus ratio regarding the prominence of the Community frame, it becomes evident how far ahead of the other leaders Modi and Ing-wen are: Modi – a populist leader – uses the Community frame more than twice as often as the corpus ratio, and Ing-wen twice as often. Trudeau is 47% above corpus ratio, but some way behind the leaders.

RQ 3: Gender as a factor in the preference of the “community” frame is inconclusive

RQ 4: The relationship between leadership type and gender in the preference of the “community” frame is inconclusive

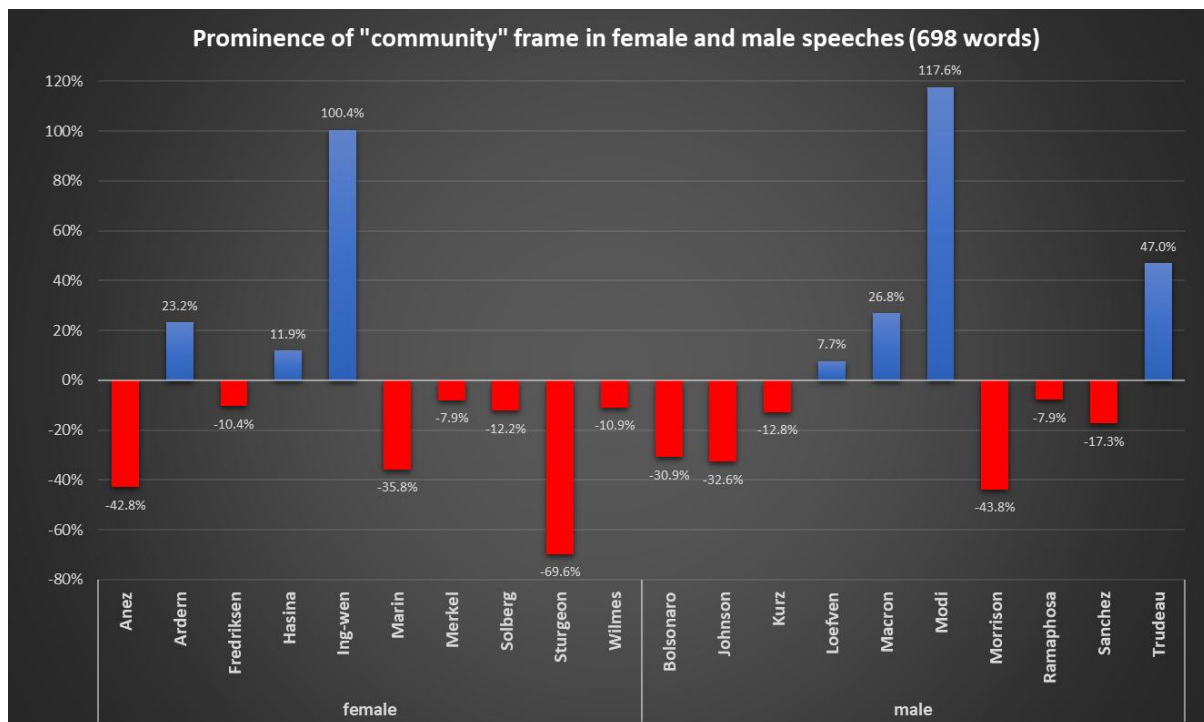


Figure 54 [own design]: Prominence of semantic cluster Community in leader sub-corpora as distance from overall score

Comparison of Natural Force frame

The semantic cluster “Natural Force” is expected to be more notable among male, than female leaders. It is also expected to be more notable among empathetic and populist leaders, than technocratic leaders. Accordingly, primary empathetic male leaders Ramaphosa and Trudeau are expected to be the most active users of this frame, followed by female empathetic, as well as male populist leaders.

It accounts for 0.08% of the total word count (n=153). The ratio for the female cohort (0.06%, n=58) is lower than that of the male cohort (0.09%, n=95). With only 153 cases across 20 leaders, distribution at the lower end is in single absolute figures, therefore discussion of percentages is not informative. In the rank order of individual scores, five leaders stand out: Trudeau (0.19%, n=11), Ramaphosa (0.19%, n=22), Ing-wen (0.18%, n=19), Jair Bolsonaro (0.17%, n=9), Boris Johnson (0.17%, n=11).

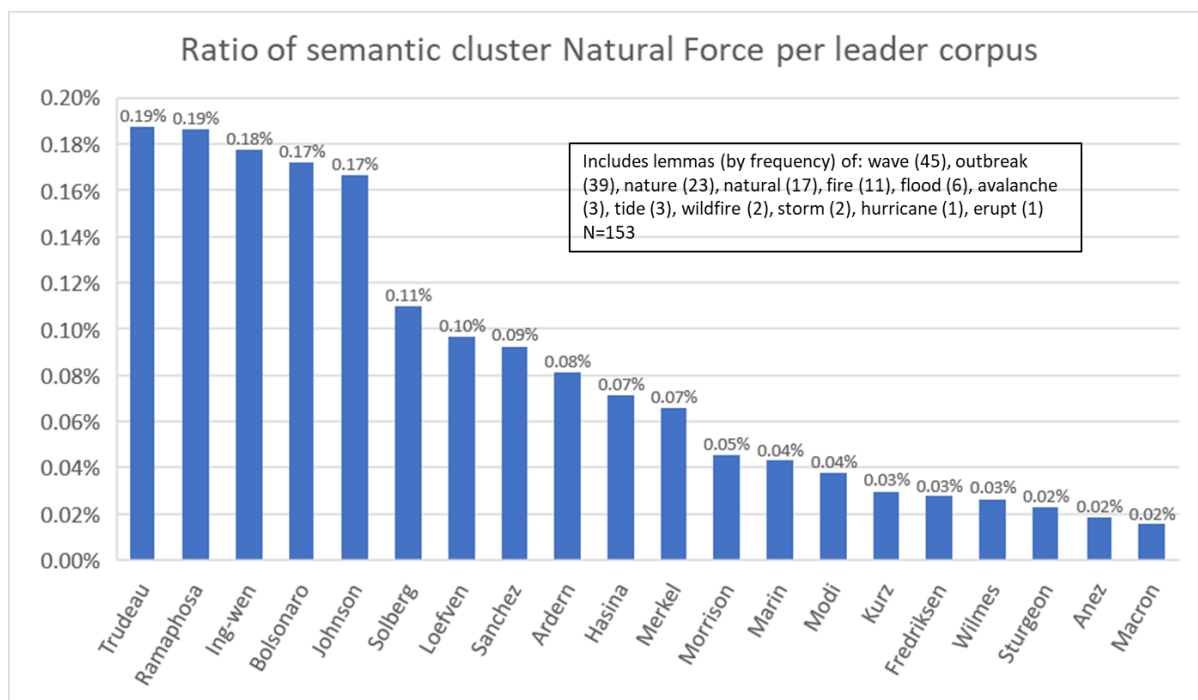


Figure 55 [own design]: Percentage of semantic cluster Natural Force in leader sub-corpora

Due to the low number of cases, there is little to be gleaned from percentage comparisons and analyses. It is notable, however, that the five leaders with the highest prominence score are all more than twice above the corpus ratio.

The range of statistical significance shows Ramaphosa, Ing-wen, Johnson above average. The rest are either within expected range, or low counts that do not yield reliable results

RQ 3: Gender is a statistically significant factor in the preference of the “natural force” frame (leaning male)

RQ 4: The relationship between leadership type and gender in the preference of the “natural force” frame is inconclusive

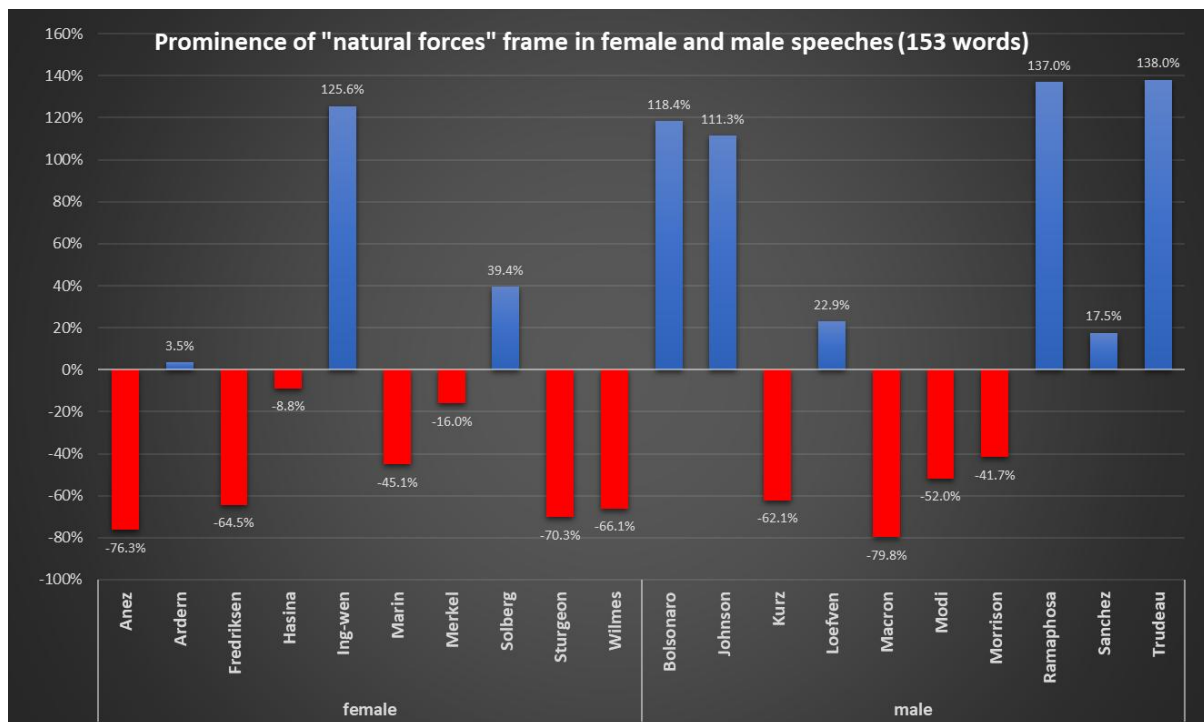


Figure 56 [own design]: Prominence of semantic cluster Natural Force in leader sub-corpora as distance from overall score

Both Trudeau and Johnson use the “turning the tide” metaphor, with the latter bullishly mixing his metaphors:

“The only way we can **reverse the tide** is if we reduce the number of people each of us come into contact with.” (Trudeau, 20 11 2020)

“We are accelerating our search for treatments. We are pioneering work on a vaccine. And we are buying millions of testing kits that will enable us to **turn the tide on this invisible killer**.” (Johnson, 23 03 2020)

Comparison of Crisis frame

The semantic cluster “Crisis” is expected to be more notable among female, than male leaders. It is also expected to be notable among empathetic and populist leaders, and less so among technocratic leaders. Accordingly, primary empathetic female leaders Ardern, Frederiksen, Marin and Sturgeon are expected to be the most active users of this frame, followed by Trudeau, Ramaphosa, Bolsonaro and Modi.

It accounts for 0.29% of the total word count (n=555). The ratio for the female cohort (0.25%, n=225) is notably lower than that of the male cohort (0.32%, n=330). In the rank order of individual scores, Marin (0.65%) and Kurz (0.64%) stand out. Marin is also, by some distance, the leader with the

highest score on the Control frame (see next page). This indicates both a willingness to concede that there is a serious problem – a crisis – and the commitment to address and overcome said problem.

At the low end, Sturgeon is the leader with by far the lowest score, and the lowest actual mentions of the Crisis frame (n=3). Sturgeon also has the lowest score on the Community frame, by some distance (this gets further explored in 4.5). This points to a more technocratic, institutional (rather than communitarian) register, with a focus on tasks rather than relationships (Thiers and Wehner 2023).

The only other leader with single figures in using the crisis frame is Boris Johnson (n=7). Crisis is not a popular frame among the two British leaders.

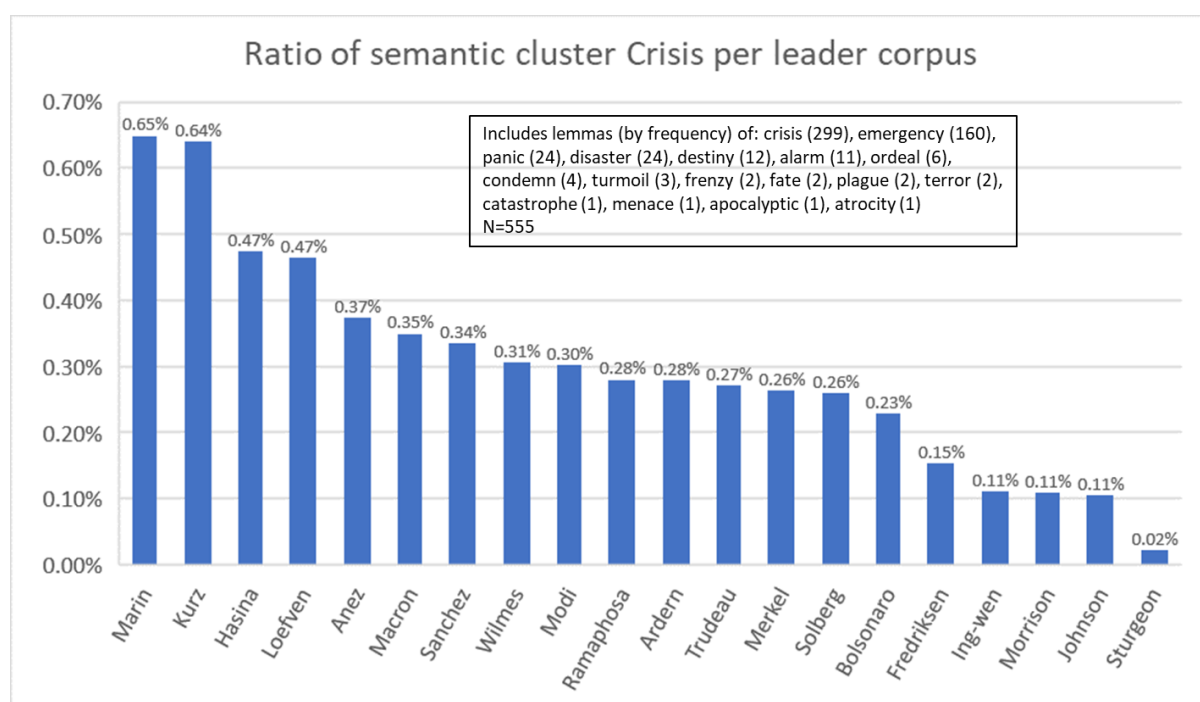


Figure 57 [own design]: Percentage of semantic cluster Crisis in leader sub-corpora

Distance from the corpus ratio on the prominence of the Crisis frame shows that Marin (127.1%) and Kurz (124.5%) are about twice as far ahead of the corpus ratio, than the leaders with the next highest scores, Hasina (65.9%) and Löfven (62.6%). At the low end, Sturgeon is furthest below the corpus ratio (-92.8%), followed by Johnson (-62.9%), Morrison (-61.4%) and Ing-wen (-60.7%).

The range of statistical significance shows Marin, Kurz, Löfven, Hasina above average, and Johnson, Frederiksen, Ing-wen, Morrison, Sturgeon below.

RQ 3: Gender is a factor in the preference of the “crisis” frame (statistically significantly leaning male, in spite of Marin’s ‘outlier score’)

RQ 4: The relationship between leadership type and gender in the preference of the “natural force” frame is inconclusive

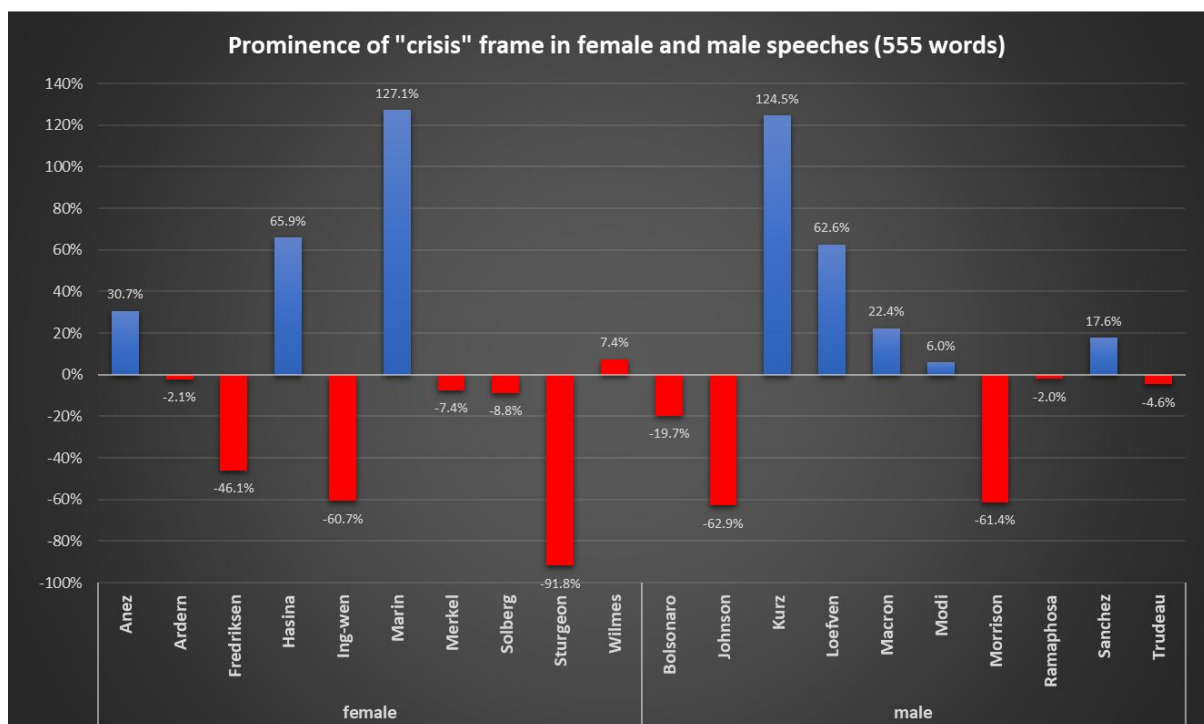


Figure 58 [own design]: Prominence of semantic cluster Crisis in leader sub-corpora as distance from overall score

13 of the 20 leaders in the study discuss panic, mostly by advising the population not to fall prey to panic and thus act irrationally:

“Don't panic. Panic destroys people's logical thinking.” (Hasina, 25 03 2020).

Some leaders acknowledge deep concerns among the population while appealing to their common sense:

“While we are battling a contagious virus, perhaps the greatest dangers to our country at this time are fear and ignorance. We must appreciate the extent of the threat that this disease presents, we must accept the anxiety that it causes, but we cannot allow ourselves

to be overwhelmed by fear and panic. We should stop spreading fake and unverified news and create further apprehension and alarm.” (Ramaphosa, 15 02 2020)

One leader framed the panic, rather than the pandemic, as the real problem:

“However, what we had to contain at that moment was the panic, the frenzy and, at the same time, devise a strategy to save lives and avoid mass unemployment. We did so, almost against everything and against everyone” (Bolsonaro, 24 02 2020)

“As was the case in much of the world, segments of the Brazilian media have also politicized the virus by spreading panic among the population.” (22 09 2020)

Comparison of Control frame

The semantic cluster “Control” is expected to be more notable among male, than female leaders. It is also expected to be more notable among technocratic, than populist leaders, and least notable among empathetic leaders. Accordingly, primary technocratic male leaders Löfven, Macron and Sánchez are expected to be the most active users of this frame, followed by Hasina, Ing-wen, Merkel, Solberg and Wilmès.

It accounts for 0.62% of the total word count (n=1,211). The ratio for the female cohort (0.73%, n=651) is notably and somewhat unexpectedly higher than that of the male cohort (0.54%, n=560). Seven of the eight highest scores belong to female leaders. In the rank order of individual scores, Marin (1.49%) stands out – as she does on the previous Crisis Frame. In next place, at considerable distance, is Ramaphosa (0.97%), followed by six female leaders. At the low end, with the exception of Áñez (0.36%) and Hasina (0.40%), are eight male leaders. The three with the lowest scores, Bolsonaro (0.38%) and Johnson (0.41%), are known to have populist leanings.

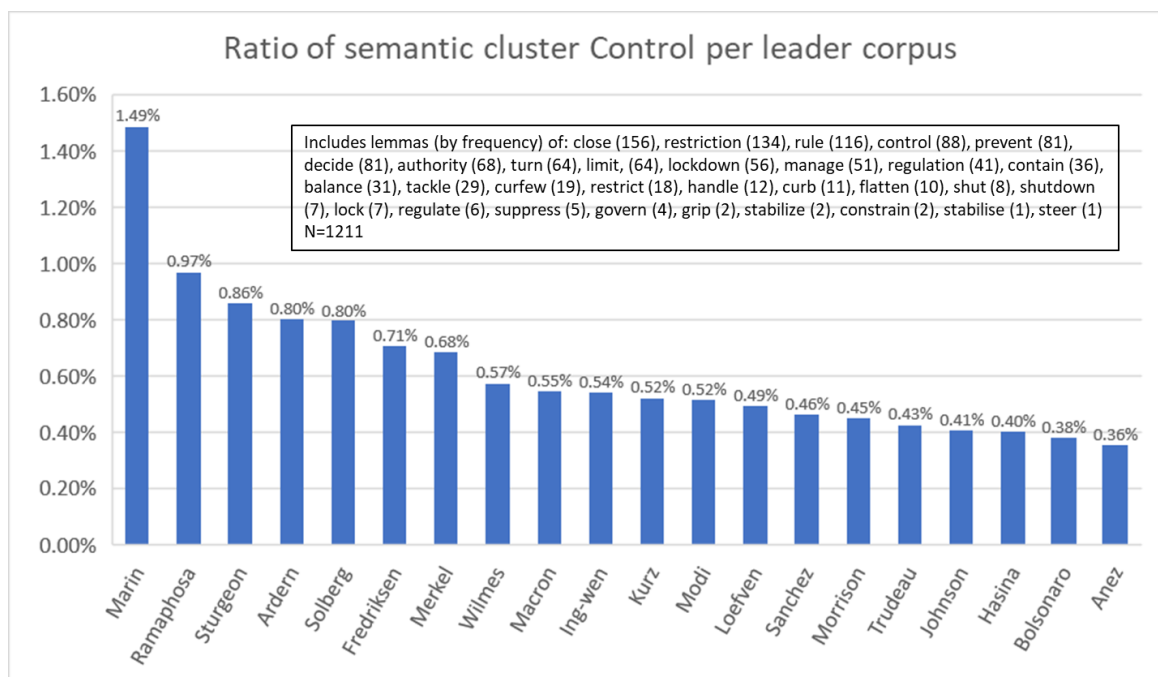


Figure 59 [own design]: Percentage of semantic cluster Control in leader sub-corpora

Marin's distinctive comparative position on the prominence of the Control frame becomes even more evident when expressed as distance from the corpus ratio: Marin is two-and-a-half times further ahead of the corpus ratio, than Ramaphosa, the next placed leader. Thirteen leaders, including nine men, are scoring below the corpus ratio. The seven leaders with the lowest scores are all between 26% and 43% below the corpus ratio.

The range of statistical significance shows Marin, Ramaphosa, Sturgeon above average, and Bolsonaro, Johnson, Morrison, Hasina, Áñez and Sanchez below.

RQ 3: Gender is a statistically significant factor in the preference of the "control" frame (leaning female)

RQ 4: There is a relationship between leadership type and gender in the preference of the "control" frame: female empathetic leaders stand out (with Sanna Marin a clear outlier)

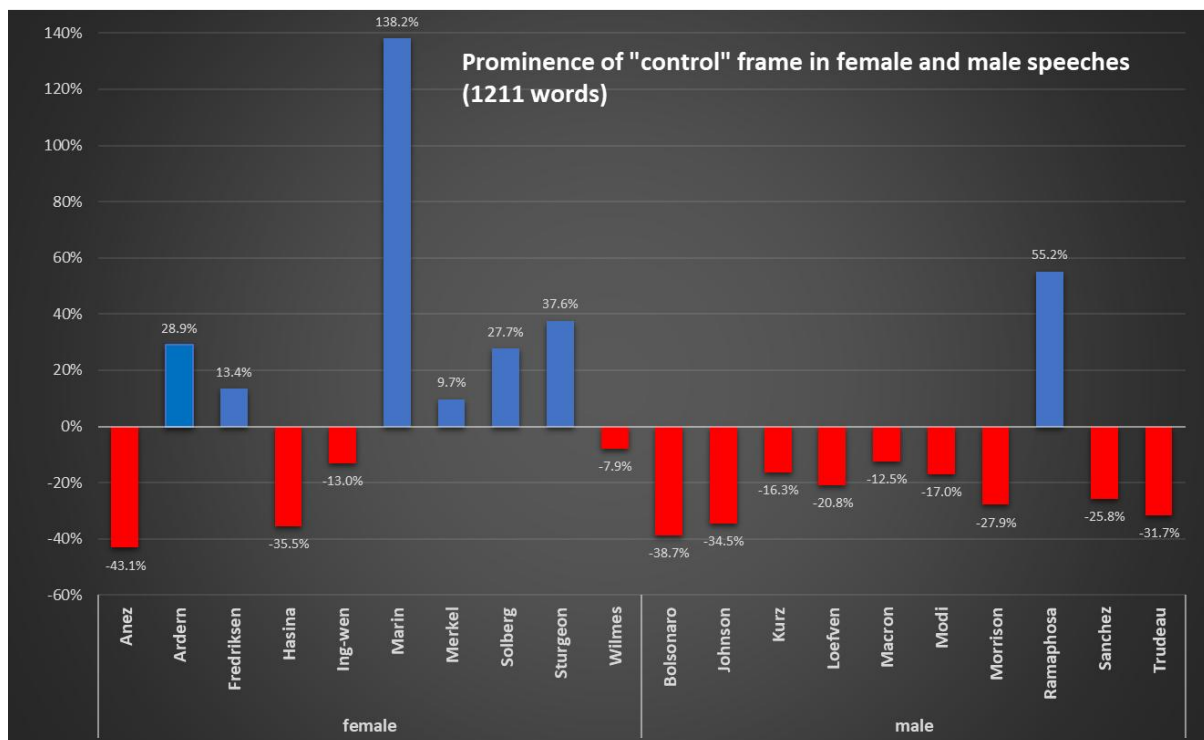


Figure 60 [own design]: Prominence of semantic cluster Control in leader sub-corpora as distance from overall score

The semantic cluster making up the control frame includes a wide range of lemmas which have been used in a wide range of contexts by leader. Some, including Löfven, Ramaphosa, Sánchez or Wilmès highlight democratic decision-making in the context of controlling movements in public (and thus controlling the virus). Others, including Ardern, Frederiksen, Hasina, Modi or Sturgeon foreground the act of closing and locking down. Marin's use of the lemma restriction is conspicuous (she uses it 46 times), equally highlighting their introduction, as well as their eventual lifting, if rules are followed and all goes well:

"Restrictions cannot be lifted carelessly or prematurely. The controlled lifting of restrictions requires that we all take responsibility for complying with the restrictions and recommendations in force. If we succeed in keeping the epidemic situation under control now, restrictions can be lifted as spring progresses and summer approaches. Controlling the epidemic together with the progress of vaccinations could corpus ratio a summer that is close to normal." (28 04 2020)

Comparison of Inequality frame

The semantic cluster “Inequality” is expected to be more notable among female, than male leaders. It is also expected to be more notable among empathetic, than populist leaders, and least notable among technocratic leaders. Accordingly, primary empathetic female leaders Ardern, Frederiksen, Marin and Sturgeon are expected to be the most active users of this frame, followed by Ramaphosa, Trudeau, Bolsonaro and Modi.

It accounts for 0.14% of the total word count (n=271). The ratio for the female cohort (0.09%, n=81) is notably lower than that of the male cohort (0.18%, n=190). Two male European leaders have the highest scores: Sánchez (0.43%) and Löfven (0.29%). With overall case numbers low, case numbers at the low end are in low single figures (Johnson, n=1; Ramaphosa, n=4; Ing-wen, n=4), or zero in two cases (Marin, Kurz). The range of statistical significance shows only two speakers (Sanchez, Löfven) with score above the expected range, whereas six (Johnson, Ing-wen, Sturgeon, Kurz, Ramaphosa, Marin) appear to use inequality language statistically significantly less than expected.

RQ 3: Gender is a statistically significant factor in the preference of the “inequality” frame (leaning male)

RQ 4: Male technocratic leaders are the statistically distinct users of the "inequality" frame

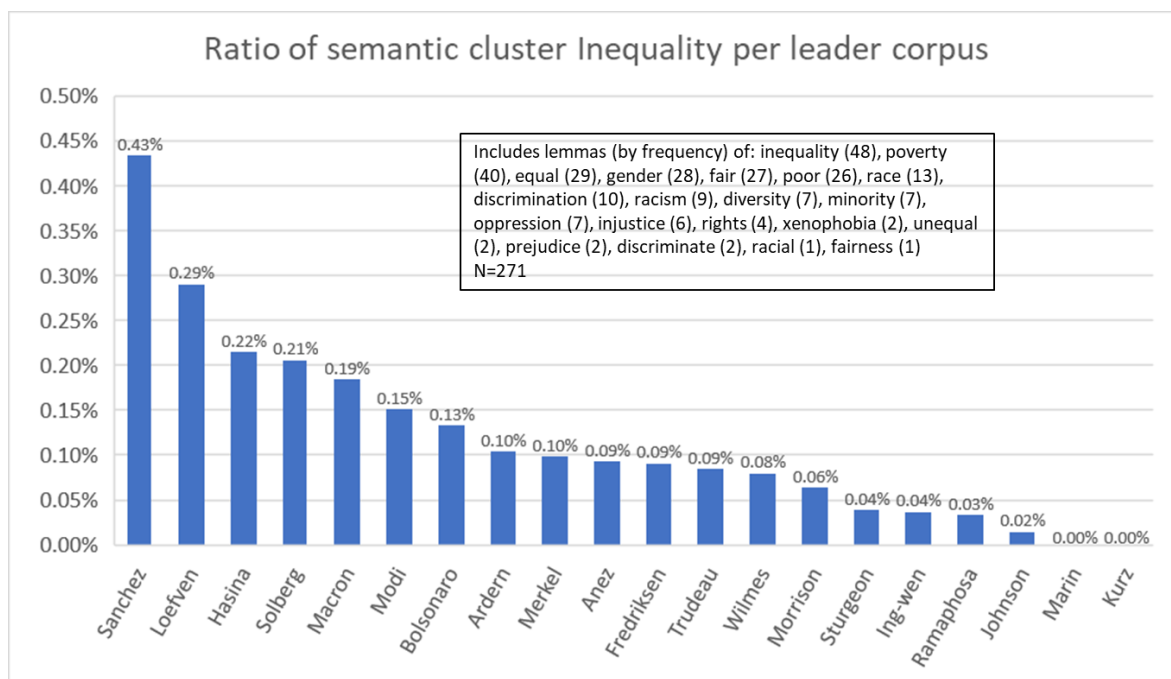


Figure 61 [own design]: Percentage of semantic cluster Inequality in leader sub-corpora

Sánchez's distinctive comparative position on the prominence of the Inequality frame becomes even more evident when expressed as distance from the corpus ratio: Sánchez is almost twice as far ahead of the corpus ratio, than Löfven, the next placed leader. The five leaders with the lowest scores are all between 37% and 42% below the corpus ratio. The scores for 13 of the 20 analysed leaders are at least 25% below the corpus ratio, and only two leaders are close to the corpus ratio. The Inequality frame is invoked distinctly by some leaders, but below average by the majority.

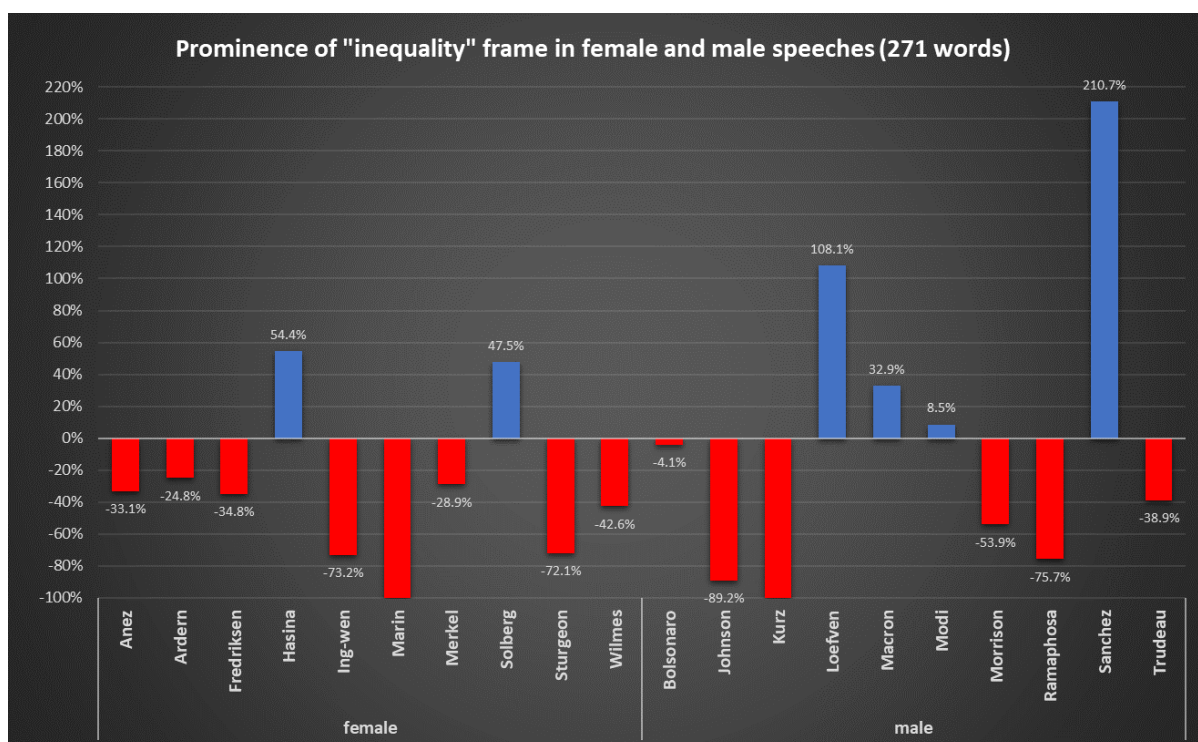


Figure 62 [own design]: Prominence of semantic cluster *Inequality* in leader sub-corpora as distance from overall score

Table 20 below shows the frequency of lemmas used in Sánchez's speeches that contribute to the "inequality" frame (from SketchEngine):

Table 20 Sanchez inequality frame

Lemma	Frequency ? ↓
1 inequality	27 ...
2 poverty	15 ...
3 gender	12 ...
4 equal	8 ...
5 fair	7 ...
6 injustice	4 ...
7 discrimination	3 ...
8 poor	3 ...
9 unequal	2 ...
10 diversity	2 ...
11 rights	2 ...
12 minority	1 ...
13 fairness	1 ...
14 race	1 ...
15 xenophobia	1 ...

Sánchez discusses poverty as a factor in the spread and impact of COVID-19, and also as a topic in its own right, to be addressed as a priority in a post-pandemic world. The table below lists all uses of the lemma poverty in his speeches (from SketchEngine):

Table 21 Sanchez poverty frame

1	Spain Sanchez.t...	But poverty is a factor in the virus.
2	Spain Sanchez.t...	Poverty has proven to be the factor that exacerbates or attenuates.
3	Spain Sanchez.t...	Firstly, the challenge of the climate emergency; Secondly, the challenge of technical progress and the fourth industrial revolution that entails digitalisation; Thirdly, the challenge of overcoming harmful inequalities and poverty ; And fourthly, the challenge of full equality between men and women and the removal of any form of discrimination on grounds of gender, race or origin.
4	Spain Sanchez.t...	I represent a progressive government that has flown the flag of the eradication of child poverty and reducing inequalities within our borders, in Spain.
5	Spain Sanchez.t...	Poverty is an unbearable, oppressive inequality that, as well as constituting a flagrant injustice, is an obstacle to the progress of societies.
6	Spain Sanchez.t...	We need to eradicate poverty and reduce oppressive social policies.
7	Spain Sanchez.t...	Wars entrench whole generations in poverty and pain.
8	Spain Sanchez.t...	The design of this Minimum Living Income is fundamental and a priority to fight and eradicate one of the main evils in our country - child poverty - which affects more than 2 million boys and girls in our country.
9	Spain Sanchez.t...	In households close to the poverty and social exclusion line, another very delicate and worrying phenomenon can also be observed.
10	Spain Sanchez.t...	An economic downturn leads to an increase in the number of households in difficulties, but the subsequent recovery brings down the various poverty indicators at a much slower and arguably non-existent pace.
11	Spain Sanchez.t...	For example, between 2013 and 2019, while the Spanish gross domestic product per capita rose from 21,899 euros to 26,426 euros, i.e. it grew by 20.67%, the poverty rate rose from 20.4% to 20.7%.
12	Spain Sanchez.t...	On any indicator we take, i.e. educational attainment, activity, job insecurity, unemployment, minimum pensions, poverty , the results for women are systematically worse.
13	Spain Sanchez.t...	Because in the end, the most painful poverty , or at least the one that hurts us the most, is undoubtedly child poverty.
14	Spain Sanchez.t...	Because in the end, the most painful poverty, or at least the one that hurts us the most, is undoubtedly child poverty .

Comparison of Empathy frame

The semantic cluster “Empathy” is expected to be more notable among female, than male leaders. It is also expected to be more notable among empathetic, than populist leaders, and least notable among technocratic leaders. Accordingly, primary empathetic female leaders Ardern, Frederiksen, Marin and Sturgeon are expected to be the most active users of this frame, followed by Ramaphosa, Trudeau, Bolsonaro and Modi.

It accounts for 0.38% of the total word count (n=741). The ratio for the female cohort (0.4%, n=359) is slightly higher than that of the male cohort (0.37%, n=382). In the individual rank order, however, the highest (Löfven, 0.71%), third (Trudeau, 0.53%) and fourth highest scores (Bolsonaro, 0.5%) are by male leaders. Among female leaders, Marin (0.58%) scores highest. At the bottom of the rank order is Sánchez (0.24%). Given his strong use of the Inequality frame, this is an indication that similar contexts can be expressed in distinct semantic clusters.

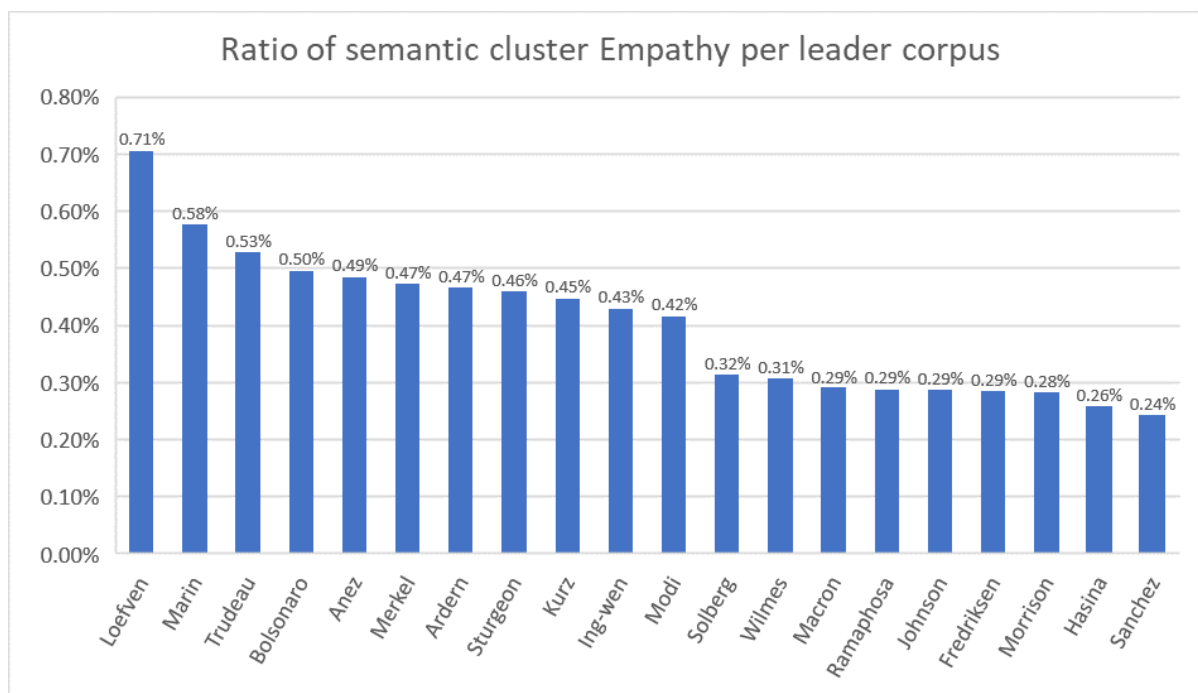


Figure 63 [own design]: Percentage of semantic cluster Empathy in leader sub-corpora

When expressed as distance from the corpus ratio, Löfven (+85.2%) stands out. At the lower end, seven leaders (two women and five men) are between 24% and 36% below the corpus ratio.

The range of statistical significance shows a low significance pattern, with only Löfven and Marin above the expected range, and Macron and Sanchez below. This suggests that empathic vocabulary is generally broadly distributed across the corpus and not strongly polarised between speakers, with few exceptions.

RQ 3: Gender is not a statistically significant factor in the preference for the "empathy" frame

RQ 4: In the relationship between leadership type and gender in the preference of the "empathy" frame, both female and male empathetic leaders are prominent

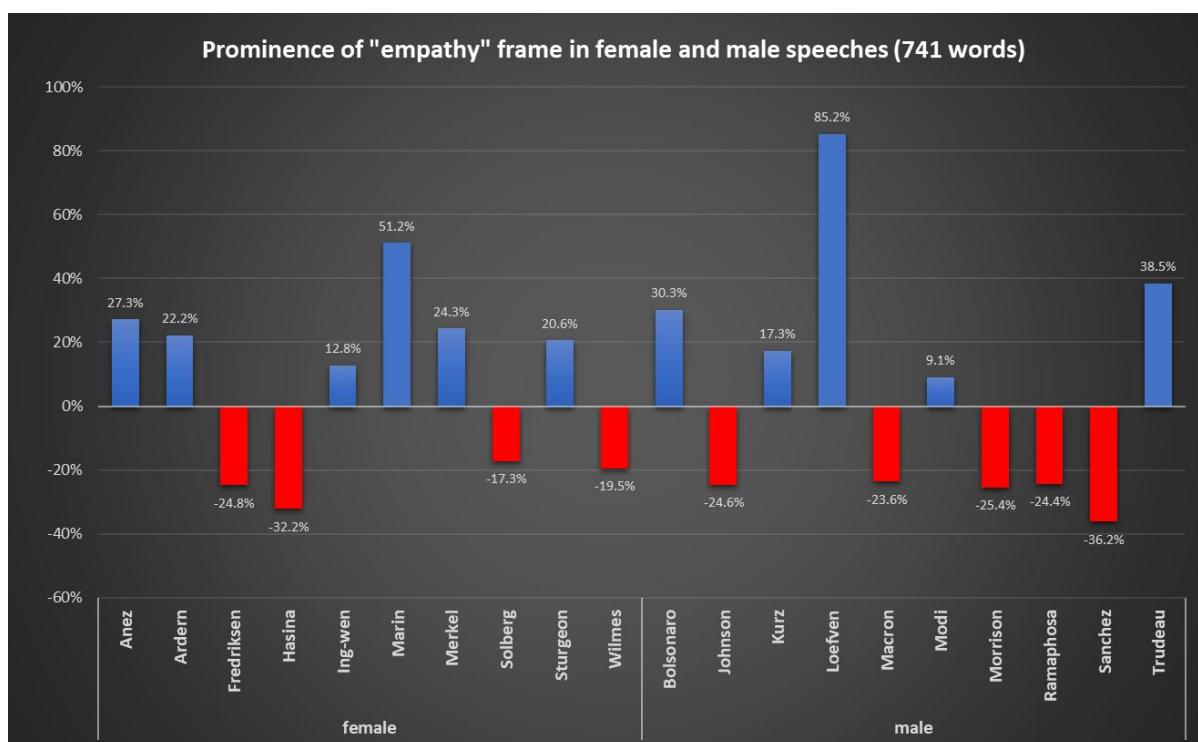


Figure 64 [own design]: Prominence of semantic cluster Empathy in leader sub-corpora as distance from overall score

Löfven's use of the lemma care stands out in the empathy cluster. An investigation of care-related N-Grams reveals a particular focus on the care of the elderly:

Table 22 Löfven's use of the expression "care for older people" (from SketchEngine)

1	Sweden Löfven....	The Sweden that was hit by COVID-19 was not perfect, with deficiencies in care for older people , ongoing climate change that impacts our children's future, and cracks in the welfare system that is meant to guarantee people's security.
2	Sweden Löfven....	Even before this crisis, the Government had begun to boost Swedish schools, care for older people and health care.
3	Sweden Löfven....	Anyone working in care for older people has an important job involving great responsibility.
4	Sweden Löfven....	Working in care for older people must be attractive, and care staff must receive clear recognition.
5	Sweden Löfven....	To increase skill levels, the Government is implementing a care for older people initiative.
6	Sweden Löfven....	It is estimated that the care for older people initiative will lead to more than 10 000 new permanent jobs in the sector.
7	Sweden Löfven....	It will therefore be possible for anyone working in care for older people to study on paid work time to become an assistant nurse.
8	Sweden Löfven....	The Government continues to work on drafting new legislation on care for older people to boost the quality of care services and make them more equitable across the country.

Comparison of Suffering frame

The semantic cluster "Suffering" is expected to be more notable among female, than male leaders. It is also expected to be more notable among empathetic, than populist leaders, and least notable among technocratic leaders. Accordingly, primary empathetic female leaders Ardern, Frederiksen,

Marin and Sturgeon are expected to be the most active users of this frame, followed by Ramaphosa, Trudeau, Bolsonaro and Modi.

The semantic cluster “Suffering” accounts for 0.3% of the total word count (n=579). The ratio for the female cohort (0.28%, n=246) is slightly lower than that of the male cohort (0.32%, n=333). The four highest scores are close together, with Ramaphosa (0.46%) ahead of Kurz (0.45%), Sturgeon (0.44%) and Merkel (0.44%). At the low end, Morrison is a distant last (0.09%). Morrison is also in the bottom position on Empathy, which suggests some correlation between the two clusters. However, with the exception of Sturgeon (high in both clusters) and Marin and Frederiksen (low in both), the results are not distinctly similar.

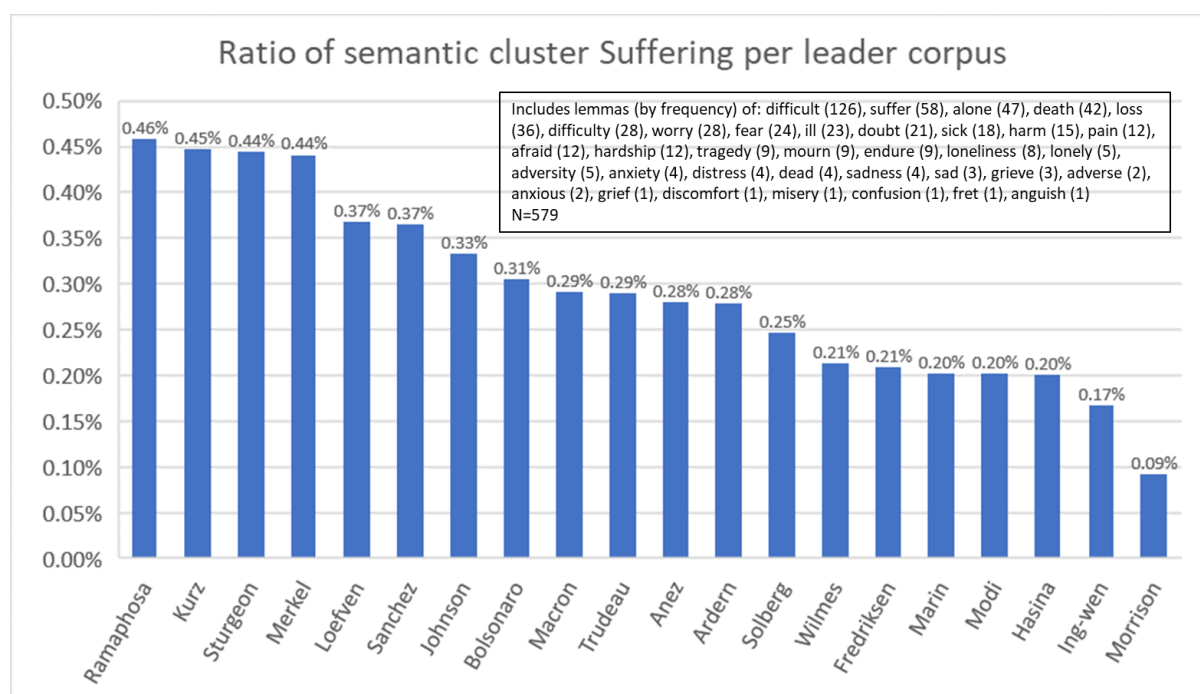


Figure 65 [own design]: Percentage of semantic cluster Suffering in leader sub-corpora

Expressed as distance from the corpus ratio, the high prominence of the Suffering frame in the speeches of Ramaphosa, Kurz, Sturgeon and Merkel becomes more distinct as they are all about 50% above the corpus ratio. At the low end, Morrison stands out with a score of -69.2% below corpus ratio, with another six leaders with scores of between -28% and -43%.

The range of statistical significance shows prominent use of the frame among Ramaphosa, Sturgeon, Merkel and Kurz, whereas Ing-wen and Morrison are significantly below the expected range.

RQ 3: Gender is not a statistically significant factor in the preference for the "suffering" frame

RQ 4: The relationship between leadership type and gender in the preference the "suffering" frame is inconclusive

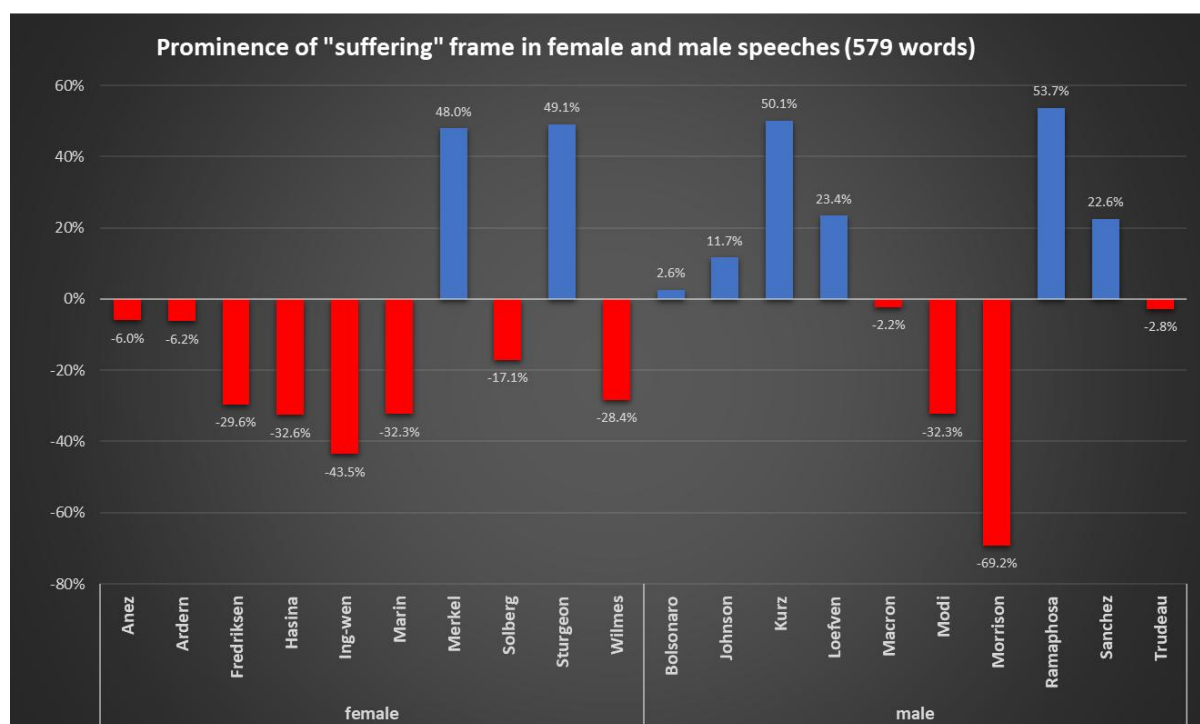


Figure 66 [own design]: Prominence of semantic cluster Suffering in leader sub-corpora as distance from overall score

Significantly more than other leaders, Sturgeon talks about death (16 of 42 mentions in the overall sample). Rather than a difficult topic, she made it a prominent part of her briefing which earned her praise not just in contrast to Boris Johnson's leadership during the pandemic (Garland and Lilleker 2021).

In his New Year's address, Ramaphosa makes a powerful affective point about suffering in South Africa by linking deaths from COVID-19 and deaths from violence:

"As this year draws to a close, we mourn the loss of relatives, friends, colleagues and neighbours who succumbed to COVID-19. ... Even as we were struck by coronavirus, we had to confront another pandemic that has long plagued our nation. We mourn the many women and children who lost their lives at the hands of men. We think of the many more

who have had to endure rape and beatings, abusive relationships and sexual harassment.”
(Ramaphosa, 31 12 2020).

Comparison of Care and Support frame

The semantic cluster “Care and Support” is expected to be more notable among female, than male leaders. It is also expected to be more notable among empathetic, than populist leaders, and least notable among technocratic leaders. Accordingly, primary empathetic female leaders Ardern, Frederiksen, Marin and Sturgeon are expected to be the most active users of this frame, followed by Ramaphosa, Trudeau, Bolsonaro and Modi.

It accounts for 0.73% of the total word count (n=1,412). The ratio for the female cohort (0.71%, n=639) is slightly lower than that of the male cohort (0.74%, n=773). The stand out score for this cluster is Trudeau (1.76%), a long way ahead of Löfven (1.19%) and Ing-wen (0.97%). Six leaders’ scores are grouped between 0.82% and 0.75%, and another eight are grouped between 0.64% and 0.58%. At the bottom is Modi with 0.38%, which seems counter-intuitive given his leading score on the Family frame.

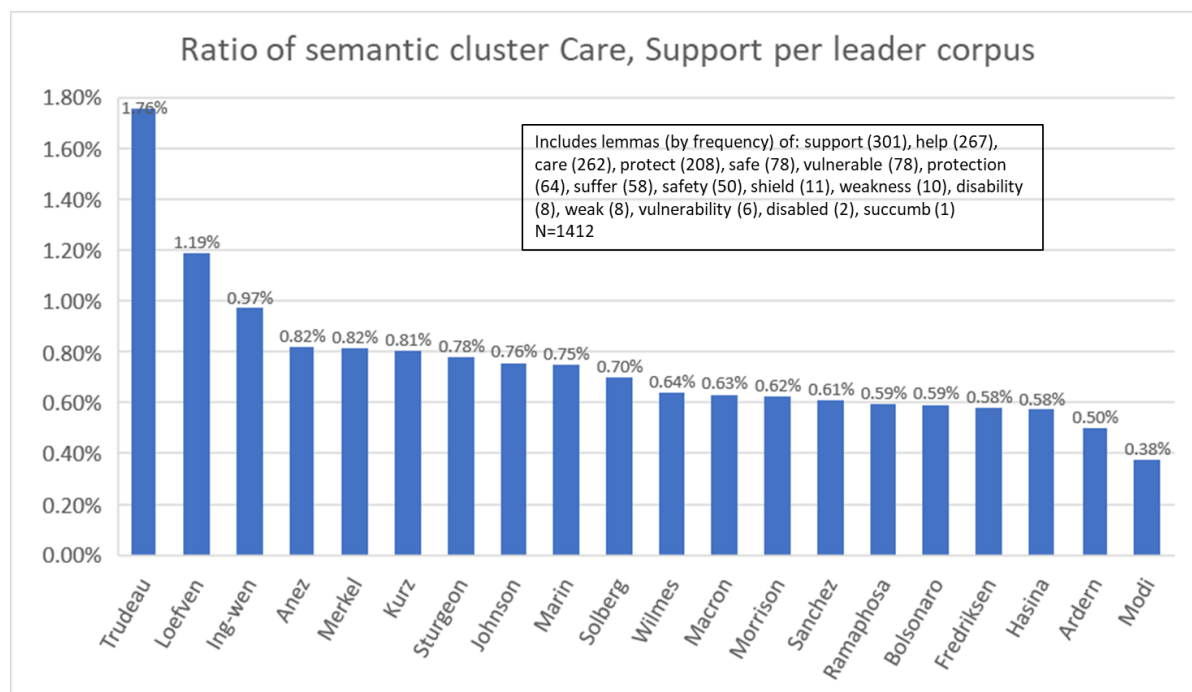


Figure 67 [own design]: Percentage of semantic cluster Care and Support in leader sub-corpora

The high prominence of the Care and Support frame in the speeches of Trudeau is evident in the below chart, with a score that is almost two and a half times higher than the corpus ratio, and more than twice as high than the closest score, by Löfven. At the lower end, with the exception of Modi, scores are 30% or less below the corpus ratio.

The range of statistical significance shows above expectation scores for Trudeau, Löfven, Ing-wen, and below expectation scores for Sanchez, Frederiksen, Modi.

RQ 3: Gender is not a conclusive factor in the preference of the “care and support” frame

RQ 4: The relationship between leadership type and gender in the preference of the “care and support” frame is inconclusive

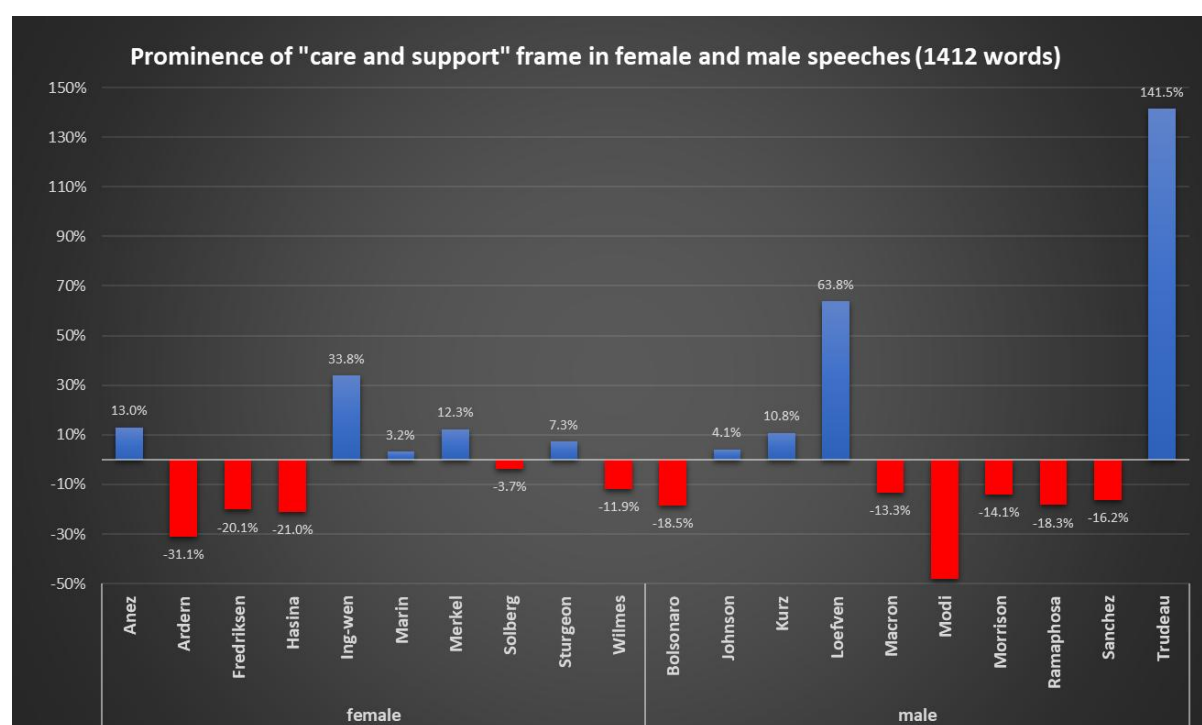


Figure 68 [own design]: Prominence of semantic cluster Care and Support in leader sub-corpora as distance from overall score

Within the “care and support” frame, female leaders appear more likely to emphasize help, whereas male leaders appear more likely to emphasize support.

Comparison of Resilience frame

The semantic cluster “Resilience” is expected to be more notable among male, than female leaders. It is also expected to be more notable among populist, than technocratic leaders, and least notable among empathetic leaders. Accordingly, primary populist male leaders Bolsonaro, Johnson, Kurz, Modi and Morrison are expected to be the most active users of this frame, followed by Áñez.

It has some overlap with the War frame, however it shows some distinct results that are worth exploring. It accounts for 0.39% of the total word count (n=753). As expected, and in spite of Áñez clearly leading the field (as with the War frame), the ratio for the female cohort (0.36%, n=326) is slightly lower than that of the male cohort (0.41%, n=427). There are notable gaps between the highest score (Áñez, 0.86%) and the second (Modi, 0.71%) and third highest (Löfven, 0.58%). At the low end is Sturgeon (0.11%), as with the War frame.

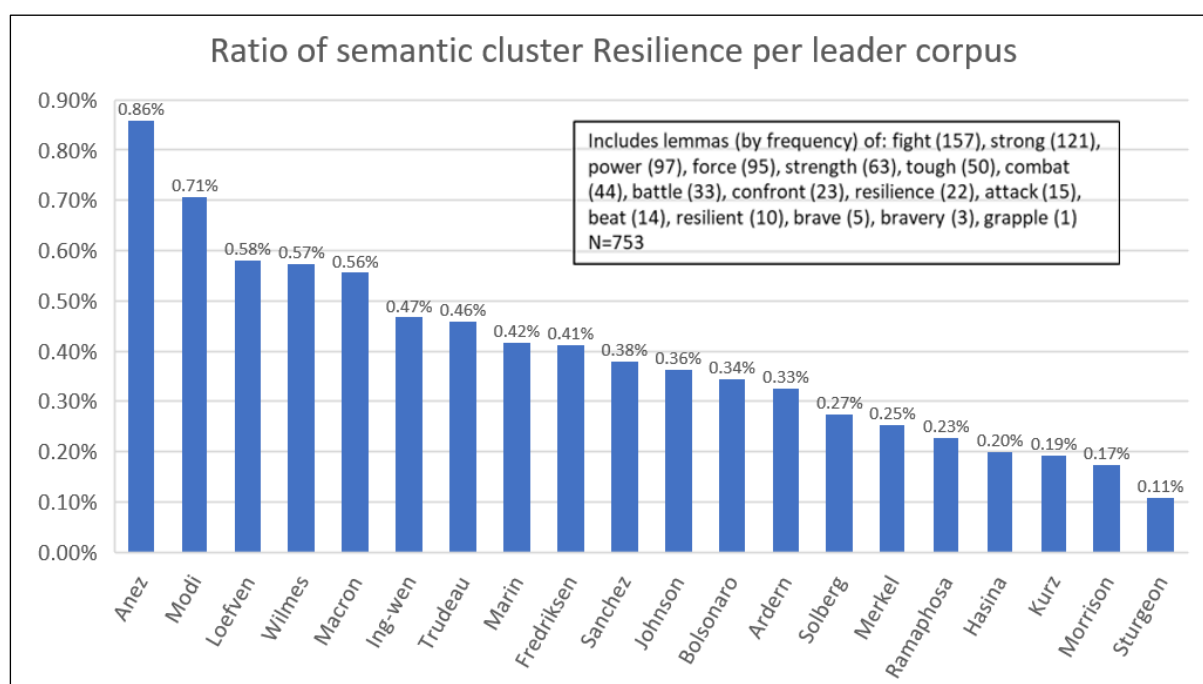


Figure 69 [own design]: Percentage of semantic cluster resilience in leader sub-corpora

The high prominence of the Resilience frame in the speeches of Áñez is evident in the below chart, with a score that is more than twice the corpus ratio, and about 50% higher than Modi's in second place. Only four leaders' scores are within a 10% range from the corpus ratio, and several (Sturgeon, -71.8%; Morrison, -55%; Kurz, -50%; Hasina, -48.1%) are significantly below.

The range of statistical significance shows Áñez, Modi, Macron, Löfven with above average scores, and Merkel, Hasina, Kurz, Ramaphosa, Morrison, Sturgeon with below average scores.

RQ 3: Gender is not a statistically significant factor in the preference for the "Resilience" frame

RQ 4: The relationship between leadership type and gender in the preference of the "Resilience" frame is inconclusive

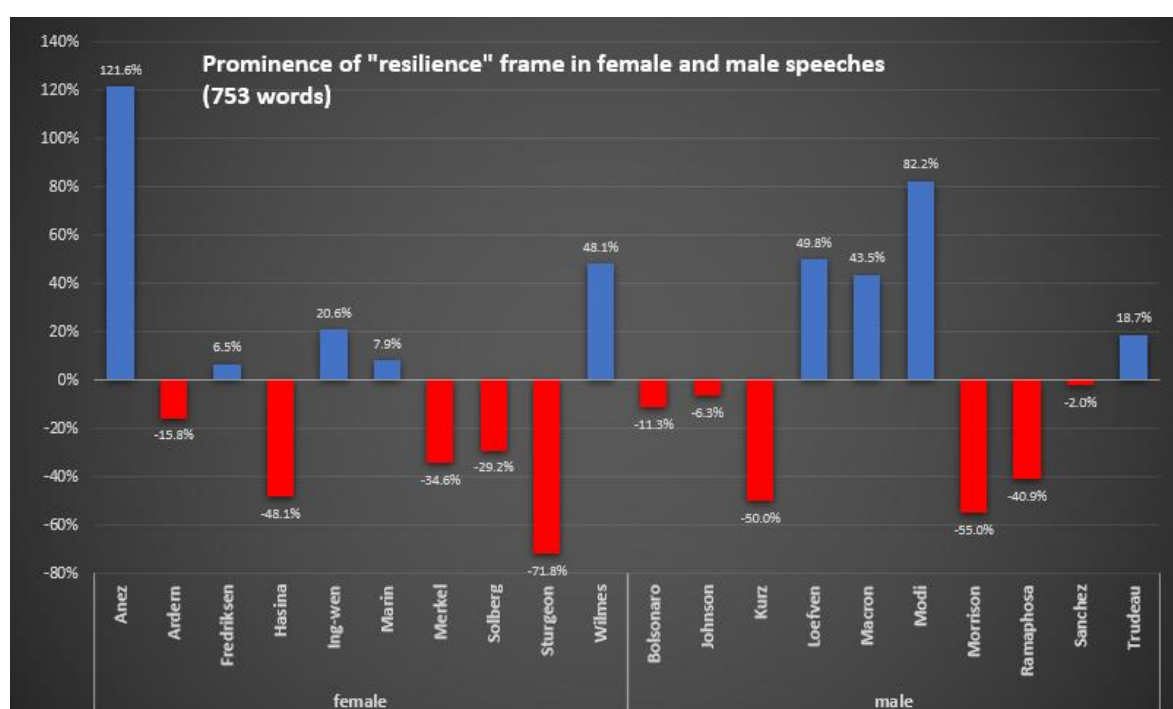


Figure 70 [own design]: Prominence of semantic cluster Resilience in leader sub-corpora as distance from overall score

The following example, based on Áñez's and Modi's use of the lemma fight, illustrates differences between male and female 'fight framing' (also notice the different uses of 'we', explained in Darics and Koller 2019, pp.227-229). Áñez highlights her role in the fight, makes generic points about fighting the virus, and focuses on fighting for the vulnerable:

"Here I am with you as president, as a woman, as a mother, here I am, and together we will fight with courage and bravery." (15 03 2020)

"Let me tell you something from the heart, with the same decision, with which we pacified the country. We are going to fight the coronavirus." (15 03 2020)

“Only staying in our homes, we can fight this virus and be safer. This pandemic attacks mainly our older adults, our grandparents and grandmothers. We have to do everything in our power to protect them. Just as yesterday they were the ones who took care of us, today we have to take care of them. They already fought for us, today we have to fight for them.”
(25 03 2020)

By contrast, Modi assumes the role of commander-in-chief, praising and motivating his troops in the war, fighting the enemy:

“The fight against Corona is one between life and death itself...we have to win.” (29 03 2020)

“Friends, in this war, there are many soldiers who are fighting the Corona virus, not in the confines of their homes but outside their homes. These are our front line soldiers-especially our brothers and sisters on duty as nurses, doctors and paramedical staff.” (29 03 2020)

“We are able to fight a battle on such a massive scale, only on account of the zeal and grit of frontline warriors like you...” (29 03 2020)

Comparison of Listen and Learn frame

The semantic cluster “Listen and Learn” is expected to be more notable among female, than male leaders. It is also expected to be more notable among technocratic and empathetic leaders, than populist leaders. Accordingly, primary technocratic female leaders Hasina, Ing-wen, Merkel, Solberg and Wilmès, as well as empathetic leaders such as Ardern and Sturgeon, are expected to be the most active users of this frame.

It accounts for 0.5% of the total word count (n=967). The ratio for the female cohort (0.52%, n=467) is slightly higher than that of the male cohort (0.48%, n=500). Notably, the top five positions and four of the five bottom positions are all held by female leaders: Áñez has the highest score (0.88%), followed by Merkel (0.76%), Wilmès (0.64%), Ardern (0.62%) and Sturgeon (0.62%). Hasina has by some distance the lowest score (0.22%), with Ing-wen (0.36%), Bolsonaro (0.38%), Solberg (0.38%) and Frederiksen (0.41%) in the next positions.

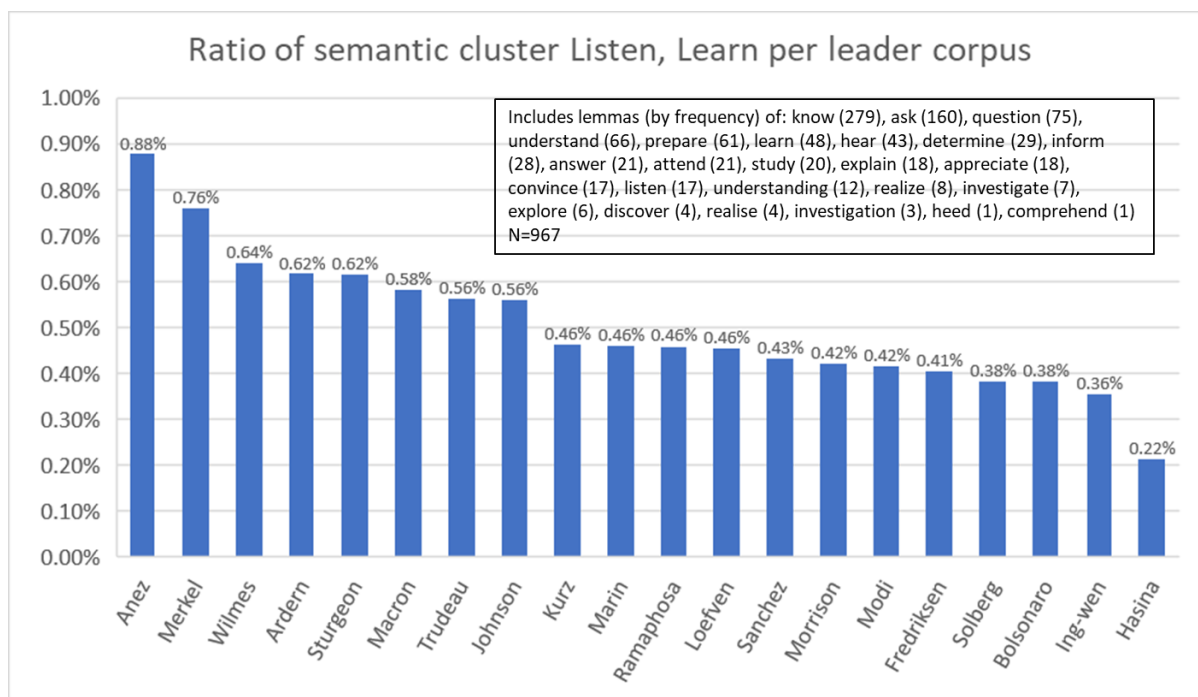


Figure 71 [own design]: Percentage of semantic cluster Listen and Learn in leader sub-corpora

The comparative view of prominence of the Listen and Learn frame against the corpus ratio shows Áñez clearly ahead of the other leaders, with Merkel in a distinct second place (with almost double the percentage distance from the corpus ratio, than Wilmès in third place). At the low end, Hasina stands out with a percentage distance that is almost twice that of the next place leader, Ing-wen.

The range of statistical significance shows only Áñez and Merkel with above average scores, and Ing-wen and Hasina with below average scores.

RQ 3: Gender is not a statistically significant factor in the preference for the "listen and learn" frame

RQ 4: The relationship between leadership type and gender in the preference of the "listen and learn" frame is inconclusive

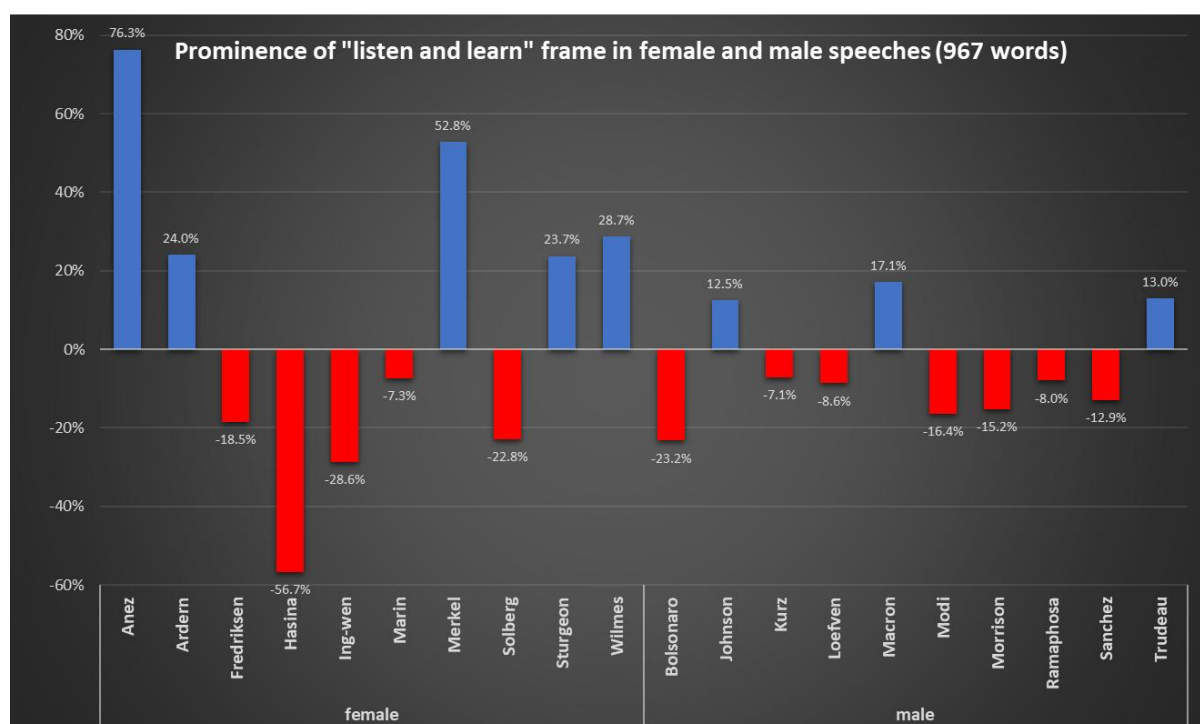


Figure 72 [own design]: Prominence of semantic cluster Listen and Learn in leader sub-corpora as distance from overall score

Comparison of Science frame

The semantic cluster “Science” is expected to be more notable among female, than male leaders. It is also expected to be more notable among technocratic, rather than empathetic leaders, and least notable among populist leaders. Accordingly, primary technocratic female leaders Hasina, Ing-wen, Merkel, Solberg and Wilmès are expected to be the most active users of this frame, followed by Löfven, Macron and Sánchez.

The semantic cluster “Science” accounts for 1.23% of the total word count ($n=2,381$). The ratio for the female cohort (1.3%, $n=1,159$) is slightly higher than that of the male cohort (1.17%, $n=1,222$). Both the top and bottom positions are held by male leaders, followed by two female leaders: Ramaphosa has the highest score (2.19%), followed by Merkel (1.98%) and Marin (1.96%). At the low end, Löfven has 0.67%, followed by Frederiksen (0.76%) and Añez (0.77%).

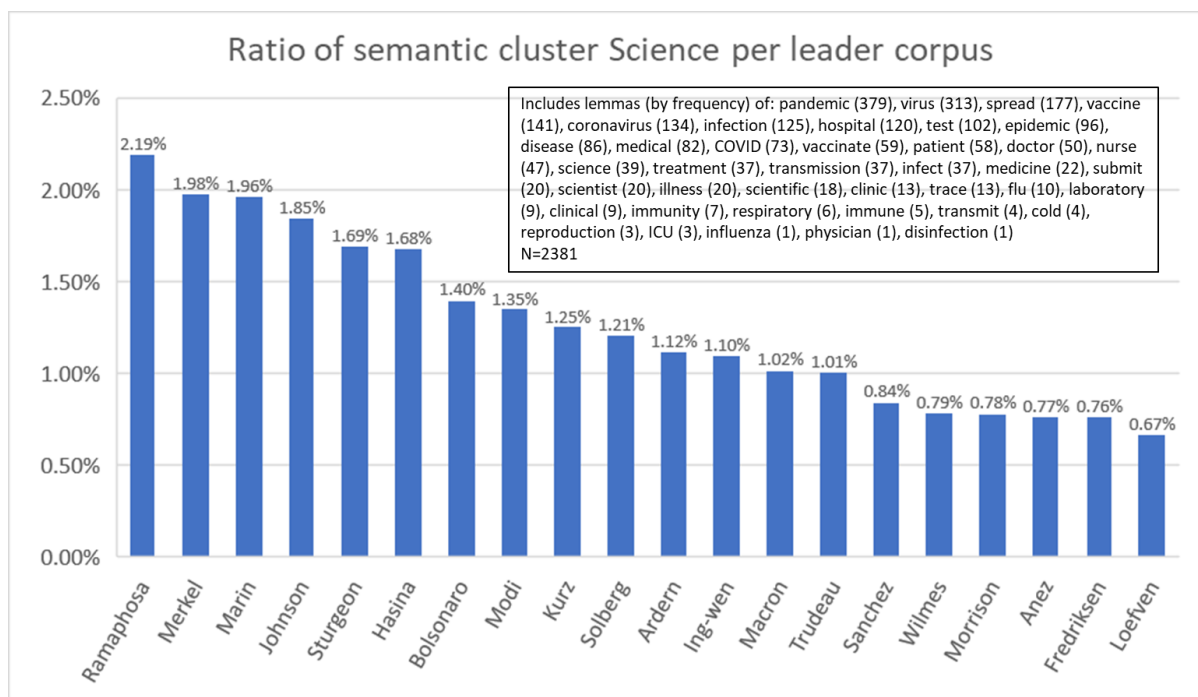


Figure 73 [own design]: Percentage of semantic cluster Science in leader sub-corpora

The comparative view of prominence of the Science frame against the corpus ratio reveals that only two of the 20 leaders are close to the corpus ratio (Solberg and Kurz). Four leaders are more than 50% above the corpus ratio, and six leaders are more than 30% below the corpus ratio. There is thus a wide range in the use of the science frame.

The range of statistical significance shows Ramaphosa, Merkel, Marin, Sturgeon, Johnson, Hasina with scores above the expected range, and Macron, Añez, Wilmes, Morrison, Sanchez, Frederiksen, Löfven below.

RQ 3: Gender is a factor in the preference of the “science” frame (statistically leaning female as a cohort, in spite of Ramaphosa’s outlier score)

RQ 4: The relationship between leadership type and gender in the preference of the “science” frame is inconclusive

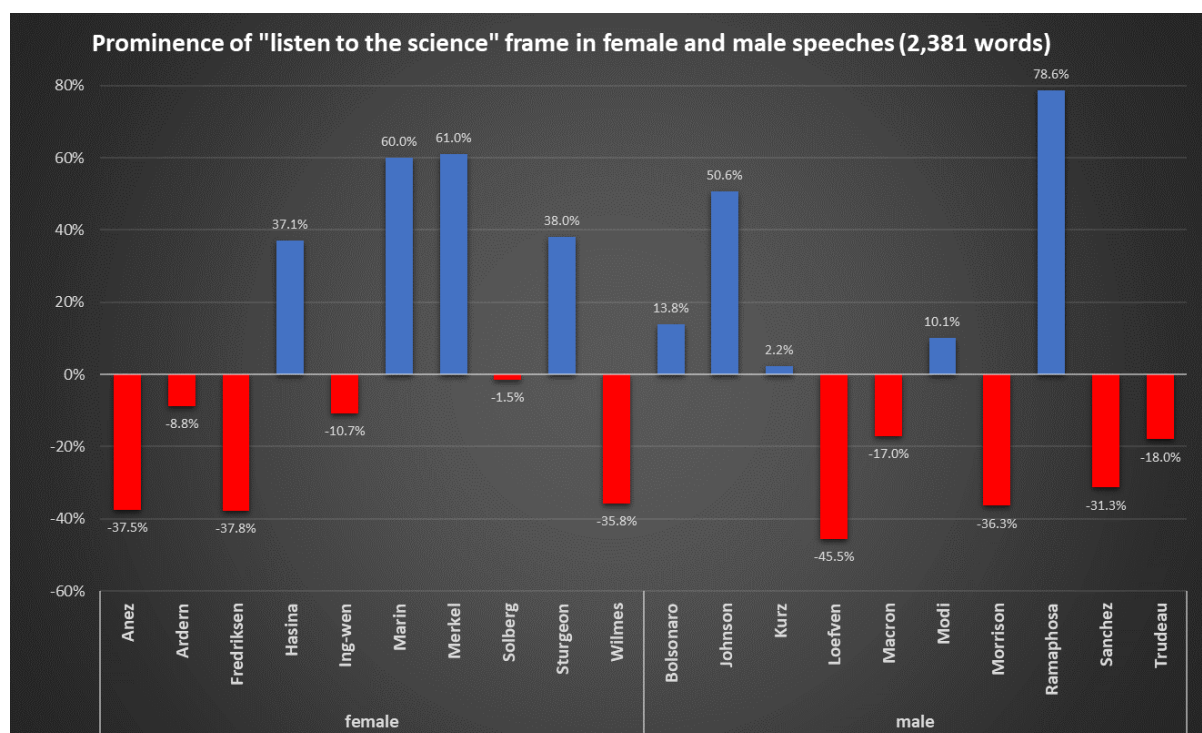


Figure 74 [own design]: Prominence of semantic cluster Science in leader sub-corpora as distance from overall score

Most leaders talk most prominently about pandemic and virus/coronavirus, with few exceptions. For example, Johnson appears to prefer the more unspecific term “disease”, perhaps trying to normalise it as something that can be understood and treated (as well as addressed in plain language), rather than acknowledging its unique unpredictable and hard to contain characteristics. Table 23 includes some examples (from SketchEngine):

Table 23 Johnson's use of the generic word 'disease'

1	UK Johnson.bt	We've done what can be done to contain this disease and this has bought us valuable time.
2	UK Johnson.bt	Owing to the lack of immunity, this disease is more dangerous.
3	UK Johnson.bt	Because this is now not just to attempt to contain the disease as far as possible, but to delay its spread and thereby minimise the suffering.
4	UK Johnson.bt	We can also act to stretch the peak of the disease over a longer period so that our society is better able to cope.
5	UK Johnson.bt	But we are of course keeping this under review and this again may change as the disease spreads.
6	UK Johnson.bt	The best scientific advice is that this will help us slow the disease and save lives.
7	UK Johnson.bt	And so tonight I want to update you on the latest steps we are taking to fight the disease and what you can do to help.
8	UK Johnson.bt	So it's vital to slow the spread of the disease .
9	UK Johnson.bt	Because the critical thing we must do is stop the disease spreading between households.
10	UK Johnson.bt	To halt the spread of this disease .
11	UK Johnson.bt	And we know that we have a hard struggle still ahead of us for weeks and months, because we face a new variant of the disease that requires a new vigilance.

[4.5 Leaders' use of metaphorical language](#)

The COVID-19 pandemic required global political leaders to navigate an environment of radical uncertainty (Bilovich et al. 2020). In these highly volatile circumstances, political speech became a primary vehicle public information and collective sense-making, actively constructing social reality rather than merely reflecting it. Central to this discursive construction is the strategic use of metaphor as a political tool that shapes public understanding, manages uncertainty, and drives policy compliance (Musolff 2022a). Building upon the foundational Corpus-Assisted Discourse Studies (CADS) framework established in previous chapters, this chapter extends the investigation into the performance of political leadership by focusing specifically on the use of metaphorical expressions. Understanding metaphorical language is central to the analysis of political speech because metaphor is a fundamental cognitive and ideological tool that contributes to the construction of political reality, the framing of political argument and the motivation of collective action (Charteris-Black 2018). As such, it is central to the purpose of this study.

This qualitative exploration of metaphors is firmly anchored in the preceding quantitative corpus analysis facilitated by the Sketch Engine software. By mapping word frequencies, concordances, and collocational behaviours, the quantitative stage identified twelve highly salient semantic clusters–

War, Family, Suffering, Science, Listen and Learn, Resilience, Empathy, Control, Crisis, Community, Natural Force, and Inequality. These clusters reveal something of the structural underpinnings of the leaders' discourse. They serve as entry points for uncovering how leaders map and navigate the crisis through language. To systematically unpack how these semantic clusters and their application in metaphorical speech function by individual leader, but also relative to gender and leadership style, this chapter applies a three-stage analytical protocol (see 3.4.8 for methodological outline). First, the Metaphor Identification Procedure (MIP, see Pragglejaz Group 2007; Steen 2010) operates at the micro-level of the text to isolate indirect, direct, and implicit metaphors. Second, Critical Metaphor Analysis (CMA, see Charteris-Black 2004, 2011) is applied at the meso-level to interrogate how individual leaders utilize these metaphors for rhetorical persuasion and ideological positioning. Finally, the Discourse-Historical Approach (DHA, see Wodak 2001; Reisigl 2017) contextualizes these findings at the macro-level, assessing metaphors (and, where possible, diachronic variations) within socio-political and cultural contexts.

[4.5.1 Metaphor Identification Procedure \(MIP, micro-level identification\)](#)

Based on quantitative analysis of the text corpus through various tools in Sketch Engine software (see 3.4) and subsequent analysis in Excel, frequency and distribution of word groups and semantic clusters informed the first stage of metaphor analysis. MIP was used to establish whether and how flagged words and expressions are functioning metaphorically. This was done by contrasting their contextual meaning against their basic meaning as per the MIP protocol (Pragglejaz Group 2007).

This was done initially by loading the full speeches file into Perplexity Pro and instructing the software to extract metaphors per leader per speech, applying the MIP protocol. The raw output was data-cleaned and verified by the researcher line by line. Perplexity proved to be a useful tool for a first pass of the data, but diligent data-cleaning and adding to the findings was essential (see discussion of growing - albeit conditional - utility of Perplexity AI in academia in Manik et al. 2025).

Each selected case was then assigned one of the 13 semantic frames in the quantitative analysis (four additional ones were added, for change, construction, journey and opportunity). Below is an overview of the MIP findings per individual leader. This is only a brief illustration of the kinds of metaphors identified. A more extensive (but not fully exhaustive) list with longer metaphor-in-context sequences can be found in the appendix. The CMA/DHA analysis in 4.5.2 is based on that list.

[1. Scott Morrison \(Australia\)](#)

Typical metaphors:

- “We are going to **keep Australia running.**” (18 03 2020) – basic meaning: to physically maintain the motion of a person or machine.
- “We do our fair share of the **heavy lifting.**” (05 08 2020) – basic meaning: lifting or carrying very heavy objects, requiring strong muscular effort.
- “We must stay vigilant as we continue our **comeback.**” (31 12 2020) – basic meaning: a return to physical activity or competition after absence.

Most salient frames: **Control** and **Resilience**.

Control appears in “keep Australia running,” “stood up our incident response center,” and “contain the virus,” mapping governance onto operating and containing physical systems. Resilience appears in “heavy lifting,” “comeback,” and “indomitable Australian spirit,” framing the nation as enduring hardship and bouncing back.

2. Sebastian Kurz (Austria)

Typical metaphors:

- “All of us together must take these measures to **starve the virus.**” (15 03 2020) – basic meaning: to deprive a living creature of food.
- “We are **not out of the woods yet.**” (03 04 2020) – basic meaning: still physically inside a forest or wooded area, not yet in open ground.
- “There is **light at the end of the tunnel.**” (14 09 2020) – basic meaning: visible illumination at the exit of a dark physical passage.

Most salient frames: **War** and **Resilience**.

War appears in “starve the virus,” “defend the health,” “frontline,” and “defeated the disease,” casting COVID-19 as an enemy and Austria as defender. Resilience appears in “superhuman things,” “comeback,” and “strengthen the location,” which map recovery onto exceptional effort and structural reinforcement.

3. Jair Bolsonaro (Brazil)

Typical metaphors:

- “The **yellow light** has appeared for us.” (24 03 2020) – basic meaning: the amber signal on a physical traffic light indicating caution.
- “Strategic plan for **fighting the virus.**” (24 03 2020) – basic meaning: engaging in physical combat with an adversary.
- “A new Brazil, with its credibility **restored**” (21 09 21) – basic meaning: the physical act of returning an object to its place.

Most salient frames: **Resilience** and **War**.

Resilience appears in “overcome the virus,” “bold step,” and “credibility restored,” which stress strength, decisiveness, and recovery. War appears in “fighting the virus,” “front line,” “scorched

earth concept,” and “fighting ... simultaneously,” mapping both health and political struggles onto combat.

4. Justin Trudeau (Canada)

Typical metaphors:

- “We have to **protect our neighbours**.” (13 03 20) – basic meaning: to physically shield a nearby person from harm.
- After the pandemic “we need to build back better” (23 09 20) – basic meaning: to remove all the stop controls of a pipe organ to produce maximum sound.
- “We can **bend the curve**.” (23 09 20) – basic meaning: to physically flex a curved object.

Most salient frames: **Resilience** and **Care and Support**.

Resilience appears in “pulling out all the stops,” “team Canada effort,” and “come out of this crisis stronger,” describing an intensified, collective push through adversity. Care and Support appears in “protect our neighbours,” “lifeline,” “lend a hand,” and “kept the shelves stocked,” mapping policy and civic solidarity onto physical help and protection.

5. Emmanuel Macron (France)

Typical metaphors:

- “The enemy is there ... **making headway**.” (16 03 20) – basic meaning: to make physical progress through space against resistance.
- We need to avoid making this “a **burden** for future generations” (31 12 20) – basic meaning: a physical weight or load imposed on a person's body .
- “The pandemic must be a **wake-up call**.” (22 09 20) – basic meaning: a physical alarm that wakes someone from sleep.

Most salient frames: **Resilience** and **War**.

War runs through “we are at war,” “the enemy is there,” “front line,” “lines of defence,” and “battle is a long way from being won,” fully militarising the crisis. Resilience appears in “held fast,” “rebuild our strength,” and “humankind will defeat this pandemic,” framing France and humanity as tested but ultimately capable of prevailing.

6. Narendra Modi (India)

Typical metaphors:

- “the **darkness spread** by the coronavirus” (03 04 20) – basic meaning: the absence of light
- “we must awaken the **superpower** of 130 crore Indians” (03 04 20) – basic meaning: extraordinary ability and strength beyond normal human capabilities

- Health workers are “**defenders of the nation.**” (19 03 20) – basic meaning: soldiers or warriors who protect a country from military attack.

Most salient frames: **Resilience** and **War**.

Resilience appears in journey and endurance metaphors like “passing through”, “driving force”, “progressing towards light”, which show India as moving collectively through danger. War appears in “combat,” “defenders of the nation,” and similar images, casting the pandemic as an attack and frontline workers as soldiers.

7. Cyril Ramaphosa (South Africa)

Typical metaphors:

- “No country is **immune.**” (15 03 2020) – basic meaning: protected by the body’s biological defence system against a disease.
- “We have **let down our guard**” (28 12 20) – basic meaning: assembling military troops and equipment in preparation for battle.
- “We have been living **under the shadow** of the pandemic” (30 09 21) – basic meaning: to be positioned in the darkened area where sunlight is blocked by an object

Most salient frames: **War** and **Suffering**.

War appears in “mobilising all resources,” “frontline of defence,” and “marshal our every resource,” aligning the response with military preparation. Suffering appears in metaphors highlighting pain and loss (“paying the price”, “break point”, “taken strain”), which foreground the human cost and justify extraordinary measures.

8. Pedro Sánchez (Spain)

Typical metaphors:

- Health services as a “**shield against the virus.**” (13 03 20) – basic meaning: a piece of armour carried in battle to protect the body.
- “The pandemic has **widened the gaps** in injustice and vulnerability” (25 09 20) – basic meaning: to make a physical opening or breach larger.
- Spain (and by implication liberal societies) find themselves at “an **historic crossroads**” (29 12 20) – basic meaning: a physical intersection where two or more roads meet.

Most salient frames: **War** and **Natural Force**.

War dominates in “shield,” “first line,” “fight,” “weaken their defences,” and related lexicon, constructing a national war effort. Natural Force appears in images of cutting contagion and waves, portraying the virus as a spreading, quasi-natural enemy to be intercepted.

9. Stefan Löfven (Sweden)

Typical metaphors:

- “This is **testing our country**.” (22 03 20) – basic meaning: to examine or check the quality, performance, or reliability of something.
- Many have had to “bid a loved one their last **farewell**.” (22 03 20) – basic meaning: to say goodbye to someone departing on a journey.
- There are “**cracks in our society**.” (08 09 20) – basic meaning: narrow fractures or breaks in a hard material.

Most salient frames: **Community** and **Resilience**.

Community appears in “face the crisis as a society,” “unity is at its strongest,” and related metaphors that treat Sweden as a bonded social whole. Resilience appears in “society is strong” and the “testing” imagery, which construe the pandemic as an exam of the system’s integrity.

10. Boris Johnson (UK)

Typical metaphors:

- “Our **lines of defence** are simple.” (12 03 20) – basic meaning: military fortifications or positions arranged to resist an enemy.
- Action has “**bought us valuable time**.” (12 03 20) – basic meaning: to purchase time as if it were a commercial commodity.
- COVID-19 is an “**invisible killer**.” (23 03 20) – basic meaning: a person who commits murder by deliberate violent action.

Most salient frames: **Natural Force** and **Resilience** (with strong War overlay).

Natural-force/epidemic metaphors like “stretch the peak” and related curve language treat infection dynamics as a physical surge to shape. Resilience appears in “bought us time” and mobilisation metaphors, casting policy as a military effort to enlist the population in combat activity

11. Sheikh Hasina (Bangladesh)

Typical metaphors:

- The pandemic has threatened “the very **foundation** of globalization and connectivity” (08 07 20) – basic meaning: the base or groundwork upon which a physical structure is built.
- “The world is **suffering**.” (15 03 20) – basic meaning: experiencing physical pain or bodily injury.
- The vaccine is “a **global public good**” (26 09 20) – basic meaning: a (public) benefit or resource that is, by nature, broadly available and not restricted to individual ownership.

Most salient frames: **War** and **Crisis (also Inequality, Suffering)**.

War appears in “combat,” “war,” and “battle,” militarising both the virus and the response. Crisis appears in “turmoil,” “least developed bear the brunt”, “world is suffering” which stress disruption, pain and unequal impact.

12. Sophie Wilmès (Belgium)

Typical metaphors:

- “We are **venturing into uncharted territory**.” (17 03 20) – basic meaning: physically entering unexplored geographic land without a map.
- “Europe is facing a **resurgence** of the epidemic.” (17 09 20) – basic meaning: a physical rising again, like water swelling upward
- Admission that “the pandemic **took us by surprise**” (26 09 20) – basic meaning: to physically ambush or catch someone unaware

Most salient frames: **Resilience** and **Community**.

Resilience appears in “forged,” “sprung into action,” “ability to rise again”, emphasising rapid adaptation and resolve. Community appears in “pillars of mutual aid and cooperation”, “human chain”, “hand in hand” and similar terms that frame COVID-19 as a shared joint endeavour (in a country made up of distinct communities).

13. Jeanine Áñez (Bolivia)

Typical metaphors:

- Strength and determination, not tears or doubt “until the day of victory” (17 03 20) – basic meaning: a military triumph over an enemy in battle.
- Repeated address to “**Bolivian families**.” (15 03 20) – basic meaning: a group of people related by blood or marriage living together.
- “He is asking you not to be afraid. We are **protected by God**.” (21 03 20) – basic meaning: shielded from harm by a divine being.

Most salient frames: **Resilience** and **War**.

War appears in “battle,” “fighting,” “face the virus,” and “pacified the country,” conflating health emergency and internal conflict. Resilience appears in “courage and bravery,” “great responses,” and sacrifice language, constructing Bolivians as morally tough and self-sacrificing.

14. Mette Frederiksen (Denmark)

Typical metaphors:

- The Danish people who “will still help **keep the wheels turning**” (13 03 20) – basic meaning: to maintain the physical rotation of wheels on a vehicle or machine
- The pandemic is “is a **magnifying glass** on our life, on our society” (06 10 20) – basic meaning: an optical lens that enlarges the physical appearance of objects.
- “we have stood with each **other’s lives in our hands**” (01 01 21) – basic meaning: physically holding someone's body in one's hands

Most salient frames: **Empathy** and **Community**.

Empathy appears in references to “the weakest in our society,” “overloaded” systems, and “unprecedented burden,” foregrounding vulnerability. Community appears in “stand together,” “rests on the shoulders,” and “keep the wheels turning,” which map shared responsibility onto bodily configuration and work

15. Sanna Marin (Finland)

Typical metaphors:

- People are “**working around the clock**.” (16 03 20) – basic meaning: to work continuously for all 24 hours of the day.
- Responsibility being on the state’s “**stronger shoulders**.” (16 03 20) – basic meaning: having greater physical strength in the upper body to bear weight.
- As a nation “we have to learn how to **live with the virus**” (29 04 20) – basic meaning: to acquire knowledge through study or experience

Most salient frames: **Suffering** and **Control**.

Suffering appears in “fall victim,” “unprecedented burden,” and “driven ... into a crisis,” emphasising strain and harm. Control appears in “safeguard the carrying capacity”, “controlled lifting”, and it not being time to “breathe a sigh of relief”, framing Finland’s response as a focused and managed gradual effort.

16. Angela Merkel (Germany)

Typical metaphors:

- “We must **pass this test**.” (18 03 2020) – basic meaning: to succeed in an examination or assessment.
- Those in hospitals are on the “**front lines of this fight**.” (18 03 20) – basic meaning: the most forward and dangerous position in a military battle.
- Taking preventative action to avoid coming “**to the brink or over the edge** of being overwhelmed” (17 11 21) – basic meaning: getting to the edge of a steep cliff or precipice, or falling off from it.

Most salient frames: **Control** and **Community**.

Control appears in “flatten the curve,” “buy time,” and “cushion the economic impact,” presenting policy as shaping trajectories and absorbing shocks. Community appears in “spirit of solidarity” and “keeping us all going,” which emphasise shared responsibility and mutual support.

17. Jacinda Ardern (New Zealand)

Typical metaphors:

- We fight and win by “**going hard and going early**” (23 03 20) – basic meaning: physical descriptions of force and timing of an action
- Without action there could be a “**tidal wave of cases**.” (21 03 20) – basic meaning: an abnormally large and destructive ocean wave.
- “Our resurgence plan is **in full swing**.” (17 08 20) – basic meaning: a pendulum’s arc

Most salient frames: **War** and **Control**.

War appears in “fight Covid-19,” “unite against COVID-19,” and similar phrases, constructing a national campaign. Control appears in “get ahead of problems,” “stepping things up,” and “break the chain,” which position government as actively interrupting transmission pathways.

18. Erna Solberg (Norway)

Typical metaphors:

- Norway has “**stood shoulder to shoulder**.” (18 03 20) – basic meaning: bodies positioned physically side by side in close contact.
- “Women are **bearing the brunt** of the pandemic” (26 09 20) – basic meaning: to receive the heaviest blow or impact of a physical force.
- “**Better days are coming soon**” (01 01 21, repeated six times in speech) – basic meaning: 24h time units which will be experienced as an improvement on before.

Most salient frames: **Resilience** and **Community / Empathy**.

Resilience appears in “carry us through the crisis,” “step in when needed,” and “real heroes,” framing Norway as moving through danger thanks to others’ efforts. Community and Empathy appears in metaphors such as “stood shoulder to shoulder”, “we step in when needed”, but also rejecting “I” in favour of “we,” stressing relational responsibility.

19. Nicola Sturgeon (Scotland)

Typical metaphors:

- Compliance with measures means “**many more of us will come out the other side**” (24 03 20) – basic meaning: to enter from one side and then emerge from another side of an object.
- The challenge is like a “**race**” (04 01 21) – basic meaning: a physical race between two opponents.
- “we all need that **spirit** of love and solidarity that has served us so well” (07 10 20) – basic meaning: the non-material essence or animating force of human closeness.

Most salient frames: Control and Care and Support.

Control appears in “suppress the spread”, “stem the increase in cases”, “arrest a worrying increase”, highlighting active physical intervention. Care and Support (as well as Empathy) appear in “shield the

most vulnerable”, “bearing a lot of the strain” and young people are not guinea pig, demonstrating care for all members of society.

20. Tsai Ing-wen (Taiwan)

Typical metaphors:

- Taiwan worked to “**ward off the first wave** of imported infections.” (19 03 2020) – basic meaning: to repel or defend against an attacking force.
- Taiwanese people as “countless heroes ... working together to **turn the wheels of history.**” (20 05 20) – basic meaning: to operate mechanical wheels that drive a machine's motion.
- “Taiwan standing on democracy's **first line of defense.**” (10 10 21) – basic meaning: foremost military barrier or formation facing an enemy.

Most salient frames: **Resilience** and **War**.

Resilience appears in “resilience of the Taiwanese people under pressure”, “weather difficult times” and “drastic measures,” foregrounding endurance and readiness. War appears in “ward off,” “front lines,” “defeat the virus” and “win this battle,” explicitly militarising a rules-based, cooperative containment strategy.

4.5.2 Findings from Critical Metaphor Analysis and Discourse-Historical Approach

Based on the findings of the MIP, itself informed by corpus analytics via SketchEngine, the following analysis integrates CMA and DHA to explore political leaders’ approaches to the pandemic, for example, to persuade the public to follow new and changing rules, including lockdowns. Combining CMA and DHA aims to connect linguistic patterns and choices to broader historical and socio-political contexts, exposing the underlying ideologies and power dynamics driving policy and politics. As MIP focuses on the what (identifying words and expressions functioning as metaphors), CMA on the how (the rhetorical function of metaphors) and DHA on the why (explaining choices in broader historical, cultural, political context), the three approaches together integrate micro, meso and macro perspectives to provide a comprehensive profile of a leader’s style as well as their ideological motivation. This also allows the exploration of gender similarities and differences, as well as leadership styles. In the summary, these qualitative insights will be combined with the quantitative findings above.

1. Scott Morrison – Prime Minister of Australia

Socio-political context:

Morrison governed during the pandemic under enormous constitutional tension: Australia's federal system gave states wide public health powers, leading to genuine friction between federal and state

governments (Murphy and Arban 2021). His speeches are delivered in a context of competition between the federal government and regional leaders. His political identity was also shaped by non COVID-related crises such as the 2019–20 Black Summer bushfires.

Historical resonance and identity:

The Anzac mythology of a nation tempered by adversity – stoic, resilient, never complaining (Marti 2018) – is a key narrative for Morrison's pandemic discourse. “Anzac spirit” (06 04 21) and “indomitable spirit” (31 12 20) are not descriptive but prescriptive: they invoke a specific Australian masculine virtue as the normative model for pandemic conduct (Williams and Greer 2023). Morrison highlights Australia's competitiveness and appeals to sporting prowess by praising a vaccine rollout “better than where Germany was. It's better than where New Zealand was. It was better than where South Korea was and Japan was” (06 04 21).

Metaphor as rhetorical act:

War frame: “those on the frontline” (02 04 20), “as we fight the virus and we fight the economic threats” (02 04 20), “spirit of national unity” (05 08 20) – express an ethos of command over a fragmented federation.

Control frame: “keep Australia running” (18 03 20), “cushioning the impact” (18 03 20), “stood up our incident response center” (02 04 20) – express the logos of technical management. Resilience frame: “making our way through this crisis in a very Australian way” – pathos of exceptional nationalism.

Foregrounding and/or backgrounding of topic: The focus on restricting access to aged care facilities (18 03 20) is another framing act: the containment normalises the aged care sector as a zone to be managed rather than an institution whose long running systemic neglect was being exposed in real time by the pandemic (Brennan 2020). The metaphor transforms political accountability into a logistical question. Similar shortcomings and critique of a rhetorical ‘protective ring’ are discussed in Daly (2020).

Salient example: Morrison's claim of a vaccination program that “continues to upscale and continues to roll out” (06 04 21) better than many countries including New Zealand is activating both patriotic pathos and obscuring the supply-chain failures that delayed Australia's vaccine rollout (Duckett 2022) behind a discourse of competitive urgency.

2. Sebastian Kurz – Federal Chancellor of Austria

Socio-political context:

Kurz governed in an unusual institutional arrangement: a coalition with the Greens that required him to maintain his right-wing identity politics alongside environmental and solidarity messaging. He was also the youngest head of government in Europe – his pandemic discourse is shaped by the structural need to project authority that his age and relative inexperience could not yet supply through historical track record (see description of his political trajectory in Wodak 2022b).

Historical resonance:

Austria's history includes a specific post-Habsburg anxiety about national smallness and vulnerability that makes mythologies of collective survival especially resonant (see discussion of Austrian post-empire identity in Wodak et al. 2009). The extinguishing of embers to avoid “another wildfire” (03 04 20) invokes primal threat; “strategic reserve” (15 03 20) military preparedness; “we have managed to make a comeback (03 04 20) activates sporting-national mythology.

Identity construction:

Kurz's referential strategy constructs ‘we’ as Austria-as-unit – a small but capable nation. The perspective is notable: “we will take a step forward towards defeating this pandemic” (26 12 20) and “the fight against the pandemic” (06 07 21) by “true heroes of everyday life, people who have gone above and beyond”(06 07 21) positions Austria as an active agent against a passive disease, rather than Austria as a passive recipient of epidemiological forces. This is an identity claim: we are a nation that acts, not one that is acted upon.

Foregrounding and/or backgrounding of topic: “Heroes of everyday life” (06 07 21) highlights individual sacrifice while avoiding discussion of the challenges faced by said heroes (Hopkins 2021).

Salient example: Embers / wildfire (03 04 20): – a performative construction of authority (Reisigl 2014, p.10) in two stages: embers (we have achieved control, credit us) to wildfire (catastrophe remains possible, so we retain authority). It holds the leader perpetually between triumph and catastrophe, maximising political authority while minimising accountability. Thus the pandemic becomes a strategic legitimation tool (Wodak 2022a).

3. Jair Bolsonaro – President of Brazil

Socio-political context:

Bolsonaro's pandemic discourse must be understood against two defining contexts: (1) Brazil's social inequality and the precarious conditions of large parts of the Brazilian workforce (Prates and Barbosa 2020); and (2) Bolsonaro's authoritarian populism – the construction of a leader who stands with the poor against the liberal-elite establishment, including scientific and media institutions (Sukiennik Abecassis 2022). His speeches are not failures of crisis communication – they are an ideological performance.

Historical resonance:

Brazil's history of military dictatorship and Bolsonaro's open endorsement (Smith 2020) makes the military metaphor ambivalent in ways it is not (or no longer) in European contexts, for example. Bolsonaro's extensive use of military metaphors – “those who were on the front line” (24 03 20), “the strategic plan for fighting the virus” (24 03 20), or “we've been working on all fronts” (31 03 20) is simultaneously a pathos-laden public health framing and an identity claim about the rightful role of the armed forces in national governance (Pfrimer and Barbosa 2020).

Ideology and power:

The criticism of lockdown policies by state and local authorities as a “scorched earth concept” (24 03 20) is reminiscent of Wodak's (2001) “victim-victimizer reversal” (p. 75): the established consensus (lockdowns protect lives) is reframed as the real danger, and the speaker presents himself as the rational protector against elite-imposed self-destruction. Complaints about a “disinformation campaign” against Brazil's environmental record (22 09 20), and claims that the media “politicized the virus” (22 09 20) represent a discursive delegitimization by claiming bad faith on the side of ‘the establishment’ (Forchtner and Özvatan 2022).

Foregrounding and/or backgrounding of topic: The invocation of “daily bread” (31 03 20) and the “legacy of inflation” (21 09 21) perform a specific DHA perspectivisation shift: the primary suffering of the pandemic is economic (informal workers losing income), not medical (COVID deaths). This reordering of humanitarian priority is the ideological core of Bolsonaro's entire pandemic discourse – and the metaphors are the vehicles through which it is delivered.

Salient example: “scorched earth concept” (24 03 20)– in DHA terms, this activates the topos of burden (Wodak 2001, p.76): lockdown advocates are imposing an unbearable cost on the most vulnerable. The military metaphor of self-destruction positions Bolsonaro as the only rational actor protecting the poor from the cruelty of elite public health ideology.

4. Justin Trudeau – Prime Minister of Canada

Socio-political context:

Canada's constitutional structure gives provinces primary responsibility for health – federal pandemic authority is limited and contested (Fierlbeck and Pawa 2025). Trudeau's discourse operates in this institutional constraint: he cannot command, he must coordinate. The “team Canada effort” (13 03 20) metaphor is not rhetorical but institutional necessity.

Historical resonance:

Canadian national identity is constructed partly in contrast to the United States – a cooperative, multicultural, evidence-respecting alternative as shown in the pandemic response (Combden et al. 2022). “Build back better” (23 09 20) and “turning a blind eye” (18 06 21) applied to antisemitism and islamophobia activate a Canadian exceptionalism narrative: we are the progressive alternative. DHA nomination and perspectivisation analysis (Reisigl 2017, p.52) shows that Trudeau consistently constructs ‘we’ as an inclusive, diverse collective (Kasztenna 2022)– describing “those on the front line of the pandemic” as “everyday heroes” (31 12 20) is populist in a democratic, not authoritarian, register.

Identity construction:

The Science frame – “bend the curve” (23 09 20), “doses into arms” (18 06 21), “surpassed our delivery numbers” (18 06 21) – constructs the evidence-based governance identity. This is a direct contrast for example with Bolsonaro's anti-science populism.

Salient example: “Fiscal firepower” (13 03 20) – is a military metaphor applied not to health but to economic resources. The state's capacity to protect workers is constructed as armament – a logos argument (Charteris-Black 2018, pp.12-15) that government spending is itself a form of national defence.

5. Emmanuel Macron – President of France

Socio-political context:

Macron's pandemic speeches are delivered in a specific institutional and political crisis: the gilets jaunes movement (from 2018, see Wilkin 2020) had already severely damaged his authority and his claim to represent all of France. The pandemic offered an opportunity to restore presidential legitimacy and authority (Sadoun-Kerber and Wahnich 2022). The six-times repetition of “we are at war” in quick succession (16 03 20) is not merely an epidemiological but a political emergency

recovery project – wartime leaders receive emergency legitimacy that ordinary peacetime leaders cannot claim.

Historical resonance – Gaullist tradition:

Macron's war rhetoric demonstrates a very specific French political-historical register – Boussaguet et al. (2023) discuss the symbolism of De Gaulle and the Fifth Republic in the context of Macron (p.1094). “Widespread mobilization” (16 03 20), “the enemy is there, invisible, elusive, and it's making headway” (16 03 20), and “the battle is a long way from being won” (13 04 20) are not merely generic war references; they are citations of a specific founding myth of French republican resistance and resilience.

Identity construction:

Two identity constructions happen in sequence: The early 2020 speeches, heavy on war imagery, build a ‘Gaullist’ national identity of France as embattled civilisation defending its values (Thomsen 2023). By the 2020–2021 UN addresses, Macron constructs a proactive liberal progressive identity: “We can no longer keep our heads in the sand. We no longer have the opportunity, or if I may say luxury, to sit on the fence. The pandemic must be a wake-up call” (22 09 20) calling for urgency and international cooperation (addressing UNGA), and the call to “to build solutions together to avoid making this a burden for future generations” (31 12 20) position France – and Macron personally – as the voice of rational, liberal, especially European multilateralism (Benoît and Hay 2022).

Ideology and power:

“Whatever it costs” (used twice in New Year’s address 31 12 20) is an absolute moral claim that undermines any cost-benefit challenge to Presidential policy. It also contributes to the broader discursive construction of crisis and leadership (Wodak 2018).

“Sending, against obscurantism and conspiracy, a magnificent message of hope for the year ahead” (31 12 20) positions the French president as a defender of Enlightenment values against anti-science populism.

Salient example: “We are at war” (16 03 20) – the six-fold repetition is a discursive strategy (intensification) in DHA terms (Reisigl 2017, p.52). Wodak and Meyer (2016) identify repetition and intensification as a core rhetorical strategies; here, the repetition constructs wartime emergency as a discursive reality, generating the institutional legitimation effects of a state of exception – as well as enhancing the self-presentation of Macron as the wartime leader.

6. Narendra Modi – Prime Minister of India

Socio-political context:

Modi's COVID speeches operate in a context of deep political contestation in the country. The BJP's Hindutva ideology had already significantly reoriented Indian national identity around Hindu civilisational claims (Harriss 2015; Chacko 2019). The pandemic created both an opportunity (national mobilisation under strong executive leadership) and a risk (exposure of healthcare infrastructure failures). His discourse manages this tension through civilisational scale-framing that places India's pandemic management in a mythological rather than comparative-epidemiological context (Subramaniam 2021) where praise comes “fellow citizens who have lived by our value-system of ‘Seva Parmo Dharma’, that is Service being the highest Duty” (19 03 20).

Historical resonance – Hindu civilisational mythology:

The Lakshman Rekha (29 03 20) reference is “legitimation through mythopoesis (Wodak 2022a, p.3): a boundary drawn in a 3,000-year-old epic is used to enforce a 21st-century public health instruction (Subramaniam 2021. The effect is not merely memorability but the moral elevation of compliance from civic obligation to dharmic (sacred) duty – non-compliance is not merely irresponsible, it is a violation of civilisational covenant (see discussion of marginalisation and violence in Subramaniam 2021, p.7).

Identity construction:

“Superpower of 130 crore Indians” (03 04 20) and “Mother of Democracy” (25 09 21) is national aggrandizement as DHA discursive strategy (Reisigl 2017, p.52). India is not a developing economy struggling with a health crisis but a rising civilisational power demonstrating its global leadership credentials through pandemic management (Haug and Roychoudhury 2023). “Coronavirus has incarcerated the world” (29 03 20) puts India in a global liberation frame – we are freeing humanity, not merely managing a domestic health emergency.

Foregrounding and/or backgrounding of topic: “Biggest ever pandemic” (25 09 21) and contrasting this generic statement with praising Indian development and progress on a number of fronts to an UNGA audience is “topos of numbers” (Charteris-Black 2018, p.147)– scale as argument (“when India reforms, the world transforms”). By foregrounding absolute numbers and success stories, the discourse hides government shortcomings, not least the catastrophic second wave of April–May 2021, which by any epidemiological measure represented a governance failure of enormous proportions (Lancet Editorial 2021).

Salient example: “Friends, amidst the darkness spread by the Corona pandemic, we must continuously progress towards light and hope” (03 04 20)– a mythopoetic arc in which the pandemic journey maps onto the universal heroic quest (darkness to light), positioning India's governance as a civilisational journey toward illumination. This is myth creation of the most explicit kind (Kapoor et al. 2022).

7. Cyril Ramaphosa – President of South Africa

Socio-political context:

Ramaphosa's speeches are shaped by a unique institutional context: governing one of the world's most unequal societies during a pandemic that selectively devastated communities already living in extreme structural vulnerability – inadequate housing, informal employment, inadequate healthcare, food insecurity (Carlitz and Makhura 2021). His rhetorical challenge is to project state authority without denying the structural failures that the pandemic reveals.

Historical resonance – post-apartheid ethics:

The Ubuntu philosophy – “In the face of this unprecedented crisis, South Africans have demonstrated the true meaning of 'ubuntu'” – is not merely a communitarian metaphor – it is a specifically post-apartheid ethical framework that was central to the Truth and Reconciliation Commission and to Nelson Mandela's moral vocabulary (Patel et al. 2024). By activating ubuntu in a pandemic context, Ramaphosa connects COVID management to the founding moral framework of the post-apartheid state, constructing solidarity as both an African philosophical value and a continuation of the liberation movement's ethical project.

Identity construction:

Ramaphosa constructs South African identity through Mandela-esque moral resilience (Nkoala and Dlanga 2023) rather than militant strength. “For we are a nation at one, and we will surely prevail” (23 03 20), “weather this storm” (28 12 20) and “these freedoms are within our reach” (30 09 21) position South Africa as a nation of patient endurance – a virtue forged not in wartime but in the long struggle against apartheid. The Suffering frame “We have been living under the shadow of the pandemic for 574 days now, and all of us have taken strain” (30 09 21) expresses that ‘we acknowledge the cost, we endure and (ultimately) overcome’.

Salient example: “Even as we were struck by coronavirus, we had to confront another pandemic that has long plagued our nation. We mourn the many women and children who lost their lives at the hands of men” (30 09 21) is a bold move by Ramaphosa to foreground male violence against women

and children as a public, national pandemic through COVID-19 metaphors and explicit gendered agency.

8. Pedro Sánchez – Prime Minister of Spain

Socio-political context:

Spain entered the pandemic with one of Europe's most fragmented political landscapes: a minority coalition government (PSOE + Podemos) and active Catalan independence tensions (Royo 2020). Sánchez's speeches operate in a context where the legitimacy of the state of alarm (a constitutional emergency power) was being legally challenged while simultaneously being rhetorically extended (Presno Linera and García Majado 2021).

Historical resonance:

“There is only one path: sacrifice, resistance and a sense of victory” (29 12 20) activates a deep mythology in modern Spanish political identity: the Civil War, the Transition, the democratic reconstruction (Martínez García 2021). By inserting COVID endurance into this sequence of national trials, Sánchez constructs pandemic compliance as an act of democratic patriotism – mask-wearing and adherence to restrictions is equated to the historical sacrifices of democratic resistance.

Identity construction and ideology:

The inequality cluster – “women have once again shouldered the main burden” (25 09 20), represents what DHA identifies as the topoi of humanitarianism and justice (Wodak 2001, p.75). Sánchez’s strategic argument is that structural inequalities are not just incidental but the primary political facts of the crisis (discussion of syndemic character of pandemic in Spanish by Bacigalupe et al. 2022).

Salient example: “Virus of disappointment” (25 09 20) is a predication strategy where the metaphor attributes a contagious quality to the feeling (on predication as discursive strategy, see Reisigl 2017): by linking the medical metaphor of contagion to political disillusionment, Sánchez frames democratic disengagement as a public health emergency, activating a logos argument (Charteris-Black 2018, pp.12-15) that governance quality is literally a matter of health. The whole statement is worth quoting as an example of a political leader who – at least in this moment – really seems to ‘get it’: “Because there is another virus spreading around the world - the virus of disappointment, of weariness, of disrepute, even of indifference - by these young people who can hear us - although, unfortunately, most of them don't listen to us - in the four corners of the world.”

9. *Stefan Löfven – Prime Minister of Sweden*

Socio-political context:

Sweden's pandemic strategy – limited mandatory measures, reliance on civic responsibility and expert-led voluntary compliance – was the most internationally contested of any Western democracy (Pashakhanlou 2022). Löfven's discourse defends this approach not through martial authority but through social-democratic institutionalism: trust in the welfare state, trust in citizens, trust in expertise (Simonsen 2022; Hagren and Bellander 2024).

Historical resonance – Swedish social democracy:

“The seeds of the welfare society were planted” (14 09 20) is a paradigmatic case of DHA recontextualization (Reisigl 2017, p.53) The Swedish folkhem (people's home) model – built from the 1920s through decades of social-democratic governance (Koliasturk 2022)– is constructed as a living organism with roots that require collective tending (rather than leadership), and must not be sacrificed to short-term crisis management. Through the botanical metaphor, social democracy is likened to organic growth rather than political ideology.

Identity construction and ideology:

Alluding to the “cracks in our society “ – used in three separate speeches (08 09 20, 20 12, 20, 14 08 21) – is a predication strategy (attributing a metaphorical quality to society), delivered as positive self-presentation (Wodak 2001, p.87). In a social-democratic discursive tradition, naming systemic failure honestly is not a sign of weakness but of the moral integrity that distinguishes social democracy from authoritarian populism (Simonsen 2022). This is also mitigation as strategic speech (on mitigation in illocutionary acts, see Reisigl 2014, p.91) : Löfven's (self-)criticism tones down the blame and avoids accountability while offering a solution (we see the cracks, we will fix them).

Salient example: “loneliness can be a suffocating darkness” and “bid a loved one their last farewell” (22 03 20) – are among the most emotionally explicit metaphors in the corpus. These pathos constructions (Charteris-Black 2018, pp.16-18) acknowledge individual, private grief in a political speech – perspectivisation and mitigation in DHA terms (Charteris-Black 2018, p.161) bringing the political speaker into intimate proximity with the lived experience of the suffering and grieving people.

10. Boris Johnson – Prime Minister of the United Kingdom

Socio-political context:

Johnson governed during a period of extraordinary institutional stress: Brexit had concluded formally in January 2020, leaving a politically and socially divided country (Grey 2021). The pandemic struck a United Kingdom already experiencing what political scientists called a constitutional crisis (a "Perfect Storm" according to Grace 2022) – devolved governments pursuing independent pandemic strategies, and a Westminster government whose scientific advice infrastructure had been under-resourced for years (Freedman 2020). What is more, the mindset of the newly appointed Johnson government was to deliver a successful Brexit, not to navigate an emerging pandemic (Lilleker and Stoeckle 2021).

Historical resonance – Churchillian citation:

Johnson's war metaphors are not generically martial – they are specifically Churchillian. "We're going to need to mobilise millions of people" (12 03 20), and "in this fight we can be in no doubt that each and every one of us is directly enlisted" (23 03 20) are deliberately styled in the register of Churchill's wartime addresses (Musolff 2022b) – Johnson's own biographical subject. Intertextual analysis (Wodak 2001) identifies this as a discursive strategy of historical authorisation: positioning one's own leadership within an established narrative of national heroism (Van Leeuwen 2007).

Identity construction – two mythological sequences:

The early-2020 speeches evoke insular British national resilience (as well as channelling King Canute) by claiming "to turn the tide on this invisible killer" (23 03 20) "as we come together to fight this second wave" (for an exploration of the British citizen and COVID, see Andreouli and Brice 2021). The 2021 UN address pivots to construct a global civilisational narrative: "adolescence of humanity is coming to an end" (22 09 21) and the "collective coming of age" (22 09 21) are a referential shift from national we to species we – Johnson goes from domestic crisis manager to global statesman after Brexit damaged UK international standing (Mohan 2025).

Foregrounding and/or backgrounding of topic: Having to be "humble in the face of nature" (31 10 20) acknowledges state limitation – a rare mitigation that builds credibility through honesty. "Turbocharge our ambition to be a science superpower" (31 12 20), on the other hand, immediately restores bombastic triumphalism. The swings between humility and is typical of Johnson's rhetorical style (Senior et al. 2021).

Salient example: "the adolescence of humanity is coming to an end" and "I invite you in November to celebrate what I hope will be a coming of age and to blow out the candles of a world on fire"

(both in UNGA address 22 09 21). This is a strategic shift of perspective: from a national leader managing a health crisis (a 'shambolic blunder' according to Holze 2023) to a speaker addressing the human species at a civilisational inflection point.

11. Sheikh Hasina – Prime Minister of Bangladesh

Socio-political context:

Hasina governs a country that is both a development success story (dramatic poverty reduction, garment industry growth) and profoundly structurally vulnerable: climate-exposed, with poor infrastructure especially in rural areas and a large informal labour force whose daily earnings stopped with lockdowns (Lata 2022). Her international speeches address the institutional exclusion of Global South countries from vaccine equity – a structural power asymmetry that runs through all her UN/international addresses.

Historical resonance – liberation and post-colonial identity:

Bangladesh achieved independence in 1971 through a liberation war led by Hasina's father, Sheikh Mujibur Rahman. She refers to him as Father of the Nation in various speeches. "He taught the Bangalee nation to stand firm in the world by ending exploitation, deprivation, and oppression" (26 09 20) connect pandemics resilience to the foundational national myth of survival against overwhelming odds (for a stern critique of this narrative and the Bangladesh government's approach see Ahmed 2020).

Identity and power:

"It is imperative to treat the vaccine as a 'global public good'" (26 09 20) is argumentation through the topoi of humanitarianism and justice as it activates a legal and moral framework to challenge the intellectual property regime protecting vaccine manufacturers (Borges and Dos Santos 2021; Yamey and Garcia 2021). The metaphorical reframing from product to good is the argument for vaccine equity, delivered in a single conceptual unit. Thus language becomes political intervention.

Salient example: "We were recognized by the international community as a 'development miracle' for our success" (20 09 20) is strong positive self-presentation: by nominating Bangladesh's development trajectory as a miracle, Hasina constructs a national identity of achieved dignity rather than victimhood. The miracle is not complete, though, as she still advocates for equitable treatment in global health governance (for context, see this positive assessment of Hasina's 'vaccine diplomacy': Sarker and Ghosh 2025).

12. *Sophie Wilmès – Prime Minister of Belgium*

Socio-political context :

Wilmès became Prime Minister in October 2019 through a constitutional manoeuvre – she led a caretaker government while Belgium was in its longest-ever period without a full coalition. She thus led Belgium through its first wave of COVID-19 with no parliamentary majority and no institutional mandate beyond emergency necessity (Van Overbeke and Stadig 2020). Her rhetorical approach is shaped by this legitimacy deficit (Kornblit 2022).

Historical resonance – Belgian complexity:

Belgium's identity is constitutionally divided: three language communities (French, Dutch, German), three regions (Flanders, Wallonia, Brussels), producing a permanent negotiation of unity in diversity (Reybrouck 2021). The “we are all links in the same chain. All the links in this human chain make it possible, directly or indirectly, to provide the best care for our sick” metaphor (19 03 20) is thus not merely poetic – it is part of a strategy of national identity construction (Wenzl 2019) for a polity where national identity is permanently contested. The chain metaphor is politically neutral: it makes no claim about which link is stronger or which culture is more Belgian.

Identity construction:

“National unity ... is forged during the hard times we face” (17 03 20) is referential (nation as actor) and predication (hammering into shape) in DHA terms. It also shows mitigation (hard times are nobody's fault) and positive self-presentation (the government as the guardian of national unity).

Salient example: “We must acknowledge the negative and disproportionate effects of the pandemic on those who suffer disproportionately from inequalities: women and girls, children, older persons and people with disabilities. No one should be left by the wayside” (26 09 20) combines responsibility and moral obligation by combining an immediate crisis with a broader equality and inclusion agenda.

13. *Jeanine Áñez – President of Bolivia*

Socio-political context:

Áñez's pandemic speeches must be understood in the context of a highly contested political transition: she assumed the presidency of Bolivia in November 2019 after Evo Morales's resignation amid disputed election results – a transition described by supporters as a constitutional succession

and by critics as a coup (Velasco-Guachalla et al. 2022). She was governing Bolivia's pandemic while simultaneously defending the legitimacy of her own presidency (Villarroel Saavedra et al. 2021).

Historical resonance – Latin American Catholic-patriotic tradition:

“He is asking you not to be afraid, we are protected by God” (21 03 20) speaks to a specific form of (in this case Bolivian) Catholic nationalism – a discourse in which rightful governance carries a divine blessing. This was central to the political culture of Áñez's political base (Gutiérrez and Anderson 2020). The Family frame which is present in most of her speeches – for example, “being Bolivians and being equal, we are one family where we all have to take care of everyone” (21 03 20) constructs national solidarity on the model of a Catholic family household – intimate, hierarchical, bound by love and obligation (Gutiérrez and Anderson 2020). In her religious populism, repeatedly addressing Bolivians as family or families combines nomination, predication and intensification (Reisigl 2014, p.91) and carries a normative load that becomes a rhetorical act of exclusion: if you are not part of a traditional Bolivian family, you are not being addressed. You don't count.

Identity and power:

“Just as yesterday they were the ones who took care of us, today we have to take care of them. They already fought for us, today we have to fight for them” (25 03 20) – a predication strategy that transforms the elderly from vulnerable objects of protection into historical subjects of sacrifice. Bolivia owes them. Together with “dear families from every corner of Bolivia, and it is the path that we will walk all united and solidary” she uses the pandemic period to argue that her transitional governance is caring democracy in action – while hiding the contested constitutional basis of her assumption of power (Velasco-Guachalla et al. 2022)

Salient example: “At no other time has Latin America seen more clearly that it must choose between the two roads that lie before it ... two roads of freedom and oppression” (23 09 20). Áñez uses the “two roads” metaphor four times in her speech. This is polarising, path-metaphor political rhetoric emphasised through repetition that simplifies difficult choices in complex times as a moralised either-or.

14. Mette Frederiksen – Prime Minister of Denmark

Socio-political context:

Frederiksen had led a Social Democratic minority government since June 2019, dependent on parliamentary support from left and centre parties. Her pandemic governance – among the first European leaders to close schools and impose restrictions (Gómez-Ochoa and Franco 2020) – was characterised by swift, decisive action that earned high approval, but created long-term policy sustainability challenges as the pandemic extended far beyond the initial emergency (Olagnier and Mogensen 2020).

Historical resonance – Nordic social contract:

Danish society's pandemic compliance drew on a deep institutional trust tradition – the *tillid* (trust) culture that characterises Nordic social contracts (Power et al. 2023). Frederiksen's discourse actively constructs this trust: “stand together by keeping our distance” (11 03 20, also used on 13 03 20 and 01 01 21) is not a paradox to be resolved but a trust-based argument – we show solidarity by respecting each other's safety (Villadsen 2021).

Identity construction – philosophical depth:

By pointing to “the human being’s ancient vulnerability” and the fact that “we have stood with each other's lives in our hands” (both 01 01 21) Frederiksen speaks to both humanity as a whole and to the Danish people (we): we are all fragile, and solidarity and empathy extend beyond national Danish interest.

Salient metamodern example: Frederiksen’s reference to the “dance with corona” (06 10 20) alludes to a two-phase strategy where the restrictive ‘hammer’ is followed by a ‘dance’ that is an ongoing, adaptive balancing act of policy and behaviour depending on changing conditions (Wang et al. 2020). This is unusual perspectivisation, shifting from a restrictive and adversarial frame (beating the enemy) to a relational ongoing frame (dance is improvisational, intimate, continuous, mutual). The dance metaphor accepts that the pandemic cannot be beaten, that coexistence is the reality, and that art – not combat – is the appropriate metaphor for navigating it. In the same vein, Jovanovic (2021) looks at the pandemic through the lens of “Metamodernism ... as the dominant cultural logic of the 21st century (p.57). Metamodernism’s primary metaphor of the oscillating pendulum can in fact be seen as a permanent dance (Nothhaft and Overton-De Klerk 2025). Thus metamodernism might offer a path out of the wicked challenges revealed by the pandemic, in a ‘dance’ that “could potentially turn to the best, most efficient, and not purely necessary solutions” (Jovanović 2021, p.68).

15. *Sanna Marin – Prime Minister of Finland*

Socio-political context:

In December 2019, Marin became Finland's youngest and first millennial Prime Minister at the age of 34 (Lim 2020). It can be assumed, although there is no obvious evidence in academic work, that her pandemic discourse is partly shaped by the need to project authority that institutional biography cannot yet supply. She has this in common with Kurz, but unlike the Austrian leader, she deploys matter-of-fact, expert led pragmatism (Niemi and Raunio 2022) rather than populist heroism as an authority strategy.

Historical resonance – Nordic welfare state:

Finland's specific historical context includes the Winter War (1939–40) mythology – a small nation withstanding an overwhelming external threat through collective discipline and institutional resilience (Frith 2020). Marin activates this not through explicit martial metaphor but through the register of precise, methodical competence (Niemi and Raunio 2022): "Finland's hybrid strategy focuses on a "test, trace, isolate and treat" approach, alongside the controlled dismantling of restrictive measures" and "it is not yet time to breathe a sigh of relief. The situation is still very serious" (both 29 04 20) display the Winter War spirit of a nation that does not panic but manages systematically (Scheinin 2022).

Identity construction:

The Care frame is dominant – "the state has stronger shoulders than individuals" (16 03 20), "safeguard the carrying capacity of our healthcare system" (26 03 20), and "make sure that the burden caused by the crisis is shared in a socially, economically and environmentally sustainable way" – all contribute to showing the Finnish welfare state as a capable protector (Greve et al. 2021). State and body politic have enough weight-bearing capacity to support those who cannot support themselves: this combines a predication approach (shared burden, sustainable) with a moral commitment and an argumentation built on topoi of justice and humanitarianism.

Ideology and power:

"We must build our future on a more sustainable foundation and aim for a balance between humans and nature" (31 12 20) presents the pandemic as a logical argument for systemic ecological and economic transformation (on Finnish COVID recovery policy and sustainability, see Kivimaa et al. 2023).

Salient example: "When we rebuild our societies and economies, we cannot simply go back to our old habits and ways of working" (31 12 20) presents the crisis as an opportunity for morally guided

structural change. This also confirms a Nordic social-democratic narrative: crises are managed and communicated through politically steered, egalitarian transformation, not market self-correction (Johansson et al. 2023). This approach to politics and problem-solving is reflected in one of the seminal publications on metamodernism, Freinacht's "Nordic Ideology" (2019), as well as Andersen and Björkman's (also metamodernism-focused) "Nordic Secret" (2017) – see concluding reflections in section 5.2.

16. Angela Merkel – Federal Chancellor of Germany

Socio-political context:

Merkel's pandemic speeches are delivered in the final phase of her 16-year chancellorship. She governs a federal system with strong Länder authority; like all coalition leaders (Wilmes, Morrison, Trudeau etc.), she must coordinate rather than command (Dostal 2020). Her discourse is also shaped by the specific German constitutional sensibility about emergency powers – the Basic Law's design explicitly limits executive emergency authority, shaped by lessons of history (Stelzenmüller and Denney 2020).

Historical resonance – personal experience in two Germanys:

Biographical anchor: In stating that "for someone like me, for whom the freedom of travel and the freedom of movement were a hard-fought right, such restrictions can only be justified if they are absolutely imperative" (18 03 20), Merkel alludes only discreetly to her East German upbringing. This is a DHA self-presentational identity claim: the lived experience of authoritarianism as the ground of democratic commitment and promise.

Identity construction – epistemic authority:

"We are walking on thin ice, you could also say: on the thinnest ice" (23 04 20) "this is a long-distance race in which we must not run out of energy and air too early" show a systematic, thought-through scientific approach: danger is not an enemy to be defeated but a precarious condition to be carefully navigated; the pandemic is not a sprint but an endurance test. Seen through a DHA lens, Merkel's discourse is predication through metaphorically hedged claims – "pass this test", "buy time" (both 18 03 20), "we are not living in the final stages of the pandemic, but still at its beginning" (23 04 20) – in which epistemic humility is itself the authority claim (Volk 2021; Siess and Amossy 2022).

Foregrounding and/or backgrounding of topic: "A hospitalization index without a threshold would remain a toothless tiger" (17 11 21) is self-critique as legitimacy: Merkel naming her own policy

instrument (the hospitalisation threshold) as ineffective is transparency as a credibility-building rhetorical strategy (Wodak 2022a, p.2). “It is becoming increasingly clear that this will of course also leave heavy scars on the economy” (23 03 20) indicates permanence: scars remain visible – Merkel does not promise a complete return to the prior normal.

Salient example: “We are a community with a common destiny – Europe must now prove this” (23 04 20) – is European identity construction: by activating this frame, Merkel positions German pandemic governance within a solidarity narrative beyond national interest, where European integration becomes the institutional context for collective response (Waas and Rittberger 2024).

17. Jacinda Ardern – Prime Minister of New Zealand

Socio-political context:

Ardern governed a small island nation with genuine geographic isolation advantages, but also with a co-governance responsibility to Māori communities. Accordingly, her discourse is shaped by the structural asymmetry between New Zealand's geographic advantages and the moral obligation to ensure those advantages benefit all communities equitably (Manning 2021).

Historical resonance – egalitarian Kiwi identity:

New Zealand's national mythology – practical, unpretentious, egalitarian, self-reliant – is encoded in Ardern's plain and shared language (Wilson 2020): “we bunker down for four weeks to try and stop the virus in its tracks, to break the chain” 25 03 20), “be strong, be kind, and unite against COVID-19” (21 03 20), “we have moved to fight by going hard, and going early” (23 03 20). These are not sophisticated rhetorical gestures; they display an everyday register that combines several DHA discursive strategies such as nomination, predication, perspectivisation (Reisigl 2017, p.52) : speaking like an ordinary New Zealander creates both proximity and legitimacy, which is Ardern's authority claim, her way of ‘doing leadership’ (Hafner and Sun 2021).

Identity construction – distributed heroism:

Ardern rhetorically positions citizens as moral agents – a DHA referential strategy: rather than foregrounding the state as protector and citizens as protected, she distributes a shared responsibility of pandemic management to the population (Hafner and Sun 2021), as in “your job is to save lives” (25 03 20) and “we are all in the same boat” (17 08 20).

Salient metamodern example: “the pandemic has been the ultimate disruptor – it has changed our realities and given us cause to pause and reflect” (24 09 21): catastrophe as productive force, crisis

as the condition of change (on Ardern's transformative leadership style, see Voina and Stoica 2023). Combined with “the disruption is an opportunity for us to reset, to adjust some of our fundamental settings”, “Our forebears were once at this fork in the road, and they chose the path of trust”, and “we owe future generations our commitment to hound down a better world, forged through cooperation” (all 24 09 21), Ardern constructs what can be described as a metamodern narrative of purposeful uncertainty: we don't know the destination exactly, but we are morally commanded to pursue it urgently and collectively – a practical form of zetetic abduction (Josephson Storm 2021).

18. Erna Solberg – Prime Minister of Norway

Socio-political context:

Solberg governed as the leader of a centre-right minority government in coalition with the Progress Party and others – a governance context that required careful balance between economic liberalism and Norway's strong welfare state traditions in the management of the pandemic (Gjerde 2021).

Historical resonance – Norwegian aid tradition:

Norway's national identity includes a strong humanitarian tradition – one of the world's highest per-capita aid budgets, and a central role in global peace processes (Bjørkdahl 2024). “Norway continues our unwavering commitment to the UN and multilateral solutions ... We stand firm in our conviction that global problems need global solutions” (26 09 20) activates this national narrative of Norway as a good global citizen, as a counterpoint to populist nationalist self-interest.

Identity and power – explicit gender analysis:

“Women are bearing the brunt of the pandemic in many societies – women are on the front line as health care workers” and “We must invest in girls and women. In their education, in their health, and in their participation in the labour market. Increasing their opportunities and leveling the playing field pays great economic dividends” (both 26 09 20) combines several DHA aspects: positive self- and other-presentation (girls and women as assets; equality as good policy) realised through nomination, predication and carefully chosen legitimation topoi (Reisigl 2017). Also, by discussing gender inequality in the context of the pandemic in her UNGA address, Solberg expresses strong Norwegian norms and values (Skjelsbæk and Tryggestad 2020).

Salient example: “We must ensure that human rights, democracy, the rule of law, and gender equality are at the core of our response and recovery efforts. Only then can we hope not only to soften the fall, but to build back better” (26 09 20, also addressed in UNGA speech on 22 09 21) contains the Nordic commitment to (and leadership regarding) global norms, values and rights, a

moral obligation (“must ensure”). This is a post-COVID development and transformation narrative that goes beyond a ‘back to normal’ approach. Again, Norway and Solberg present as a multilateralist leader toward a better future.

19. Nicola Sturgeon – First Minister of Scotland

Socio-political context:

Sturgeon's pandemic discourse is produced in a complex institutional context: governing a devolved administration within the UK during a period of Scottish independence debate and, simultaneously, the post-Brexit constitutional renegotiation of Scotland's relationship with both the UK and the EU (Gérard 2024). Every pandemic press conference was implicitly a comparison with Westminster – Scottish competence was being demonstrated not merely for public health but also for constitutional self-government purposes (Thiers and Wehner 2023; Macfarlane 2024).

Historical resonance – Scottish institutional distinctiveness:

Juxtapositions with the UK, especially England (Bone 2023), prove a distinct institutional context within which Sturgeon's procedural discourse operates. “Scotland today, like countries across the world, faces an unprecedented challenge – addressing it will involve the biggest peace time mission our nation has undertaken in our lifetimes” (17 03 20), not only says that Scottish institutions are capable of independent governance, but that it stands and acts as equal with those ‘countries across the world’.

Identity construction:

A distinctive feature of Sturgeon's identity strategy is epistemic transparency – the willingness to name uncertainty, limitation, and complexity in a public health context where political leaders more typically perform certainty. Incidentally, this kind of epistemic transparency if not humility (on epistemic humility and COVID, see Mazzocchi 2021) contrasts nicely with Boris Johnson being characterised as ‘epistemically insouciant’ (Cassam 2018). “There is still significant uncertainty about the impact of the new variant on transmission amongst young people” and “this new variant has just learned to run much faster and has most definitely picked up pace in the past couple of weeks” (both 04 01 21) show a leader who creates credibility through accountability – I will tell you what I don't know, and that is why you should trust what I do claim to know.

Salient metamodern element:

Delivering the good with the bad – “In the past few weeks, there have been two significant game changers in our fight against this virus – one, the approval of vaccines is hugely positive, but the other, the new, faster-spreading variant of the virus is a massive blow” (04 01 21) at a time when everybody craves to hear good news is a metamodern oscillation between hope (the vaccine is coming) and realism (the virus evolves and has dangerous variants). This oscillation is the precursor to Frederiksen’s ‘dance with corona’.

20. Tsai Ing-wen – President of Taiwan

Socio-political context:

Tsai's speeches must be understood in the context of strict institutional geopolitical limits. Taiwan is excluded from the World Health Organization by Chinese diplomatic pressure and is not recognised as a sovereign state by most UN members (Herington and Lee 2014; Chen 2018). Every speech about the pandemic is simultaneously a speech about Taiwan's right to exist institutionally (Brown 2020). The pandemic became, for Tsai, an opportunity to demonstrate through performance what diplomatic recognition had denied through procedure (Sung 2020).

Historical resonance – the orphan-to-island-of-resilience journey:

“Taiwan today is no longer seen as the orphan of Asia, but as an Island of Resilience that can face challenges with courage” (10 10 21) seen through a CMA/DHA lens has two aspects: orphan of Asia is identity construction through historical pathos: Taiwan as a nation that has been abandoned by the international community, denied membership in the organisations that give modern statehood its substance. The journey from orphan to Island of Resilience is a narrative arc of self-made dignity – a nation that has survived its marginalisation and transcended it through democratic governance and verifiable success in dealing with the pandemic. This extends to international leadership: “We want everyone to not only see that ‘Taiwan can help’ but that ‘Taiwan is helping’” (01 04 2020, also 19 03 20 and 10 10 21).

Identity and power:

“Taiwan standing on democracy's first line of defense” and “everyone living in Taiwan is a part of this community in which we share a common destiny. Together, we have passed one test after another” (both 10 10 21) are stark reminders of the island’s fragile political status. DHA argumentation analysis (Reisigl 2014) reveals its three simultaneous functions: (1) it claims Taiwan's pandemic success as a proof of democratic governance; (2) it positions Taiwan geopolitically as a

frontline state defending values, not merely managing a health crisis; (3) it argues implicitly for Taiwan's inclusion in international organisations as a matter of global democratic self-defence.

Salient example: “The Taiwanese people have a beautiful tradition of never forgetting how others have helped us. The face masks we sent out across the world last year showed that Taiwan can help. And the vaccines they sent us this year are vaccines of friendship. This is a virtuous cycle, and I can assure the international community that Taiwan will continue to contribute to the world and expand this virtuous cycle further afield”: mutual help, friendship and international collaboration as a virtuous cycle present geopolitical calculation as empathetic acts. Therefore, as an act of reciprocity, Taiwan's international engagement should be met with diplomatic recognition.

Gender similarities and differences

The integrated CMA+DHA analysis indicates that the most important gender distinction in this corpus is not the choice of metaphors for strategic persuasive purposes, but in how those metaphors contribute to the performance of epistemic authority and/or humility of the speaker (Boschele 2020; Mazzocchi 2021). Male leaders invoke mythology more frequently but not exclusively: Macron cites Gaullist tradition (16 03 20); Morrison activates Anzac mythology (06 04 21); Modi deploys Hindu civilisational narrative (29 03 20); Johnson cites Churchill (23 03 20); Hasina invokes the spirit of her father (26 09 20)

DHA's intertextual analysis (Wodak 2001) identifies these as historical citation strategies – the leader derives authority by positioning themselves within an existing narrative of national heroism. These mythologies are predominantly masculine: the warrior, the commander, the civilisational hero.

Female leaders, on the other hand, appear more likely to demonstrate institutional competence and transparency, including admissions not to know, or not to know yet (see for example praise for Arden's admission not to know in Tyner and Jalalzai 2022): Marin's “controlled dismantling” (28 04 21), Merkel's “thin ice” (23 04 20) and Sturgeon's “the position is fragile” (04 01 21) are all authority claims grounded in what the leader knows and does, not in what historical figure she resembles. Again, this is not gender-specific: Macron's “All evidence points to the fact that we were not prepared enough” (13 04 20) is also epistemic humility in practice (Mazzocchi 2021; Parviainen et al. 2021).

Female leaders appear to use the Care & Support, Inequality, and Empathy frames more regularly. Male leaders appear to use pathos rhetorically (Charteris-Black 2018, pp.16-18) through fear and pride regularly (the invisible killer, the national emergency, we will prevail); female leaders more

often show acknowledgement and solidarity (Wilmès's "mental fatigue" (17 09 20), Frederiksen's "ancient vulnerability" (01 01 21), Ardern's "we are all in the same boat" (17 08 20).

Similarities across gender are also analytically important. Both Ing-wen and Macron deploy the highest War frame counts in the corpus (for Macron, see Seixas 2020; for Ing-wen, see Chang et al. 2023)– demonstrating that female leaders in contexts of geopolitical contestation (Taiwan) will reach for martial metaphors just as male leaders in contexts of constitutional crisis (France). Löfven's Community dominance mirrors Frederiksen's, demonstrating that Nordic social-democratic governance culture and communication style (Johansson et al. 2023) overrides gender as the dominant predictor of community-focused discourse.

National, regional and cultural insights

Leaders of traditional European liberal democracies (Merkel, Marin, Löfven, Frederiksen, Wilmès, Sturgeon) are the most likely to use Control, Community, and Care frames, with relatively restrained War metaphors. This reflects both the institutional tradition of strong welfare states and – especially in the case of Germany – a historical and constitutional reluctance to activate emergency executive authority.

Leaders from countries that could be characterised as 'Anglo-settler societies' (Schayegh 2024) – Morrison, Johnson, Trudeau, Ardern – show higher War frame counts combined with distinctive national mythological sources (Anzac, Churchill, Kiwi vernacular). The War frame in these societies is a bipartisan rhetorical tradition rather than an ideological marker (for insight into diverse and varied use of War framing see Seixas 2020) – both left (Ardern, Trudeau) and right (Morrison, Johnson) deploy it with equal frequency, differing primarily in the identity of the combatant (state vs. citizens).

Global South leaders (Modi, Ramaphosa, Hasina, Bolsonaro, Áñez) appear to have the most diverse metaphorical profiles, reflecting the widest range of domestic political contexts. What they share is a higher frequency of civilisational identity claims and inequality framing (see sociopolitical perspectives re Global South in Gonçalves 2021)– leaders who must address both domestic audiences about crisis management and international audiences about structural injustice and unequal access to resources (Chowdhury and Jomo 2020; Gleeson et al. 2023).

Taiwan, Germany and Sweden present as outliers: Ing-wen via a geopolitical democracy narrative; Merkel through her scientist-chancellor epistemology; Löfven through his distinct welfare-state solidarism that exceeds other Northern European leaders' framing.

Research questions addressed

RQ 3: Is gender a factor in the preference of certain semantic clusters and use of metaphors?

Yes, gender is a factor, however the qualitative metaphor analysis reveals that gender distinction is not simply evident in the choice of metaphors, but how those metaphors function for example to perform epistemic authority or humility (add more?)

RQ 4: Do certain leadership types and gender go together in the preference of certain semantic clusters and use of metaphors?

Data appears more conclusive regarding gender, than leadership. However some patterns emerge: a cluster of leaders prominently use war frames and hyperbolic language to assert authority and spectacularize the crisis. They lean male and align with the 'postmodern populist' archetype. Another cluster appear to favour systematic control and navigational metaphors to demonstrate competence and procedural management. They align with the 'modern technocrat' archetype. A third cluster, who lean female, often use care, community and shared responsibility metaphors to build solidarity. They align with the metamodern empath archetype.

RQ 5: Do modern and postmodern conceptions of knowledge show gender prevalence?

Modern technocratic conceptions of knowledge and their respective leadership styles appear to be largely evenly distributed among female and male leaders. Postmodern populist conceptions of knowledge and their corresponding leadership styles lean male.

RQ 6: Do metamodern conceptions of knowledge show gender prevalence?

Metamodern empathetic conceptions of knowledge and their respective leadership types lean female and show stereotypically communal discursive characteristics.

4.6 COVID-19 outcomes

As discussed in section 2.5, modern technocratic leaders whose decision-making is rational, data-led and following systematic processes are assumed to do well in crises where risks can be calculated, and uncertainty gradually reduced. Metamodern empathetic leaders whose decision-making is agnostic, compassionate, flexible and collaborative are assumed to do well in crises where risks are difficult to assess and uncertainty is inherent rather than reducible. Postmodern populist leaders are assumed to do worse than either technocrats, or empaths in either situation. The comparative assessment of COVID-19 related health and economic outcomes over time in the 20 countries led by the individuals included in this study allows the testing of these assumptions.

Figure 77 and table 24 show cumulative COVID-19 deaths per million people, as collected and reported by Our World in Data (OWID 2023). Table 25 shows economic indicators (GDP % increase/decrease, and unemployment figures in %, as per IMF World Economic Outlook Database). Both mortality and economic data can only be used as ‘loose indicators’ of a country's relative performance during and after the pandemic. 2022 and 2023 economic indicators, for example, have been affected by the impact of the war on Ukraine on the global economy. Regarding mortality rates, it must be noted that COVID-19 death attribution protocols and motivations for reporting vary across countries (Ioannidis et al. 2023). Furthermore, following the method of inquiry in this study – zetetic abduction – it is essential to note that speech (the focal point of the empirical analysis in this study) does not cause the material effects of a pandemic. Rather, speech can impact public mood and attitude, thus shaping public trust and compliance – and that will have material consequences such as health and economic outcomes.

Irrespective of those important caveats, for the purposes of the argument here, the use of heterogeneous data seems justified and some conclusions can be drawn. For example, cumulative death tolls by the end of 2020, end of 2021 and end of 2023 indicate early, later and overall performance by countries (and by implication, their leaders): by the end of 2020, European countries bore the brunt of the pandemic as it had hit in densely populated areas of Europe first after arriving there from China. Belgium and the UK had the highest death tolls, followed by the UK, Spain and France, with Brazil in fifth place. By the end of 2021, however, Brazil recorded the highest cumulative death toll per million, followed by the UK. End of 2023, the UK had the highest overall death toll per million, followed by Brazil, Belgium, France, Spain, Austria, Sweden, Germany, Finland and Bolivia.

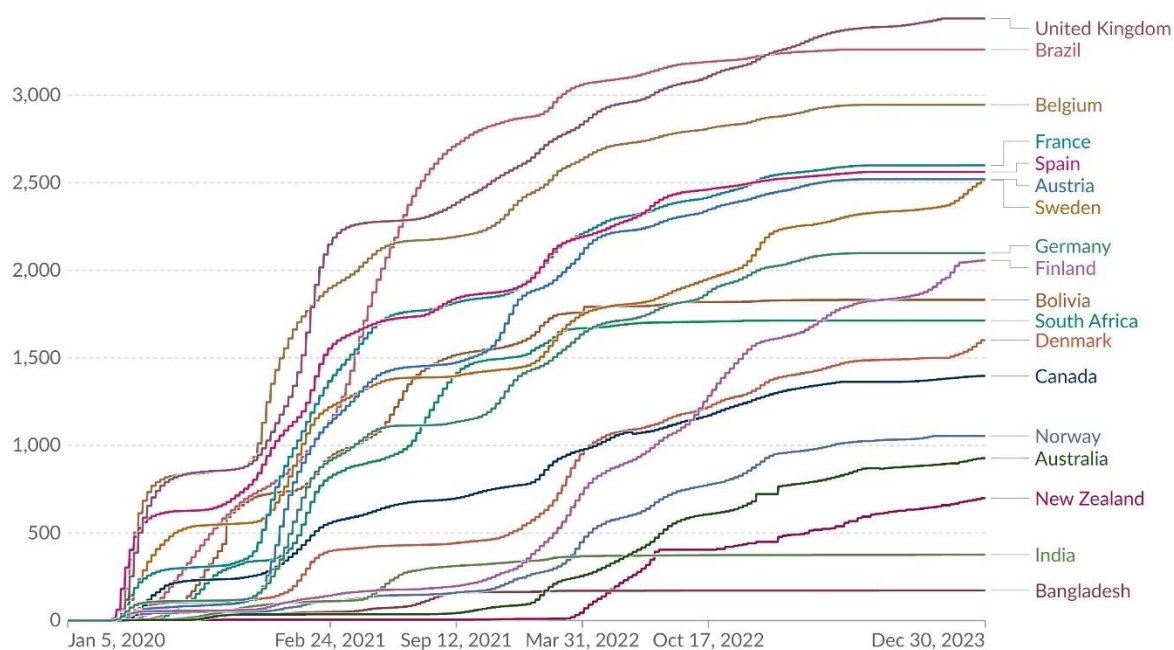
Australia, Bangladesh, Canada, Denmark, India, New Zealand, Norway, Taiwan consistently reported relatively low cumulative death tolls, for a variety of reasons: countries with tight cultures have

higher rule-adherence (Bangladesh, India, Taiwan); island nations (Australia, New Zealand) and those with vast territory and a spread-out citizenry (Canada, Norway) have a lower risk of infection and spread; wealthy nations with better health infrastructure will find it easier to cope with a pandemic.

Cumulative confirmed COVID-19 deaths per million people

Our World
in Data

Due to varying protocols and challenges in the attribution of the cause of death, the number of confirmed deaths may not accurately represent the true number of deaths caused by COVID-19.



Data source: WHO COVID-19 Dashboard

CC BY

Figure 75: COVID-19 deaths per million 2020 to 2023 (from WHO COVID-19 dashboard)

Table 24 :Cumulative COVID-19 deaths per million at four points in time, May 2020 to December 2023 (from Our World In Data Coronavirus dashboard)

Country	Cumulative confirmed COVID-19 deaths per million people (Our World in Data)			
	1st May 2020	31st December 2020	31st December 2021	31st December 2023
Australia	3.25	35.15	90.8	927.25
Austria	57.72	788.51	1855.45	2520.69
Bangladesh	0.85	43.53	163.91	172.19
Belgium	613.51	1662.16	2418.68	2946.06
Bolivia	3.6	743.04	1597.66	1831.22
Brazil	17.05	884.7	2872.05	3260.9
Canada	59.78	383.16	776.27	1396.9
Denmark	71.06	197.03	543.5	1601.09
Finland	50.9	111.54	331.36	2056.58
France	219.07	983.09	1921.27	2600.15
Germany	97.75	563.86	1411.69	2098.83
India	0.58	104.17	338.48	376.34
New Zealand	3.47	4.82	9.64	698.71
Norway	35.52	77.47	245.66	1054.78
Scotland	277	825	1804	n/a
South Africa	1.44	442.8	1515.56	1712.95
Spain	528.74	1134.68	1919.21	2562.14
Sweden	235.37	883.75	1450.52	2513.61
Taiwan**	n/a	n/a	37 (est.)	808 (est.)
UK	501.56	1340.19	2609.42	3438.24
Data source: https://ourworldindata.org/coronavirus				
*Taiwan data based on https://www.worldometers.info/coronavirus/country/taiwan/				

GDP year-on-year changes depend on a number of factors, including pre-COVID-19 starting points (that is, how strong was the respective economy by the end of 2019), extent and duration of lockdowns, susceptibility to global impacts (imports, exports, supply chain). At the end of 2020, Bangladesh, Norway, New Zealand and Australia showed the most positive / least negative GDP changes. Countries with particularly negative effects in 2020 were more likely to show positive effects in 2021: both Scotland (20th out of 20 in 2020) and the UK overall (18th out of 20 in 2020) showed comparatively strong percentage growth in 2021 (Scotland first, UK overall third). Only two out of the 20 analysed countries managed to retain growth in 2020: Bangladesh and Taiwan. Both continued with positive growth figures in 2021. In 2022 and 2023, India and Bangladesh showed the strongest growth. Employment figures moved fairly consistently across all tracked countries, with Germany showing the lowest unemployment throughout, and Norway and Taiwan in second and third place.

Overall, because of the range of impacting factors, it is impossible to systematically link economic performance to COVID-19 leadership and discursive performance during that time. With regard to

cumulative death rates, Brazil and the UK stand out – two countries led by populist leaders with some similarities in their discursive and practical performance (Waylen 2021; Gramacho et al. 2022).

Table 25: GDP year-on-year % change and unemployment in %, IMF data 2023 (from IMF World Economic Outlook Database)

Country	GDP year-on-year % change				Unemployment in % of labour force			
	2020	2021	2022	2023	2020	2021	2022	2023
Australia	-1.83	5.21	3.69	1.78	6.50	5.10	3.70	3.73
Austria	-6.45	4.56	4.85	0.10	5.48	6.18	4.77	5.11
Bangladesh*	3.45	6.94	7.10	6.03	5.30	5.20	4.30	4.20
Belgium	-5.36	6.29	3.25	1.00	5.58	6.27	5.56	5.66
Bolivia	-8.74	6.11	3.48	1.80	8.34	6.94	4.74	4.90
Brazil	-3.28	4.99	2.90	3.08	13.78	13.20	9.25	8.33
Canada	-5.07	5.01	3.44	1.29	9.73	7.51	5.28	5.53
Denmark	-2.42	6.85	2.73	1.70	5.63	5.08	4.45	5.00
Finland	-2.36	3.17	1.61	-0.13	7.77	7.62	6.77	7.30
France	-7.68	6.37	2.52	0.95	8.03	7.86	7.32	7.36
Germany	-3.83	3.17	1.80	-0.54	3.63	3.58	3.07	3.26
India**	-5.83	9.05	7.24	6.33	8.80	7.70	7.60	8.00
New Zealand	-1.46	6.06	2.65	1.12	4.60	3.78	3.30	3.80
Norway	-1.28	3.90	3.28	2.28	4.60	4.41	3.25	3.60
Scotland***	-12.00	9.20	5.90	0.70	4.48	4.25	3.33	4.08
South Africa	-5.96	4.70	1.91	0.93	29.18	34.30	33.50	32.80
Spain	-11.17	6.40	5.77	2.45	15.53	14.79	12.92	11.84
Sweden	-2.17	6.15	2.83	-0.69	8.54	8.80	7.47	7.55
Taiwan	3.39	6.53	2.35	0.84	3.85	3.95	3.66	3.66
UK	-11.03	7.60	4.10	0.48	4.55	4.48	3.70	4.20
Data source: International Monetary Fund, World Economic Outlook Database, October 2023								
*Bangladesh unemployment rate: https://tradingeconomics.com/bangladesh/unemployment-rate								
**India unemployment rate: www.cmie.com (Centre for Monitoring Indian Economy)								
***Scotland data (separated from UK data) provided by www.gov.scot (GDP) and www.statista.com (unemployment)								

Overall, while economic data showed some interesting trends – India and Bangladesh with strong growth, Germany maintaining its low unemployment rate, Norway and Taiwan showing consistently good performance - it is not possible to systematically link a country's economic performance to a leader's specific COVID-19 leadership style or discursive performance since in this syndemic there are too many compounding factors at play.

RQ 7: Are metamodern conceptions of knowledge more effective in dealing with grand challenges?

Causal links are difficult to isolate due to confounding variables such as geography, pre-existing infrastructure, cultural looseness/tightness etc. However, the data indicates that metamodern conceptions of knowledge are more effective in dealing with grand challenges: characteristics of successful leaders during the COVID-19 pandemic—associated with lower infection rates, lower excess mortality, slower economic decline, and higher public compliance—included intellectual humility, an ability to manage unmanageable uncertainty, and open, transparent communication.

These align with traits of metamodern political leadership as outlined in section 2.2.3 (see p. 35 and 36 for references to Pipere and Martinsone, and Surwillo).

[4.7 Summary](#)

This study used a CADS approach to explore research questions pertaining to the impact of gender and three distinct leadership archetypes (technocratic, populist and empathetic, as derived from the literature review) in discursive characteristics in COVID-19 related speeches. Building upon the quantitative corpus analysis, the study deepened this investigation by applying a three-stage qualitative protocol for metaphor analysis, combining Metaphor Identification Procedure (MIP) at the micro-level, Critical Metaphor Analysis (CMA) at the meso-level, and the Discourse-Historical Approach (DHA) at the macro-level.

The four research questions explored through quantitative and qualitative analysis are:

RQ 1: Is gender a factor in the preference of certain word groups?

RQ 2: Do certain leadership types and gender go together in the preference of certain word groups?

RQ 3: Is gender a factor in the preference of certain semantic clusters?

RQ 4: Do certain leadership types and gender go together in the preference of certain semantic clusters?

Specific findings are discussed in the final chapter. Those findings are also explored in relation to three additional research questions:

RQ 5: Do modern and postmodern conceptions of knowledge show gender prevalence?

RQ 6: Do metamodern conceptions of knowledge show gender prevalence?

RQ 7: Are metamodern conceptions of knowledge more effective in dealing with grand challenges?

Overall, evidence on all levels of analysis – from corpus-wide syntactical views to word group and semantic frame comparisons on gender as well as individual leader level – suggest distinguishable discursive characteristics which in the data set lean male or female in some cases. To a limited extent, these gender-specific characteristics can also be tied to the three leadership archetypes. The addition of the qualitative exploration of metaphors shows political leaders to construct distinct social realities while they manage radical uncertainty through their discursive choices. The integration of MIP, CMA, and DHA provided insights into the how and why behind a leader's political messaging. This reflects not only individual leadership styles but also socio-political, institutional,

and historical contexts—such as Nordic welfare traditions, a world war-shaped history, post-apartheid ethics, or post-colonial identities.

The analysis pointed to some unique metamodern discursive strategies, where leaders oscillated between realism and moral idealism, framing the pandemic not as a binary war to be won, but as an ongoing relational "dance" (Frederiksen), a transformative "fork in the road" (Arden), or with epistemic transparency (Merkel, Marin, Sturgeon).

However, characteristics and archetypes also tie to discursive characteristics in a non-gender specific way: evidently, not every populist is male, and not every empath is female. This is consistent with a social constructivist concept of role performance, including gender. The following and final chapter explores this further – in particular regarding the metamodern leadership archetype.

5. Conclusion, recommendations, outlook

The pandemic caused two crises, in biosecurity and in the economy. The state was forced to tackle both; but subduing one inevitably exacerbated the other. Emerging from the impossible task of handling two conflicting crises is a new form of state, the state to come. (Boukalas 2023, p.I)

This study looked from the past – the modern Spanish Flu pandemic of 1918/9 – to the present – the COVID-19 pandemic, which has been called modern, postmodern and metamodern at various times – to attempt an outlook to, if not prediction of, the possibly foreseeable future. This time window from the early 20th century to today provides a perspective of evolving cultures, mindsets, grand narratives with characteristic, distinct cultural codes – the “system of values, symbols, meaning and behaviors that we express through words, actions, habits, rituals” (Andersen 2019, p.53). These are of interest not least because it appears to many observers that little has changed in the more than 100 years between the Spanish Flu and COVID-19 when it comes to public discourse and political decision-making. This study focused on discourse, on the way in which political leaders communicated through public speeches during the height of the pandemic in 2020 and 2021. In mapping out the scope of the study, three main areas were considered:

- First, the way in which we make sense of the world through conceptions of knowledge (which evolve over time);
- second, the way in which evolving conceptions of knowledge shape how political leaders understand the grand challenges they are faced with;
- third, the way in which political leaders frame if not discursively construct those challenges in public speeches.

These conceptions of knowledge emerge from, are shaped by and shape socio-cultural eras. This study focused on the modern era, the postmodern era and the (pending) metamodern era, and identified and tested leadership archetypes which are not exclusive to, but seem to align with specific eras:

- the modern era (grounded in data and objective facts, believing in the logic of cause and effect) with the technocratic archetype – in tendency relying on scientific and expert evidence, seeking international collaboration, pragmatic and adaptable and communicating clearly and factually;

- the postmodern era (grounded in subjectivity, shared beliefs, feeling and values) with the populist archetype – in tendency anti-elite, focusing on national interest and often promoting chauvinism, favouring the health of the economy over the health of the population, oversimplifying facts and disregarding science;
- the metamodern era (grounded in deliberative, reflective collaboration, intellectual humility, and oscillation between viewpoints) with the empathetic archetype – communicating transparently with emotional intelligence and compassion, prioritising public health over economic concerns, fostering collaboration and shared responsibilities at every level.

These archetypes were explored within the theoretical contexts of political leadership, the intersection of leadership and gender, and leadership faced with the fundamentally unmanageable uncertainty inherent in grand challenges (specifically, COVID-19). To talk of a *metamodern era* is somewhat premature – as outlined in section 2.2.3, metamodernism is presently a way of conceptualising and theorising rather than a fully-fledged conception of knowledge or cultural code. Also, conceptually distinct categories and traits become ‘contextually contingent amalgams’ in reality, and metamodernity will always carry aspects of postmodernity, modernity and even pre-modernity. Nevertheless, it is based on epistemological positions and principles that deserve broader and deeper consideration in the social sciences (Pipere and Mārtinsone 2022, 2023), especially as we appear to find ourselves increasingly navigating compounding wicked problems in the polycrisis (Adi and Stoeckle 2025; Huntjens et al. 2025).

When considering the challenges arising from societal grand challenges, established modern and postmodern leadership styles have frequently proven inadequate due to their structural inability to cope with the *unmanageable risk* characteristics of wicked problems. The COVID-19 pandemic provided plenty of evidence around the globe for this systemic inadequacy (see section 2.5). Characteristics of the seemingly most successful leaders (depending on the applied criteria such as time frame, infrastructure, socio-cultural conditions etc) during the COVID-19 pandemic – with success measures including lower infection rates, excess mortality, slower and/or smaller economic decline, faster economic recovery, but also more public goodwill and compliance due to more effective communication, transparent policy and decision-making – included the display of intellectual humility, being comfortable with uncertainty, and an engaging, open and transparent style of communication. All of these can be seen as core traits of (though not exclusive to) a metamodern empathetic leadership style (see section 2.5.4). During the COVID-19 pandemic, it became apparent not only that female leaders often demonstrated these traits (though many male leaders did, too), but also that female leaders were frequently (though not always and not under any circumstance) more effective when dealing with COVID-related challenges. Therefore, the extensive

literature review and subsequent empirical analysis arrived at three conclusions and three main insights regarding gaps in academic knowledge:

Conclusions:

- modern, as well as postmodern conceptions of knowledge appear to be more prevalent in male leaders;
- metamodern conceptions of knowledge appear to be more prevalent in female leaders;
- metamodern conceptions of knowledge appear to lead to decision-making that proves more effective in dealing with grand challenges.

Gaps in academic knowledge:

- the relationship between the performance of leadership, grand challenges and their link to grand narratives is underexplored;
- metamodernism as an emerging grand narrative is a new lens through which to assess the performance of leadership, as well as its relation to gender, vis a vis grand challenges;
- there is as yet scarce systematic evidence of metamodern leadership practically addressing grand challenges.

The methodological approach chosen to conduct research that can address these gaps in knowledge is CADS (corpus-assisted discourse studies), a combination of qualitative and quantitative methods and processes to derive insights from the analysis of large amounts of text – in this case, speeches by ten female and male political leaders who at the time of speaking were leaders of their countries. The countries included a mix of more or less tight collectivist cultures to more or less loose individualist cultures, and the leaders included a mix of more or less agentic (that is, controlling, confident, assertive, independent, stereotypically male) to more or less communal (that is, collaborative, compassionate, humble, open, listening, stereotypically female) leadership types.

[5.1 Findings and conclusion](#)

The quantitative and qualitative discourse-analytical exploration of these diverse leaders' speeches was applied to address a range of research questions which will be discussed further in the next section. These research questions focus on language characteristics that can be tested quantitatively and qualitatively with a CADS approach and that can be linked to the three leadership archetypes outlined in sections 2.5.2 to 2.5.4 – the technocrat, the populist, the empath:

RQ 1: Is gender a factor in the preference of certain word groups?

RQ 2: Do certain leadership types and gender go together in the preference of certain word groups?

RQ 3: Is gender a factor in the preference of certain semantic clusters and metaphors?

RQ 4: Do certain leadership types and gender go together in the preference of certain semantic clusters and metaphors?

Questions regarding the relationship between conceptions of knowledge, leader gender and grand challenges can be addressed based on the findings related to RQ 1 to RQ 4:

RQ 5: Do modern and postmodern conceptions of knowledge show gender prevalence?

RQ 6: Do metamodern conceptions of knowledge show gender prevalence?

RQ 7: Are metamodern conceptions of knowledge more effective in dealing with grand challenges?

These are also discussed in the next section.

Overall, the female speeches in this study have a slightly shorter sentence length, and a slightly higher reading age, than the male speeches. With regard to reading age, i.e. complexity of delivery, this confirms existing research (Mulac 2006; Božić Lenard 2016).

Word group related findings

RQ 1 asked whether gender was a factor in the preference of certain word groups

RQ 2 asked whether certain leadership types and gender go together in the preference of certain word groups

The analysis of generic word groups—nouns, verbs, adjectives, pronouns, modal verbs, and conjunctive adverbs—provided insights into the leaders' syntactical styles and registers (Charteris-Black 2018).

Noun-rich language is indicative of a comparatively formal, abstract, and information-rich style and is often associated with a technocratic register found in political and administrative discourse (for a more detailed description of the function of word groups, see section 4.4.1.). The differences in noun density found between male and female speeches were very small, with female leaders using nouns slightly more often. The two leaders with the highest ratio of nouns were female – Marin, Finland (loose culture, empathetic with technocratic leaning) and Hasina, Bangladesh (tight culture, technocratic with populist leaning). From this, it can be inferred that noun-rich language is not an

inherently gendered trait. Instead, it appears to be a performative, context-dependent strategy used to portray epistemic authority and institutional competence. This strategy transcends gender binaries as well as a simplistic tight/loose cultural divide.

The use of verbs can be indicative of a more action-oriented, dynamic, and agentic communication style (in particular transitive, actor focused in active rather than passive voice). The differences found between male and female speeches were very small, with male leaders using verbs slightly more often. The two leaders with the highest ratio of verbs were male – Trudeau, Canada (loose culture, empathetic with populist leaning) and Morrison, Australia (loose culture, populist with technocratic leaning). From this, it can be inferred that dynamic verb usage functions less as a gendered trait and more as a flexible and strategically deployed rhetorical tool to project urgency and proactive governance in highly uncertain ‘VUCA’ environments.

Adjective-dense language is usually associated with an affective, emotional, and illustrative style, as well as evaluation and expressing an attitude. The differences found between male and female speeches were very small, with female leaders using adjectives slightly more often. The leader with the highest ratio of adjectives was female – Ing-wen, Taiwan (tight culture, technocratic with empathetic leaning), followed by a number of empathetic and empathetic leaning individuals (Löfven, Merkel, Sánchez, Solberg, Marin). However, the leader with the lowest ratio of adjectives was Trudeau, Canada (loose culture, empathetic with populist leaning). From this, it can be inferred that adjective density is less a ‘biological imperative’ (if adjective, then emotional female), but rather rhetorical choice made by leaders of either gender to represent complex realities, bridge social distances, and navigate the emotional landscapes of their respective socio-political and cultural contexts.

The choice of personal pronouns can be a marker how speakers evoke identity and relationships between groups, as well as responsibility and authority. This is broken out below.

The use of 1st person singular is often regarded as a sign of a speaker’s personal involvement, judgement or indication of responsibility in discourse. The differences found between male and female speeches were very small, with female leaders using 1st person singular slightly more often. The leader with the highest ratio of 1st person singular pronouns was female – Merkel, Germany (somewhat tight culture, technocratic with empathetic leaning), followed by nine populist or populist leaning leaders (six male and three female). From this, it can be inferred that the use of “I” can signify accountability and authentic self-critical leadership as well as performative confidence and control.

Extensive use of 1st person plural is often interpreted as an indicator of community, solidarity, inclusion, as well as shared responsibility. The differences found between male and female speeches were very small, with female leaders using 1st plural slightly more often. The leader with the highest ratio of 1st person plural pronouns was male – Trudeau, Canada (loose culture, empathetic with populist leaning), followed by an alternating order of three female and three male leaders. Assigned leadership was not a discernible factor in the rank order. From this, it can be inferred that the use of “we”, again, is not an essentialist gender trait, but rather a universally accessible discursive strategy. Whether it is used to foster solidarity among and across groups, or drive polarising in-group/out-group dynamics depends on context and the speaker’s intent.

2nd person (singular and plural) is generally seen as an indication of direct address and engagement. The differences found between male and female speeches were salient, with male leaders using 2nd person significantly more often. The leader with the highest ratio of 2nd person pronouns was male – Trudeau, Canada (loose culture, empathetic with populist leaning), followed by three male populist leaders. From this, it can be inferred that direct engagement through the use of “you” serves a dual purpose that a metamodern viewpoint can help bridge: “you” can connect and empower (see Trudeau or Ardern, for example), and it can create distance between state and citizens by shifting the responsibility for overcoming the crisis (through compliance and enduring hardship) to the individual citizen.

3rd person plural use is generally regarded as a sign of distancing, used to construct out-groups, generalised others, or impersonal actors in discourse. The differences found between male and female speeches were salient, with male leaders using 3rd person plural notably more often. The leader with the highest ratio of 3rd person plural pronouns was male – Morrison, Australia (loose culture, populist with technocratic leaning), followed by another male leader – Modi, India (tight culture, populist with empathetic leaning) and a female leader – Áñez, Bolivia (tight culture, populist with empathetic leaning). Looking at 2nd (you, your) and 3rd person (they, their, them) use together, gender differences appear stark since male leaders used these pronouns significantly more often (with the caveat that this is a generalized observation that does not take specific contexts into account). This appears to indicate a distinct discursive strategy of distancing if not othering. It can be interpreted as an attempt to shift responsibility from the state to the citizen or specific groups, often seen with populist leaders (see discussion in Montiel et al. 2021).

Depending on context, the use of modal verbs can indicate degrees of degrees of certainty, possibility, obligation, permission, or recommendation regarding a proposition. The differences found between male and female speeches were relatively small, with female leaders using modal

verbs more often. The leader with the highest ratio of modal verbs was male – Löfven, Sweden (loose culture, technocrat with empathetic leaning), followed by another male leader – Johnson, UK (loose culture, populist with technocratic leaning). Male and female empathetic or empathetic leaning leaders are not conspicuous in the rank order, but it is notable that populist or populist leaning leaders cluster toward the lower end of the ranking. From this, it can be inferred that the use of modality in the analysed corpus leans toward engagement with (radical) uncertainty and balancing epistemic humility with political authority and decision-making.

Conjunctive adverb use is often regarded as a marker of coherence and consideration of argument. The differences found between male and female speeches were significant, with female leaders using conjunctive adverbs significantly more often. However, the leader with the highest ratio of conjunctive adverbs is male – Kurz, Austria (tight culture, populist with empathetic leaning), followed by four female leaders (Merkel, Germany, somewhat tight culture, technocratic with empathetic leaning; Sturgeon, Scotland, somewhat loose culture, empathetic with populist leaning; Marin, Finland, loose culture, empathetic with technocratic leaning; Wilmès, Belgium, somewhat tight culture, technocratic with empathetic leaning). In an environment of radical uncertainty, the frequent use of conjunctive adverbs indicates a cautious and deliberative approach. It reflects a willingness to see things from different angles—a sign of intellectual humility.

Overall findings:

RQ 1: Gender shows up to be a robust factor in the use of conjunctive adverbs in particular, but also in the use of modal verbs. While the data is less distinct, female leaders also use more adjectives, than male leaders, and male leaders use more verbs. There is almost no difference in the use of nouns.

Gender is also a factor in the use of specific pronouns. Female leaders use 1st person singular and plural slightly more often. The differences are more distinct on 2nd person singular and plural, and 3rd person plural, where the data leans notably toward male use.

These results are largely in line with existing research on gendered language use in political speeches, such as *gender-linked language effects* (Mulac 2006; Mulac et al. 2013) and *hedging* (Sommerlund 2017; Schmauss and Kilian 2023).

RQ 2: There is some evidence that gender and leadership type go together in the preference of certain word groups. Overall, however, gender appears to be a stronger factor. There is some evidence that agentic male leaders from loose cultures tend to use more verbs. Empathetic leaders of both genders use more adjectives. Male populist leaders tend to use 1st person singular pronouns more often, and 3rd person plural use seems most conspicuous among populist leaders. There is also some evidence that technocratic leaders tend to use more conjunctive adverbs. Th

Most of these effects are moderate at best. It is important to bear in mind that none of these effects occur in isolation, and word groups have been analysed generically rather than in specific contexts. Also, discourse is not only context-dependent, but political speeches are often prepared by speech writers who will factor gender, ideology, audience expectations etc. into their drafts. Nevertheless, the data has shown some gender effects, and some (though weaker) leadership type effects.

Semantic clusters, metaphors and framing related findings

RQ 3 asked whether gender was a factor in the preference of certain semantic clusters and the use of metaphorical language

RQ 4 asked whether certain leadership types and gender go together in the preference of certain semantic clusters and the use of metaphorical language

While the quantitative CADS analysis revealed what semantic frames leaders used and appeared to favour, the three-stage qualitative metaphor analysis (MIP, CMA, DHA) shed light on how and why these frames were used to explain situations, legitimise authority and generally construct political reality. For examples of usage in context, see section 4.5.2 and MIP analysis tables in Appendix.

War as a semantic cluster and metaphor was plausibly expected (for use of 'plausibly expected' in social-scientific work, see Snowden and Graaf 2025, p.8) to be more prominent among male and populist leaders. The differences found between female and male speeches were notable, with male leaders using this framing more often (though perhaps less than expected). However, the two leaders with the highest ratio of war frame-related words were female – Áñez, Bolivia (tight culture, populist with empathetic leaning), and Ing-wen, Taiwan (tight culture, technocrat with empathetic leaning), followed by two male populist leaders with empathetic leaning – Modi, India (tight culture) and Bolsonaro, Brazil (loose culture). War as a frame thus appears to lean male and populist. It also seems to be more prevalent in tight cultures. The use of frames cannot be reduced down to distinct and easy to isolate factors, but needs to be understood in context. Findings, as stated at various points in this study, are therefore at best directional. However, there is supporting evidence that

“the frequency and aggression of these [war] analogies seems to be stronger with the men” (Dada et al. 2021, p.7).

The qualitative analysis revealed clear differences in how male and female leaders used war metaphors. Male leaders frequently relied on historical and mythological references to create legitimacy through war narratives (for example, Macron invoking de Gaulle, Johnson invoking Churchill, and Morrison leaning on Anzac mythology). Conversely, female leaders often deployed war metaphors very strategically, for example to frame an existential fight for international recognition (Ing-wen), or to highlight a Catholic patriotic narrative through appeals to fight for the integrity of the traditional Bolivian family (Áñez).

Family as a semantic cluster and metaphor was plausibly expected to be more prominent among female and empathetic leaders. The differences found between female and male speeches were large, with female leaders using this framing more often. One female leader stood out with a score that was significantly above everyone else: Áñez, Bolivia (tight culture, populist with empathetic leaning), followed by two further non-Western leaders: Modi, Brazil (tight culture, populist with empathetic leaning) and Hasina, Bangladesh (tight culture, technocrat with populist leaning). Unsurprisingly, the “Family” frame appears more prevalent in tight cultures.

The qualitative analysis revealed differences in how male and female leaders used war metaphors, however these differences seem to be due to ideology and cultural context rather than ‘gendered’ linguistic tendencies. Áñez appeared to metaphorically ‘weaponize’ the concept of Bolivian families in a way that implicitly excluded non-traditional families and households. Modi and Hasina are two other leaders (from tight collectivist, Southern hemisphere cultures) leaning strongly on family metaphors to foster compliance and solidarity.

Community as a semantic cluster and metaphor was plausibly expected to be more prominent among female and empathetic leaders. The differences found between female and male speeches were notable, with male leaders actually using this framing somewhat more often. Modi and Ing-wen, two non-Western leaders from tight cultures were clearly ahead of the other leaders. As expected, the “Community” frame shows similar tight culture prevalence as the “Family” frame.

Female leaders used the specific lemma "community" almost twice as often as their male counterparts and frequently used metaphors emphasizing shared burdens and responsibilities, such as Wilmès evoking a "human chain," Frederiksen noting how the burden "rests on the shoulders of the Danes" and Solberg describing standing "shoulder to shoulder". Qualitative metaphor analysis

further indicates that gender is certainly not the only factor: for example, regional and institutional traditions, such as the Nordic social-democratic governance culture might shared by both male (Löfven) and female (Frederiksen, Solberg, Marin) leaders, play a central role in constructing a social and political reality based on community metaphors.

Natural Force as a semantic cluster and metaphor was plausibly expected to be more prominent among male and empathetic leaders. The differences found between female and male speeches were large, with male leaders using this framing more often. Five leaders (four male, one female) used this cluster significantly more often than the others: Trudeau, Canada (loose culture, empathetic with populist leaning), Ramaphosa, South Africa (somewhat loose culture, empathetic with technocratic leaning), Ing-wen, Taiwan (tight culture, technocrat with empathetic leaning), Bolsonaro, Brazil (loose culture, populist with empathetic leaning) and Johnson, UK (loose culture, populist with technocratic leaning). The frame “Natural Force” leans male and empathetic, and seems more prevalent in loose cultures.

Qualitative analysis shows that male leaders in the corpus favour specific environmental metaphors. For example, they use the wave metaphor more than twice as often as female leaders, and they use the fire imagery almost exclusively. While there are notable female exceptions such as Ing-wen and Ardern who also rely on wave imagery, the metaphorical framing of the pandemic as a volatile, overwhelming natural phenomenon remains a predominately male rhetorical strategy.

Crisis as a semantic cluster and metaphor was plausibly expected to be more prominent among female and empathetic or populist leaders. The differences found between female and male speeches were notable, with male leaders using this framing clearly more often. Two leaders (one female, one male) used this framing significantly more often than the others: Marin, Finland (loose culture, empathetic with technocratic leaning), and Kurz, Austria (tight culture, populist with technocratic leaning). Leadership type and culture are inconclusive factors regarding this frame, however it is notable that these two were by far the youngest leaders in the sample.

Qualitatively, this appears to align with a tendency among male leaders—particularly those matching the postmodern populist archetype—to use hyperbolic language to dramatize the pandemic and thus assert authority. However, the presence of a salient female ‘outlier’ in Marin proves that female leaders will also actively deploy this rhetoric to acknowledge a severe problem and signal a firm focused commitment to overcoming it.

Control as a semantic cluster and metaphor was plausibly expected to be more prominent among male and technocratic leaders. The differences found between female and male speeches were large, with female leaders using this framing clearly more often (somewhat unexpectedly). A female leader – Marin, Finland (loose culture, empathetic with technocratic leaning) clearly stood out, followed by Ramaphosa and six female leaders (Sturgeon, Ardern, Solberg, Frederiksen, Merkel, Wilmès). Overall in the corpus, this frame appears to be preferred by female empathetic leaders in loose and tight cultures.

Qualitative metaphor analysis reveals that rather than expressing authoritarian dominance, female leaders use control imagery to ‘perform’ authority through pragmatic competence (in particular Marin, Ardern and Merkel).

Inequality as a semantic cluster and metaphor was plausibly expected to be more prominent among female and empathetic leaders. The differences found between female and male speeches were large, but leaning male. A male leader – Sánchez, Spain (loose culture, technocratic with empathetic leaning) clearly stood out, followed by Löfven, Sweden (loose culture, technocrat with empathetic leaning). Somewhat against expectation, this frame appears to be preferred by male and female technocratic leaders (who also appear to be ideologically left-leaning and European) in tight and loose cultures.

Qualitative analysis reveals that rather than being a trait of female empathetic discourse, the metaphorical construction of inequality functions as a distinct rhetorical tool for Western male technocrats to address systemic injustice and advocate for humanitarian policies.

Empathy as a semantic cluster and metaphor was plausibly expected to be more prominent among female and empathetic leaders. The differences found between female and male speeches were notable, with female leaders using this framing more often (albeit less so than expected). A male leader – Löfven, Sweden (loose culture, technocrat with empathetic leaning) stood out, followed by male and female leaders with at least empathetic leaning. The “Empathy” frame appears to be more prevalent in loose cultures.

The discursive performance of empathy does not follow essentialist gender binaries, but is found in the wider empathetic leadership archetype shared by both men and women.

Suffering as a semantic cluster and metaphor was plausibly expected to be more prominent among female and empathetic leaders. The differences found between female and male speeches were notable, with male leaders using this framing more often. The two leaders with the highest ratio were male – Ramaphosa, South Africa (somewhat loose culture, empathetic with technocratic leaning) and Kurz (Austria, tight culture, populist with technocratic leaning), followed by two female leaders – Sturgeon, Scotland (somewhat loose culture, empathetic with populist leaning) and Merkel, Germany (somewhat tight culture, technocratic with empathetic leaning). This frame appears to be preferred by empathetic leaders.

Qualitative metaphor analysis further reveals that female leaders frequently employ suffering metaphors to acknowledge collective strain and human fragility. However, male leaders also deploy this frame effectively, most notably Ramaphosa. The metaphorical construction of suffering thus transcends strict gender binaries.

Care and Support as a semantic cluster and metaphor was plausibly expected to be more prominent among female and empathetic leaders. The differences found between female and male speeches were small, with male leaders using this framing somewhat more often. One male leader stood out – Trudeau, Canada (loose culture, empathetic with populist leaning) used care and support related language by far the most. He was followed by Löfven and three female leaders (Ing-wen, Áñez, Merkel). Neither gender, nor leadership type or tight/loose culture provide any conclusive data.

Both male and female leaders appear to utilize similar metaphorical strategies to map abstract public health policies and civic solidarity onto tangible acts of assistance and protection (for example, Trudeau and Sturgeon).

Resilience as a semantic cluster and metaphor was plausibly expected to be more prominent among male and populist leaders. The differences found between female and male speeches were notable, with male leaders using this framing more often (though perhaps less so than expected). One female leader stood out – Áñez, Bolivia (tight culture, populist with empathetic leaning). She was followed by another populist leader in Modi. Similar to the “War” frame, “Resilience” appears to be more prevalent in tight cultures and among populist leaders. Gender leaning appears inconclusive.

Qualitative metaphor analysis shows gendered differences in how resilience is discursively constructed. Male leaders employ aggressive, action-oriented imagery more frequently, alongside metaphors of physical exertion or sporting triumph. Female leaders, on the other hand, explicitly use the terms *resilience* and *resilient* much more frequently than men, and they tend to frame resilience through metaphors of communal endurance, shared sacrifice, and weathering difficult times together.

Listen and Learn as a semantic cluster and metaphor was plausibly expected to be more prominent among female and technocratic or empathetic leaders. The differences found between female and male speeches were notable, with female leaders using this framing more often. The five leaders using listen and learn language the most are all female: Áñez is followed by Merkel, Wilmès, Ardern and Sturgeon. However, the two leaders who used words from this semantic cluster the least were also female – Ing-wen and Hasina. While this frame is clearly preferred by female leaders, leadership type and tight/loose culture leaning are inconclusive.

While the Listen and Learn imagery is notably preferred by certain female leaders to project epistemic humility and transparency, the variance among female leaders in using the semantic cluster indicates that the metaphorical application is influenced by individual discursive preferences rather than a uniform gendered language effect.

Science as a semantic cluster and metaphor was plausibly expected to be more prominent among female and technocratic leaders. The differences found between female and male speeches were notable, with female leaders using this framing more often. The leader who used the most words from the semantic cluster “Science” was Ramaphosa, followed by Merkel, Marin, Johnson and Sturgeon. Technocratic and empathetic leaders are more likely to use this frame, than populist leaders. Tight/loose culture leaning is inconclusive.

Drivers for the use of scientific imagery vary: leaders such as Merkel (a PhD scientist) establish both epistemic authority and humility, as well as institutional competence by making the science accessible. Others, such as Macron, use science metaphors to defend rationality against populism, “obscurantism and conspiracy”.

Overall findings:

RQ 3: Almost all analysed semantic clusters show differences between the female and male sub-corpora of 5% or more, relative to the overall corpus ratio. In many cases, the differences are 10% and above, which points to distinctly different framing. In some cases, such as “War” (male), “Family” (female), “Science” (female), the frames show expected gender preference. In other cases, such as “Control” (strongly female), “Inequality” (strongly male), “Suffering” (male), the results were more unexpected. Overall, gender appears to be a strong factor in framing and preference of semantic clusters – just not always as expected.

RQ 4: As with the correlation between word groups, gender and leadership type, the data evidence is more conclusive regarding gender, than leadership type. However, there are some notable effects. The “War” frame leans male and populist, as expected. It shows a prevalence in tight cultures. The “Natural Force” frame seems to be preferred by male empathetic leaders, and seems to be more prevalent in loose cultures. The “Control” frame, against expectations, leans strongly female and empathetic, and seems somewhat more prevalent in loose cultures – perhaps a way of performing authority without resorting to the performative authoritarianism that is often seen in populist leaders.

RQ 3 / RQ 4 and metaphor use:

Male leaders appear more likely to use metaphors to perform historical, mythological, and martial heroism (aligned with populism/postmodernism). Female leaders by contrast utilize metaphors to perform procedural competence, relational care, and epistemic transparency and humility (aligned with technocratic/empathetic metamodernism).

Leadership concept and gender related findings

RQ 5 and RQ 6: The data indicates that modern technocratic conceptions of knowledge are relatively evenly distributed across genders, with prominent use of informational discourse (nouns) and the science frame to manage what are understood to be tangible, quantifiable risks. Postmodern populist conceptions of knowledge, however, appear to lean male. These leaders (Johnson, Bolsonaro, Modi, Morrison) utilize shorter sentences, “othering” pronouns (they/you), and often hyperbolic war or crisis metaphors that dramatized the pandemic.

Conversely, metamodern empathetic conceptions of knowledge appear to lean firmly female. This approach is characterized linguistically by the salient use of conjunctive adverbs (indicating deliberation), 1st person inclusive pronouns (we), the control and care frames, as well as metaphors of structural resilience and epistemic humility and transparency (admitting not to know).

These observations are valid for the analysed corpus. However, if Marine Le Pen had been governing France instead of Emmanuel Macron, or Italy had been included with Giorgia Meloni in office at that time (in reality, she was not), the data would have likely told a slightly different story.

RQ 7: As with many other factors in this complex multi-layered study addressing complex multi-layered wicked problems, inferences from the data provide a somewhat inconclusive picture. The correlation between a leader's discursive profile, related to their leadership profile and the cultural condition of their country (tight / loose), their 'reading' of the problem, subsequent decision-making and short-, medium- and long-term outcomes is continuously affected by a range of intervening, compounding factors: metamodern conceptions of knowledge as defined in this study are likely to be effective not least because metamodern leaders come to power in countries where conditions allow and support such leaders. This is more likely to be the case in loose cultures, in open, progressive, relatively wealthy societies. In such places, women have a better chance to be elected leaders (Scandinavia, New Zealand), and traditionally/stereotypically female traits have a better chance to become guiding and leading cultural norms – including with male leaders (Canada, Sweden). This is not to say that tight cultures prevent female leaders from making it to the top – see Bangladesh and Hasina, or Taiwan and Ing-wen. At the same time, geography and 'pre-existing conditions' regarding infrastructure (in particular regarding health care) are critical factors to be considered when assessing outcomes. For all these reasons, conclusions can only ever be directional at best.

There is evidence that postmodern populist leaders (e.g., Brazil, UK) presided over some of the highest cumulative COVID-19 death tolls globally. By contrast, nations led by collaborative leaders (Norway, Denmark, New Zealand, Finland) appear to have sustained lower mortality rates and navigated economic recovery more smoothly. Leaders who applied (at least in part) a metamodern discursive framework managed to foster public trust and compliance through intellectual humility, collective responsibility and transparent communication. Metamodern leaders do not attempt to reduce unmanageable uncertainty into modernist risk-calculations, nor do they surrender to postmodern nihilism and disinformation. Rather, they utilize humble (self)knowledge to adapt to (=dance with) wicked problems.

Weaknesses and shortcomings of this study

Areas for improvement in this study include

- content selection: because of limited availability and limited resources in processing, the selected speeches can only provide a snapshot (while still allowing a reasonably broad gender and region coverage); speeches had varying contexts and target audiences, and the translation into English reduced the impact of cultural and linguistic differences (which was nevertheless deemed justified to allow the broad comparison across regions and cultures through standardised processing tools)
- topic and research design complexity: as mentioned above, addressing a multilayered wicked problem with an open multi-layered approach to research requires some tolerance of thin or inconclusive evidence; however, as a humble abductive zetetic process of knowledge-generation (see 3.2.4) this is in itself a metamodern approach
- representativeness of data: for a CADS project, this study was based on a small corpus of less than 200,000 words. The methodological process of breaking down the corpus into small constituent parts of sometimes just a few hundred words meant that informational signals were inferred from very small amounts of data; this may not be generalizable, but it can provide interesting pointers for further investigation (and suffices within the zetetic abductive spirit of directional findings)

5.2 Reflections, recommendations and scope for further research

As a social scientific study, this thesis aims to contribute to academic knowledge and add to the critical reflection of its topic: why was the world so unprepared in so many ways for the COVID-19 pandemic? Why were key signals missed? Why were critical voices not heeded? Why was there little or no learning in many areas? How can this change? As a global crisis – a societal grand challenge – COVID-19 allowed and invited many comparisons. At the same time, however, COVID-19 responses were comparable and not comparable: travel hubs were much more affected, than isolated, rural areas; places with excellent health care fared better than those with substandard health care; then again, places with excellent health care may have invited a level of carelessness (at least initially). A cultural propensity of rule-abiding (in tight cultures) or rule-breaking (in loose cultures) will have had an impact, too.

Paradigm shifts often follow crises (Kuhn 1996), and COVID-19 constituted a major global multi-year crisis, making a paradigm shift – in this case, from modern/postmodern to metamodern conceptions of knowledge and related leadership models – more likely. At the same time, political realities interfere with the model: most of the praised, in particular female, political leaders during COVID-19 are no longer in office (Arden, Marin, Merkel, Solberg etc.), and their performance is viewed differently by different observers from different ideological viewpoints. Nevertheless, the pandemic revealed a "crisis of discourse" (Bennett 2019, p.461) where political claims, scientific uncertainty, and public panic collided. The findings of this study contribute to the view that the rigid, linear logic of modernity and the cynical relativism of postmodernity are increasingly inadequate for navigating the wicked problems of the polycrisis. A paradigm shift toward adaptive, metamodern conceptions of knowledge feels increasingly less like just a theoretical exercise, but more like a necessary evolution toward a better engagement with radical uncertainty.

The qualitative metaphor analysis (section 4.5) presents examples of how political leaders discursively construct political reality and manage that radical uncertainty. Assessing these findings through a metamodern lens brings to the fore the advantages of this emergent paradigm. As introduced in section 2.2.3., Pipere and Mārtinsone (2023, p.8) identify four core principles of metamodernism for the social sciences:

1. a participatory worldview that allows positivist and constructionist perspectives
2. deliberative engagement with different groups and positions claiming truth
3. negotiation between hierarchical and rhizomatic social models
4. research as pluralism, allowing the possibility of telling a story in a number of ways

The data – both quantitatively and qualitatively – provides some confirmatory evidence: the leaders in the corpus who appear the most empathetic and effective (in particular Arden and Frederiksen) seem to have inherently, instinctively operationalized these principles (with others such as Merkel, Sturgeon, Löfven, Ramaphosa, Macron, Trudeau also appearing to do so at times). First, they embraced a participatory worldview by balancing positivist epidemiological data (applying the science frame) with social empathy (applying the empathy or care and support frame). They did not 'follow the science' blindly, but recognized that health interventions must be contextualized (socially, culturally, emotionally). Second, their deliberative engagement showed in a listen and learn context (predominantly utilized by female and empathetic leaders) which accommodates alternative viewpoints rather than polarizing audiences. Third, they navigated the tension between hierarchical and rhizomatic social models: rather than acting as top-down, heroic commanders, leaders like Arden distributed agency and responsibility throughout the population through her rhetoric – for

example by framing the public as a "team of five million" and insisting "we are all in the same boat". Finally, their rhetoric embraced pluralism, showing that the pandemic story can and must be told in a number of ways: Frederiksen's shift from the restrictive "hammer" to an improvisational "dance with corona" encapsulates this (metamodern, oscillating) capacity to tell the story of the pandemic in evolving ways.

This metamodern sensitivity for pluralism and empathy also affected how the mourning for the victims of the pandemic was framed. This becomes evident when viewed through the historical lens of Outka's (2019) analysis of the Spanish Flu as a modernist pandemic with postmodern political communication. As discussed in section 2.2.2., Outka explores Butler's work on 'grievability' and concludes that the dominant 'grievance narrative' of 1918 did not leave space to mourn the dead of the Spanish Flu in the same way as the dead of the war. As a result, they became "ungrievable – silenced, left out" (Outka 2019, p.36). In some way, leaders such as Johnson and Bolsonaro (aligning with postmodern populist traits) appear to repeat this pattern through hyperbolic language (the virus as "invisible killer") and setting economic priorities above public health (the "scorched earth" of lockdowns). In these rhetorical constructions, the dead again become marginalised. By contrast, metamodern empathetic leaders demonstrate grief in a way that diverges from both modernist statistical detachment and postmodernist trivialization. In the corpus, Löfven and Ramaphosa stand out as two leaders who express mourning and suffering in ways that foregrounds grievability and the lots of victims: the former by allowing intimacy into his leadership rhetoric ("suffocating darkness" / "bidding a loved one their last farewell"), the latter by addressing the dual pandemic of COVID-19 and male domestic violence.

Metamodern sensitivities for humility and empathy as coping technologies in facing grand challenges were discussed in 2.2.3. In particular radical uncertainty was identified as a crisis characteristic requiring traits such as humility and empathy. Arendt's "faculty of forgiving" was referenced as a coping strategy for an unpredictable future where actions might have irreversible undesired consequences: we try our best and adjust if new information becomes available; if things go wrong, we adjust and forgive. This points to Bayesian logic: making a decision based on available information, and adjusting as and when new evidence requires it (for a non-mathematical introduction to Bayesian decision-making, see Silver 2012). And this logic, which requires the "faculty of forgiving", intersects with abduction as a mode of inquiry proposing the best available explanation under (radical) uncertainty: the former as a normative ideal for decision-making under radical uncertainty and the latter as a practical framework to do so. Thus zetetic abduction, which was introduced in this study as the idea of acquiring metamodern humble knowledge, is the practice that always allows new beginnings, and thus continuation – for example, as an ongoing "dance with

corona". Where (modernist) technocrats often attempt to rein in uncertainty through practices and mechanisms of control, and postmodern populists exploit uncertainty and its consequences (especially fear) through othering and disinformation, metamodern empathetic leaders will apply Arendt's "faculty of forgiving" through epistemic humility and transparency: we know that we do not know everything, but we will make our best decision based on the information available. Both Merkel in her reference to walking on "thin ice, you could also say: on the thinnest ice", and Macron in admitting that "we were not prepared enough" display the kind of humility and transparency that helps reach Arendt's "islands of security" – not by overpromising, but by building the public trust that is required to cope collectively with a pandemic.

This epistemic humility and transparency extends from the argument of this study to the research process itself. The methodology of this study – combining a quantitative CADS approach with qualitative metaphor analysis (MIP – CMA – DHA) – was conceived as an exercise in zetetic abduction (section 3.2.4.). As outlined by Josephson Storm, metamodern zeteticism moves beyond the formal verification of induction and deduction in favour of a logic of discovery: the generation of "humble, pragmatic, situated knowledges" (Josephson Storm 2021, p.24) through continuous inquiry. Moving between (deductive) literature- and experience-led assumptions and (inductive) data-led patterns becomes itself a metamodern dance: participatory, deliberative, moving between hierarchies and rhizomatic structures, and telling a story in different ways.

This study used Gelfand's (2018) concept of tight vs loose cultures to position the countries of the ten female and ten male leaders along an axis, and then in a two-dimensional grid with an additional axis of agentic vs communal leadership. Such a grid suggests static positioning, but the key about a new and evolving conception of knowledge, capable of addressing new and evolving societal grand challenges, will be its flexibility and adaptability: in their study of the relationship between COVID-19 health outcomes and cultural tightness-looseness, Gelfand et al. (2021) propose "tight-loose ambidexterity" (p.143) – whatever the situation requires. This counts for cultures as well as for leaders and their traits, to process information, act and communicate in the most effective way possible, under conditions of *radical uncertainty*. Hindmoor and McConnell (2013) propose *forward-mapping*, an empathetic process to help decision-makers realise how 'dominant ideational pathways create biases' (p.556). Godhe and Goode (2018) put forward *Critical Futures Studies*, encouraging deliberative discourses about possible futures, rather than prescribing a set path and process.

This is where metamodern conceptions of knowledge have an opportunity to engage and convince: not as abstract, impractical 'science for science's sake', but as a framework to create, encourage and support the creation of humble knowledge through intellectually humble processes – embracing

uncertainty, inviting and allowing alternative viewpoints. It is no surprise that metamodern conceptualising and theorising – especially in a socio-political and socio-cultural sense – refers to the “Nordic secret” (Andersen and Björkman 2017; Andersen 2019) and “Nordic ideology” (Freinacht 2019) as reference points. With regard to COVID-19, a number of studies highlight the Nordic’s comparatively successful navigation of the COVID-19 crisis with overall relatively low excess mortality – in spite of Sweden’s ‘outlier role’ of relaxed health policy responses leading to higher incidences and excess deaths (Johansson and Vigsø 2021) – and relatively swift economic recovery (Irfan et al. 2022; Saunes et al. 2022; Christensen et al. 2023; Ihlen et al. 2023). De la Porte et al. (2023) discuss “Going Nordic” as the way to address grand challenges – not an idealistic perfect model, but an approach where “challenges are solved incrementally and often at an early stage. In other words, the Nordic regulatory model is highly adaptable to different challenges. Thus, the Nordic model does present crucial lessons for other types of political economy” (p.595). This does not make the Nordic model a metamodern blueprint for coping with contemporary grand challenges in the polycrisis: the countries included are concentrated in one region, they are small, wealthy and representative of a social democratic political economy that has contributed to many of the challenges of the polycrisis the world is facing today. Nevertheless, especially from a public communication perspective, Nordic leaders – most of them female – appear to have hit the right notes quite often during the pandemic, with overall positive results. Section 4.5.2 discusses the role and impact of the ‘Nordic model’ in Nordic leaders’ communication. And while such observations are not empirically conclusive, they are backed by most studies that explored ‘gendered effects’ of pandemic management and outcomes (for example, the study of 14 female leaders of countries, including four Nordic countries, by Ozdenerol et al. 2023). Comparatively strong public trust appears as a common factor, which is worth further investigation. Parviainen et al. (2021) discuss epistemic humility, admitting to not (yet) knowing, as a key factor in (re)building trust in legislative work. The title of their paper which focuses on the work of the Finnish government during the pandemic – “Building a Ship while Sailing It” – can be seen as an apt metaphor for a zetetic abductive approach to knowledge and decision-making by metamodern leaders.

From the perspective of social science, a continuously evolving world of societal grand challenges offers continuously evolving opportunities for scientific investigation and research-based practical advice: in their review of metamodernism as a framework within which to rethink and reconceptualise social sciences, Pipere and Martinsone (2023) suggest that “each scientist will have to find their own position or direction in this movement, which is still discernible only in the form of seemingly accidental “anomalies”, and only for the well-trained observer” (p.22). For the modern or postmodern mindset, that may not be an inviting prospect. But perhaps that is exactly the point.

Some recommendations

Based on the above reflections and the empirical evidence presented, this study offers the following forward-looking recommendations for addressing future grand challenges:

1. Abandon martial framing

War metaphors create binary perspectives of friends and enemies, defenders and attackers, expectations of victory. Radical uncertainty and wicked problems render such discursive constructions counterproductive and obsolete. Heroic commanders will fail to cope with wicked problems. Empathetic navigators stand a better chance.

2. Cultivate epistemic humility as a form of authority

In the face of radical, unmanageable uncertainty, performing epistemic authority grounded in certainty can become a liability. Admitting to not knowing (yet) is likely to build more public trust in the long run, than (over)confidence, as things will go wrong.

3. Choose forward mapping over hindsight bias

This requires a continuous, empathetic process of zetetic abduction: testing assumptions, encouraging deliberative discourses, and avoiding the kind of groupthink that stands in the way of learning and blinds us to potential crises.

4. Practice tight-loose ambidexterity

Institutions need to learn to ‘oscillate’ between the need for strict compliance (such as lockdowns), and flexible, experimental innovation (e.g. adjusting socio-political and socio-economic systems for improved outcomes), depending on circumstantial requirements.

Scope for future research

Future research should expand this integrated CADS and Metaphor Analysis framework to larger, multilingual corpora. The exponential capacity and capability increase of Large Language Models (LLMs) offers the opportunity to scale up data analytics in social sciences. This can significantly augment and expand qualitative analytic tasks to process vast datasets of (for example) social media interactions alongside political speeches (for a broadly optimistic outline of LLM use in corpus linguistics, see Davies 2025). We have already reached the point where researchers can create a “methodological pipeline leveraging a large language model for the automatic annotation of

grammatical data” (Morin and Larsson 2025, p.506), which “already reaches satisfactory levels of accuracy, and represents sufficiently valuable cost efficiencies in time, energy, and data quality consistency, to be seriously considered in future linguistic studies of this type” (p. 508).

However, this adoption and integration requires critical distance, reflexivity and healthy skepticism grounded in technical literacy; human meaning-making, historical contextualization and ethical oversight can never be entirely outsourced to algorithms (Karinshak et al. 2023; Manik et al. 2025). Demszky et al. (2023) describe this as an “AI-in-the-loop, human in charge” (p. 698) approach. As pointed out in section 3.3.8 quoting Gillings: “the data doesn’t speak. Only researchers do.”

Additionally, future explorations of crisis discourse should integrate *Critical Futures Studies* (CFS). As proposed by Goode and Godhe, CFS encourages deliberative discourses about possible futures, motivated by "a sense of urgency, fragility, excitement and hope". Combining discourse analysis with CFS would allow researchers to not only critique the linguistic choices of the past but to help leaders comprehend and address some of the social and communicative drivers of the polycrises of tomorrow.

Metamodernism has only just begun to show its potential for the social sciences and for political communication and decision-making. It provides a way of thinking about the world and a framework that integrates the scientific rigour of modernity with the critical awareness of postmodernity while addressing challenges with epistemic humility. It does so by inviting participants to embrace uncertainty, acknowledge vulnerability and weaknesses and invite alternative viewpoints. This should be tested with intellectual urgency in theory and practice, by educators, students and practitioners.

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Appendix I: Female speeches with source data

Hasina

15 03 2020 Hasina

Context and source: Sheikh Hasina participated the SAARC leaders' videoconference on COVID 19 convened by India. Copied closed caption in English from YouTube:

<https://www.youtube.com/watch?v=x1ZU68LSImk>

25 03 2020 Hasina

Context and source: Sheikh Hasina's nationally televised COVID-19 address on 25 March 2020 was sourced from the Bangladeshi government website, but is no longer available. It is available in Bangla as news coverage of (and extended excerpts from) the speech on the BBC website: <https://www.bbc.com/bengali/news-52037090>

08 07 2020 Hasina

Context and source: Sheikh Hasina's COVID related address on 8 July 2020 was delivered in English at the ILO Virtual Global Summit on COVID 19 and the World of Work; the official written version of her speech is here:

<https://bhclondon.org.uk/uploads/file/2020/07/d9a1f18ef973e2085d76b45abcaa6090.pdf>

26 09 2020 Hasina

Context and source: Sheikh Hasina's key COVID related address on 26 September 2020 was her pre recorded speech to the UN General Assembly's 75th session, which is available in English: <https://media.un.org/avlibrary/en/asset/d265/d2658712>

24 09 2021 Hasina

Context and source: Sheikh Hasina's speech to the 76th UN General Assembly in New York was delivered in English and focused heavily on vaccine inequality and pandemic recovery. <https://webtv.un.org/en/asset/k1z/k1z9cperce>

Wilmes

17 03 2020 Wilmes

Context and source: Wilmès delivered a major government's general policy speech in the Chamber, explicitly framed around COVID-19 and the need for exceptional measures. <https://www.sophiewilmes.be/en/policy/prime-minister/governments-general-policy-speech/> (official transcript in English)

19 03 2020 Wilmes

Context and source: A short, desk-based address by Wilmès to “la population Belge”, available via local broadcasters' sites such as Télésambre, <http://www.telesambre.be/info/la-premiere-ministre-sophie-wilmes-sest-adressee-la-population-video/36365> Original transcript no longer available

05 04 2020 Wilmes

Context and source: Sophie Wilmès gave a nationally televised “Allocution de la Première ministre” on 5 April 2020, and both the text and video are still accessible online (in French and Dutch). <https://www.sophiewilmes.be/allocution-de-la-premiere-ministre/> Machine translation of transcript checked by native speaker

17 09 2020 Wilmes

Context and source: Plenary session of the Belgian parliament. Wilmès appears as Première ministre responding to questions and debating the extension of support to her minority government in the context of COVID-19. <https://www.dekamer.be/doc/PCRI/pdf/55/ip055.pdf> Machine translation of transcript checked by native speaker

26 09 2020 Wilmes

Context and source: “We must open our eyes to the weaknesses this pandemic has laid bare” – statement to UNGA 75: <https://news.un.org/en/story/2020/09/1073892> <https://docs.un.org/en/A/75/PV.12> (includes English transcript of speech)

Anez

15 03 2020 Anez

Context and source: On 15 March 2020 Anez announced stronger restrictions (limits on gatherings, reduced hours, etc.). Link to YouTube speech:

<https://www.youtube.com/watch?v=kx9h-dgqOH4> Machine translation of closed captions checked by native speaker

17 03 2020 Anez

Context and source: “Mensaje de la presidenta Jeanine Añez sobre las nuevas medidas ante el coronavirus en Bolivia,” to announce quarantine. YouTube video link:

<https://www.youtube.com/watch?v=32rZPQyoin0&t=22s> Machine translation of closed captions checked by native speaker

21 03 2020 Anez

Context and source: Press conference to announce ‘total quarantine’. YouTube video link: <https://www.youtube.com/watch?v=H9ATdCNsUWU> Machine translation of closed captions checked by native speaker

25 03 2020 Anez

Context and source: Official televised announcement of “estado de emergencia sanitaria”.

YouTube video link: <https://www.youtube.com/watch?v=pMFePHiUAlc&t=8s> Machine translation of closed captions checked by native speaker

23 09 2020 Anez

Context and source:

Full English transcript here: Speech to the UN General Assembly with focus on Covid. https://digitallibrary.un.org/record/3900701/files/A_75_PV.7-EN.pdf

Frederiksen

11 03 2020 Frederiksen

Context and source: historic press conference where Frederiksen announced Denmark's first major lockdown

<https://www.stm.dk/presse/pressemoedearkiv/pressemoede-om-covid-19-den-11-marts-2020/> Machine translation checked by native speaker

13 03 2020 Frederiksen

Context and source: Press conference introducing further coronavirus measures ("Pressemøde den 13. marts 2020")

<https://www.stm.dk/presse/pressemoedearkiv/pressemoede-den-13-marts-2020/>
Machine translation of closed captions checked by native speaker

06 10 2020 Frederiksen

Context and source: Opening speech of the Danish Parliament with extensive reflection on the pandemic ("tale ved Folketingets åbning") Official transcript:

<https://english.stm.dk/the-prime-minister/speeches/prime-minister-mette-frederiksen-s-opening-address-at-the-opening-of-the-folketing-the-danish-parliament-october-6-2020/>

01 01 2021 Frederiksen

Context and source: New Year's address focused heavily on COVID-19 ("nytårstale den 1. januar 2021") – official English and Danish text

<https://stm.dk/statsministeren/taler/statsminister-mette-frederiksens-nytaarstale-den-1-januar-2021/>

24 09 2021 Frederiksen

Context and source: Mette Frederiksen did give a major speech on 24 September 2021 as part of the UN General Assembly general debate (largely focused on climate and energy, with some COVID context). The UN's official video is here: Denmark – Prime Minister Addresses General Debate, 76th Session of the UN General Assembly (24 September 2021) – <https://media.un.org/avlibrary/en/asset/d265/d2659051>

Transcript <https://docs.un.org/en/A/76/PV.13>

Marin

16 03 2020 Marin

Context and source: Full-length Finnish government press conference on the coronavirus situation, held 16 March with Marin and ministers, available as video:

“Hallituksen tiedotustilaisuus koronavirustilanteesta 16.3.2020” –

<https://www.youtube.com/watch?v=Q8oPatuOql4> Machine translation of closed captions and sense-checked

26 03 2020 Marin

Context and source: Prime Minister Marin's speech at the referral debate in Parliament concerning decrees on the use of specified powers under the Emergency Powers Act. Official English transcript

<https://valtioneuvosto.fi/en/-/prime-minister-marin-s-speech-at-the-referral-debate-in-parliament-concerning-decrees-on-the-use-of-powers-under-the-emergency-powers-act>

29 04 2020 Marin

Context and source: “Prime Minister's announcement on the handling of the COVID-19 crisis” – statement to Parliament on 29 April 2020. Official English transcript

<https://valtioneuvosto.fi/en/-/prime-minister-s-announcement-on-the-handling-of-the-covid-19-crisis>

31 12 2020 Marin

Context and source: Full English New Year's message:

“Prime Minister Sanna Marin's New Year's message, 31 December 2020” English transcript

<https://valtioneuvosto.fi/en/-/prime-minister-sanna-marin-s-new-year-s-message-31-december-2020>

28 04 2021 Marin

Context and source: “Prime Minister's announcement on the plan for the controlled dismantling of restrictions and recommendations due to the COVID-19 epidemic” Full English transcript

<https://valtioneuvosto.fi/en/-/prime-minister-s-announcement-on-the-plan-for-the-controlled-dismantling-of-restrictions-and-recommendations-due-to-the-covid-19-epidemic>

Merkel

18 03 2020 Merkel

Context and source: TV address to the nation

Vollständiger deutscher Redetext (Bundesregierung, PDF):

<https://www.bmi.bund.de/SharedDocs/downloads/DE/veroeffentlichungen/2020/rede-kanzlerin.pdf>

Official translation

<https://www.bundesregierung.de/breg-en/news/statement-chancellor-1732296>

23 03 2020 Merkel

Context and source: Merkel audio podcast ‘catalogue of measures’

<https://www.bundesregierung.de/breg-de/mediathek/massnahmenpaket-um-uns-durch-diese-schwierige-zeit-zu-fuehren-1734026> Machine translation of transcript checked by native speaker

23 04 2020 Merkel

Context and source: Government statement to pandemic in Germany and Europe

Full transcript:

<https://www.bundesregierung.de/resource/blob/992814/1746928/b83a3a8571fd467c21f44bdb61acf5dc/46-1-bkin-reg-erkl-covid-19-pandemie-data.pdf> Machine translation of transcript checked by native speaker

31 12 2020 Merkel

Context and source: New Year’s address focused on COVID-19

Vollständiger deutscher Text „Neujahrsansprache der Bundeskanzlerin am 31. Dezember 2020“ (PDF):

<https://www.bundesregierung.de/resource/blob/989796/1833770/d3d85061ca96a29c27c953f17947341f/download-pdf-data.pdf>

official English transcript <https://www.bundesregierung.de/breg-en/service/archive/media-center/merkel-neujahrsansprache-2020-english-1833758>

17 11 2021 Merkel

Context and source: Video address Merkel “41. Hauptversammlung des Deutschen Städtetages am 17.11.2021”

Official transcript: <https://www.bundesregierung.de/breg-de/service/archiv-bundesregierung/rede-von-bundeskanzlerin-merkel-anlaesslich-der-41-ausserordentlichen-hauptversammlung-des-deutschen-staedtetags-am-17-november-2021-videokonferenz--1982386> Machine translation of transcript checked by native speaker

Ardern

21 03 2020 Ardern

Context and source: Address to the nation announcing the four-level COVID-19 alert system <https://www.beehive.govt.nz/speech/pm-address-covid-19-update>

23 03 2020 Ardern

Context and source: Address to the nation announcing move to Alert Level 3 and impending Level 4 lockdown <https://thespinoff.co.nz/covid-19/23-03-2020/the-stark-choice-jacinda-arderns-national-shutdown-speech-in-full>

25 03 2020 Ardern

Context and source: Media briefing confirming nationwide Level 4 lockdown from 11:59pm, with Q&A <https://www.youtube.com/watch?v=8SC67XDsKIM>

17 08 2020 Ardern

Context and source: press conference to announce full lockdown

<https://www.youtube.com/watch?v=CAROtIqVgWk>

24 09 2021 Ardern

Context and source: UN General Assembly speech with substantial COVID content

<https://www.rev.com/transcripts/new-zealand-pm-jacinda-ardern-un-general-assembly-2021-speech-transcript>

Solberg

18 03 2020 Solberg

Context and source: Speech to the nation (Tale til folket):

https://www.nrk.no/video/erna-solbergs-tale-til-folket_34d1bb36-143c-4564-89d7-f68eff788540 Machine translation of closed captions checked by native speaker

29 05 2020 Solberg

Context and source: Press conference to announce reduced travel restrictions between Norway and Denmark. <https://www.regjeringen.no/no/dokumentarkiv/regjeringen-solberg/aktuelt-regjeringen-solberg/smk/pressemeldinger/2020/norges-vei-ut-av-krisen/id2704437/> transcript no longer available

26 09 2020 Solberg

Context and source: The official English transcript of her statement to the 75th UN General Assembly general debate (delivered 26 September 2020) is published by Norway's UN mission as "UNGA: General debate – statement by Norway"

<https://www.norway.no/en/missions/un/statements/general-assembly-plenary/2020/unga-general-debate---statement-by-norway/>

01 01 2021 Solberg

Context and source: Statsministerens nyttårstale, broadcast on Norwegian TV and radio on 1 January 2021, focusing heavily on the COVID 19 pandemic, its social consequences, and vaccination prospects.

<https://hoyre.no/2021/01/01/statsministerens-nyttarstale-2021-snart-kommer-var-dag/>

Official English transcript

<https://www.regjeringen.no/en/historical-archive/solbergs-government/Ministries/smk/speeches-and-articles/statsministeren/talerogartikler/2021/new-year-speech-2021/id2826293/>

22 09 2021 Solberg

Context and source: Full English record in UN Official Records: “A/76/PV.9 – 9th plenary meeting” (includes “Statement by H.E. Erna Solberg, Prime Minister of Norway” on 22 September 2021): <https://docs.un.org/en/A/76/PV.9>

Sturgeon

17 03 2020 Sturgeon

Context and source: The Scottish Government streamed this as a statement on the “latest measures around coronavirus”:

<https://www.facebook.com/TheScottishGovernment/videos/first-minister-coronavirus-statement-17th-march/142691710426469/> Full transcript no longer available

24 03 2020 Sturgeon

Context and source: Coronavirus update to Scottish Parliament. Full transcript: <https://www.gov.scot/publications/first-ministers-update-covid-19/>

07 10 2020 Sturgeon

Context and source: Full official transcript (Scottish Government):

“Coronavirus (COVID-19) update: First Minister’s speech 7 October 2020” – statement to the Scottish Parliament, Edinburgh:

<https://www.gov.scot/publications/coronavirus-covid-19-update-first-ministers-speech-7-october-2020/>

04 01 2021 Sturgeon

Context and source: Statement to the Scottish Parliament announcing a new lockdown, available in full on gov.scot as “Coronavirus (COVID-19) update: First Minister’s statement, Monday 4 January 2021” <https://www.gov.scot/publications/coronavirus-covid-19-update-first-ministers-statement-monday-4-january-2021/>

08 07 2021 Sturgeon

Context and source: The Scottish Government maintains a collection page listing “Coronavirus (COVID-19) update: First Minister’s speech Thursday 8 July 2021”, which links to the full statement text.

Full official transcript:

<https://www.gov.scot/collections/first-ministers-speeches/> (navigate to the entry for “Coronavirus (COVID-19) update: First Minister’s speech Thursday 8 July 2021”)

Ing-Wen

19 03 2020 Ing-wen

Context and source: Remarks on government response, stressing that the next 14 days are crucial and calling for unity against COVID-19 Official English transcript

<https://english.president.gov.tw/News/5985>

01 04 2020 Ing-wen

Context and source: Speech highlighting Taiwan’s cooperation and assistance to other countries in combating COVID-19 Official English transcript:

<https://english.president.gov.tw/News/5989>

20 05 2020 Ing-wen

Context and source: Second-term inaugural address, including substantial reflection on Taiwan’s COVID-19 response and future pandemic strategy. Official English transcript

<https://english.president.gov.tw/News/6004>

31 12 2020 Ing-wen

Context and source: New Year’s address focused on Taiwan’s 2020 pandemic success and goals for 2021 Official English transcript

<https://english.president.gov.tw/News/6089>

10 10 2021 Ing-wen

Context and source: National Day address (“2021 National Day Address”) with a major opening section on pandemic experience and vaccination Official English transcript
<https://english.president.gov.tw/News/6175>

Appendix II: Male speeches with source data

Morrison

18 03 2020 Morrison

Context and source: National TV address on COVID-19

Full transcript (PM Transcripts – press conference and national statement on COVID-19, including declaration of human biosecurity emergency):

<https://pmtranscripts.pmc.gov.au/release/transcript-43966>

02 04 2020 Morrison

Context and source: COVID-19 briefing (childcare package)

Full transcript of the 2 April 2020 COVID-19 press conference (childcare relief and broader pandemic response):

<https://www.rev.com/transcripts/australia-pm-scott-morrison-covid-19-briefing-transcript-april-2>

05 08 2020 Morrison

Context and source: Address, Aspen Security Forum - 'Tomorrow in the Indo-Pacific'

<https://pmtranscripts.pmc.gov.au/release/transcript-42961>

31 12 2020 Morrison

Context and source: New Year message

<https://www.youtube.com/watch?v=qcOkjGuwL4A&t=28s>

06 04 2021 Morrison

Context and source: PM's comments in the context of announcements around the Australia–New Zealand travel bubble and pandemic management, available as a post-Cabinet conference transcript.

<http://www.beehive.govt.nz/sites/default/files/2021-04/Press%20Conference%207%20April%202021.pdf>

Kurz

15 03 2020 Kurz

Context and source: Evening TV address announcing strict lockdown measures (“Bleiben Sie zu Hause” appeal). <https://kurier.at/politik/inland/die-rede-des-kanzlers-zum-coronavirus-im-wortlaut/400782065> Machine translation of transcript checked by native speaker

03 04 2020 Kurz

Context and source: Statement to the Nationalrat on the current development of the coronavirus, explaining government measures and outlook.
<https://www.bundestkanzleramt.gv.at/bundestkanzleramt/bundestkanzler-sebastian-kurz/reden-bundestkanzler-sebastian-kurz/regierungserkl%C3%A4rung-zu-covid-19.html> Machine translation of transcript checked by native speaker

14 09 2020 Kurz

Context and source: Rede/PK zu verschärften Maßnahmen, Maskenpflicht. The official government page summarising those announcements is:
<https://www.bundestkanzleramt.gv.at/bundestkanzleramt/nachrichten-der-bundesregierung/2020/bundestkanzler-sebastian-kurz-mund-nasen-schutz-wird-pflicht-abstand-halten-weiterhin-wichtig.html> Link to speech and full transcript no longer available

26 12 2020 Kurz

Context and source: Christmas speech
<https://www.youtube.com/watch?v=jq34AMSlAP4> Machine translation of closed captions checked by native speaker

06 07 2021 Kurz

Context and source: Rede bei „Corona: eine Veranstaltung zu Ehren der Wissenschaften“
<https://www.bundestkanzleramt.gv.at/bundestkanzleramt/nachrichten-der-bundesregierung/2021/07/bundestkanzler-kurz-gemeinsam-ein-neues-und-positives-kapitel-aufzuschlagen.html> Full transcript no longer available

Bolsonaro

24 03 2020 Bolsonaro

Context and source: National TV and radio address minimising COVID-19 risks and criticising lockdown measures <https://www.youtube.com/watch?v=zuBs0NVr-70> Machine translation of closed captions checked by native speaker

31 03 2020 Bolsonaro

Context and source: National TV and radio address on “maior desafio da nossa geração”, stressing jobs and pandemic response

<https://www.gazetadopovo.com.br/republica/integra-do-pronunciamento-de-bolsonaro-tv/> Machine translation of closed captions checked by native speaker

22 09 2020 Bolsonaro

Context and source: Speech opening the UN 75th General Assembly, defending Brazil's COVID and environmental policies ; official English transcript

https://statements.un.org/statements/10.0010/20200922/cVOFMr0rKnhR/lleAuB7WE9ug_en.pdf

24 12 2020 Bolsonaro

Context and source: Nationwide Christmas message highlighting government actions against COVID-19 (YouTube transcript; Machine translation of closed captions checked by native speaker) <https://agenciabrasil.ebc.com.br/politica/noticia/2020-12/em-pronunciamento-bolsonaro-destaca-acoes-contracovid-19>

21 09 2021 Bolsonaro

Context and source: Speech opening the UN 76th General Assembly, again addressing COVID and vaccinations <https://agenciabrasil.ebc.com.br/internacional/noticia/2021-09/presidente-faz-discurso-na-assembleia-geral-das-nacoes-unidas> Official English transcript

Trudeau

13 03 2020 Trudeau

Context and source: Trudeau gave an address from Rideau Cottage updating Canadians after Sophie Grégoire Trudeau tested positive and promising forthcoming fiscal stimulus.

<https://globalnews.ca/news/6672708/transcript-justin-trudeau-coronavirus/>

23 09 2020 Trudeau

Context and source: Trudeau delivered a televised address to the nation about the second wave, widely quoted for the line “The second wave isn’t just starting, it’s already underway.” <https://macleans.ca/politics/ottawa/justin-trudeaus-address-to-the-nation-the-second-wave-is-underway-full-transcript/>

20 11 2020 Trudeau

Context and source: On 20 November 2020 he gave a national COVID update reacting to new federal projections, warning of “a long winter ahead” if public-health measures were not followed. <https://macleans.ca/news/canada/justin-trudeaus-coronavirus-update-we-have-a-long-winter-ahead-full-transcript/>

31 12 2020 Trudeau

Context and source: The official Canadian government transcript for Trudeau’s New Year message is published on pm.gc.ca as “Statement by the Prime Minister to mark the New Year” (31 December 2020, Ottawa).

<https://www.pm.gc.ca/en/news/statements/2020/12/31/statement-prime-minister-mark-new-year>

18 06 2021 Trudeau

Context and source: Trudeau delivered a COVID-19 media briefing on 18 June 2021 (for example, carried live as “Prime Minister Justin Trudeau to address Canadians on COVID-19 (Jun 18th 2021)” on broadcasters’ channels)

https://www.youtube.com/watch?v=Jo4hJN_fLUY

Macron

16 03 2020 Macron

Context and source: First lockdown announcement

Texte intégral (allocution « Nous sommes en guerre ») : Official English transcript no longer available

<https://www.vie-publique.fr/discours/273933-emmanuel-macron-16-mars-2020-coronavirus-confinement-municipales>

13 04 2020 Macron

Context and source: Address on extension of confinement

Texte intégral officiel (Élysée) :

<https://www.elysee.fr/emmanuel-macron/2020/04/13/adresse-aux-francais-13-avril-2020>

Full English transcript: <https://www.leadersleague.com/en/news/president-macron-s-april-13th-address-to-the-nation>

22 09 2020 Macron

Context and source: UN General Assembly, COVID-focused section

Déclaration pour la 75e Assemblée générale de l'ONU (texte intégral) :

<https://www.elysee.fr/emmanuel-macron/2020/09/22/declaration-du-president-emmanuel-macron-pour-la-75e-session-de-lassemblee-generale-des-nations-unies>

English transcript <https://www.rev.com/transcripts/french-president-emmanuel-macron-speaks-to-u-n>

31 12 2020 Macron

Context and source: Vœux 2021 aux Français, texte intégral (inclut un long passage sur la pandémie et la vaccination) :

<https://www.vie-publique.fr/discours/277927-emmanuel-macron-31122020-covid-19>

Machine translation of transcript checked by native speaker

12 07 2021 Macron

Context and source: Pass sanitaire and vaccination push

Texte intégral officiel de l'« Adresse aux Français – 12 juillet 2021 » :

<https://www.elysee.fr/emmanuel-macron/2021/07/12/adresse-aux-francais-12-juillet-2021> Machine translation of transcript checked by native speaker

Modi

19 03 2020 Modi

Context and source: Full English text: “PM's address to the nation on combating COVID-19”

https://www.pmindia.gov.in/en/news_updates/pms-address-to-the-nation-on-comabting-covid-19/

29 03 2020 Modi

Context and source: Full programme page (with audio and text options) for “Mann Ki Baat” of 29 March 2020. Full English transcript:

<https://www.mygov.in/talk/mann-ki-baat-prime-minister%E2%80%99s-radio-programme-29th-march-2020/>

03 04 2020 Modi

Context and source: Video message to the Indian people on Covid-19

<https://www.youtube.com/watch?v=W5L--1kfLJg> Machine translation of closed captions, sense checked against other speeches

26 09 2020 Modi

Context and source: Full English text of his address at the 75th UNGA (India-focused development and global COVID context):

<https://pminewyork.gov.in/IndiaatUNGA?id=NDM1Ng>

25 09 2021 Modi

Context and source: UN General Assembly, 76th session

Full English text (Permanent Mission of India):

<https://pminewyork.gov.in/IndiaatUNGA?id=NDM1Ng>

Ramaphosa

15 03 2020 Ramaphosa

Context and source: Statement announcing national state of disaster and initial measures to combat COVID-19. Full English text (PDF): “Statement by President Cyril Ramaphosa on measures to combat COVID-19 Epidemic, Union Buildings, Tshwane, 15 March 2020” https://www.justice.gov.za/m_speeches/2020/20200315-President-Covid19.pdf

23 03 2020 Ramaphosa

Context and source: Address announcing 21-day national lockdown from 26 March. Full English text: “President Cyril Ramaphosa: Escalation of measures to combat Coronavirus COVID-19 pandemic, 23 March 2020” <https://www.gov.za/news/speeches/president-cyril-ramaphosa-escalation-measures-combat-coronavirus-covid-19-pandemic-23>

28 12 2020 Ramaphosa

Context and source: Full English text (PDF): “STATEMENT BY PRESIDENT CYRIL RAMAPHOSA ON PROGRESS IN THE NATIONAL EFFORT TO CONTAIN THE COVID-19 PANDEMIC, 28 DECEMBER 2020” https://www.zfm-dm.gov.za/wp-content/uploads/2021/01/STATEMENT-BY-PRESIDENT-CYRIL-RAMAPHOSA_28.12.2020.pdf

31 12 2020 Ramaphosa

Context and source: New Year’s Address in English
<https://www.youtube.com/watch?v=4np6gX2vXgs>

30 09 2021 Ramaphosa

Context and source: Full English text (PDF): “STATEMENT BY PRESIDENT CYRIL RAMAPHOSA ON PROGRESS IN THE NATIONAL EFFORT TO CONTAIN THE COVID-19 PANDEMIC, 30 SEPTEMBER 2021”
<https://www.rtmco.co.za/images/rtmc/docs/speeches/2021/Presidents-Message-30-September-2021.pdf>

Sanchez

13 03 2020 Sanchez

Context and source: All of Sanchez's speeches are Office 365 translations of official transcripts, vetted by native speaker

Anuncio del estado de alarma

Texto completo (transcripción oficial):

<https://www.lamoncloa.gob.es/presidente/intervenciones/Documents/2020/20200313%20PG%20Estado%20de%20Alarma.pdf>

04 04 2020 Sanchez

Context and source: Comparecencia sobre nuevas medidas y prórroga del estado de alarma

Texto completo (PDF, comparecencia en Moncloa):

<https://www.lamoncloa.gob.es/presidente/intervenciones/Documents/2020/200404%20COMPARECENCIA%20PRESIDENTE%20DEL%20GOBIERNO.pdf>

25 09 2020 Sanchez

Context and source: Declaración institucional sobre la evolución de la pandemia (inicio “curso político” de otoño)

Esta fecha se asocia a declaraciones de Sánchez sobre la nueva fase de la pandemia y el apoyo a las comunidades autónomas; un vídeo con la declaración institucional íntegra está disponible en El País:

<https://elpais.com/espana/2020-08-25/video-la-declaracion-institucional-integra-de-pedro-sanchez.html>

29 12 2020 Sanchez

Context and source: On 29 December 2020, Sánchez held a press conference at La Moncloa to present the primer informe de rendición de cuentas del Gobierno de España, a systematic review of the coalition government's commitments and progress since his investiture. This is the transcript of his introductory speech:

<https://www.lamoncloa.gob.es/presidente/intervenciones/Paginas/2020/prsp29122020.aspx>

25 10 2021 Sanchez

Context and source: La Moncloa records that on 25.10.2021 Sánchez intervened at and then met with EU Commissioner Paolo Gentiloni at a seminar titled “Seguimiento de la recuperación: más allá del PIB”, focused on monitoring Spain’s post-COVID recovery with broader social and environmental indicators.

<https://www.lamoncloa.gob.es/presidente/intervenciones/Paginas/2021/prsp20211025.aspx>

Loefven

22 03 2020 Loefven

Context and source: Address to the nation, full Swedish transcript “Statsminister Stefan Löfvens tal till nationen” (22 mars 2020): <https://www.socialdemokraterna.se/vart-parti/vara-politiker/stefan-lofvens-tal/statsminister-stefan-lofvens-tal-till-nationen>

Machine translation of transcript sense checked against other speeches

08 09 2020 Loefven

Context and source: statement of government policy, official English transcript:

<https://www.government.se/speeches/2020/09/statement-of-government-policy/>

22 11 2020 Loefven

Context and source: Address to the nation, full Swedish transcript: “Stefan Löfven: Tal till nationen om pandemin, 22 november 2020” – <https://www.svenskatal.se/tal/stefan-lofven-tal-till-nationen-om-pandemin-22-november-2020>

Machine translation of transcript sense checked against other speeches

20 12 2020 Loefven

Context and source: Christmas address, Jultal 20 december 2020 (svensk text, fullständig):

PDF (rulla till avsnittet “Statsminister Stefan Löfvens jultal”, daterat 20 december 2020):

<https://www.regeringen.se/contentassets/dd83a344157741d2a3b65ebbf1e85d6f/statsminister-stefan-lofven-tal-2014-2021.pdf>

Machine translation of transcript sense checked against other speeches

14 09 2021 Loeften

Context and source: Full official English text “Statement of Government Policy 14 September 2021” (includes several paragraphs on COVID-19, vaccination, and lessons from the pandemic): <https://www.government.se/speeches/2021/09/statement-of-government-policy-14-september-2021/>

Johnson

12 03 2020 Johnson

Context and source: Prime Minister’s statement on coronavirus (early “worst public health crisis for a generation” address) <https://www.gov.uk/government/speeches/pm-statement-on-coronavirus-12-march-2020>

23 03 2020 Johnson

Context and source: Address to the nation announcing first UK lockdown and instruction to “stay at home” <https://www.gov.uk/government/speeches/pm-address-to-the-nation-on-coronavirus-23-march-2020>

31 10 2020 Johnson

Context and source: Statement announcing second England lockdown at coronavirus press conference <https://www.gov.uk/government/speeches/prime-ministers-statement-on-coronavirus-covid-19-31-october-2020>

31 12 2020 Johnson

Context and source: New Year’s message focusing on vaccines and the struggle ahead <https://www.youtube.com/watch?v=OHL3L9m6qgs>

22 09 2021 Johnson

Context and source: UN General Assembly speech with substantial COVID and vaccine content <https://www.rev.com/transcripts/uk-boris-johnson-un-general-assembly-2021-speech-transcript>

Appendix III: MIP Analysis by leader

MIP Analysis of COVID-19 Speeches

by 20 Political Leaders

Lexical Metaphor Identification, Phrase Context, and Semantic Frame Mapping

The 13 semantic frames used:

War | Family | Community | Natural Force | Crisis | Control | Inequality
Empathy | Suffering | Care and Support | Resilience (changed from Fight and Strength| Listen and Learn | Science
(others that weren't preset... infrastructure, construction)

Section 1: Male Leaders

Scott Morrison, Prime Minister of Australia (17 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
18 03 2020	keep Australia running	We are going to keep Australia running .	to physically maintain the motion of a person or machine	to preserve the functioning of the national economy and essential services during the pandemic	Control
18 03 2020	scalable and sustainable measures (used twice in speech)	But right now that is the advice and we need to ensure that when we're putting these scalable and sustainable measures in place that we are doing things that improve the situation, not worsen the situation and lessen our capacity to deal with this.	scalable = physically adjustable in size; sustainable = able to continue for a long time without being used up, damaged, or causing	policy responses that can be adjusted incrementally and maintained over a long period without collapsing	Control
18 03 2020	hardest hit sectors	This will provide much-needed support for our aviation sector who has been the hardest hit from these arrangements, as you've seen from the various announcements from our major airlines, but don't forget the smaller regional airlines as well.	to physically strike something with great force	industries most severely damaged by the economic impact of the pandemic	Crisis
18 03 2020	cushioning the impact (used twice in speech)	The Government is considering, quite extensively, further economic measures that will deal with the strength and the strengthening of our safety net and cushioning the even greater impact of the coronavirus on the Australian economy, particularly on small businesses and individuals.	a soft pad used to absorb physical shock	softening the economic harm done to individuals and businesses by the pandemic	Control, Care and Support
02 04 2020	new normal	It's creating a new normal in Australia during this virus, a new baseline as we fight the virus and we fight the economic threats that it poses.	conforming to a new / different standard or usual pattern	the ongoing presence of COVID-19 as a permanent feature of a changed contemporary life	Other (change)
02 04 2020	fight the virus	It's creating a new normal in Australia during this virus, a new baseline as we fight the virus and we fight the economic threats that it poses.	to physically combat a virus in the body or environment, for example by the immune system attacking viral particles or by using drugs, vaccines, and hygiene measures	to mobilise and coordinate state and society against the pandemic	War
02 04 2020	stood up our incident response center	We stood up our incident response center at that time and I visited on the 22nd of January.	to raise something from a lying or sitting position	to establish and activate an emergency response centre in preparation for the pandemic	Control
02 04 2020	frontline	It's not just the doctors or the nurses who are at the hospitals — those on the frontline — it's the cleaners at the hospitals as well.	the foremost line of troops in a military battle	health workers and essential workers who are most directly exposed to the pandemic	War, Empathy
02 04 2020	contain the virus	Containing and limiting the spread of the virus that had come from China in those early days was incredibly important.	to physically hold or enclose something within a bounded space	to prevent the virus from spreading further into the community through intervention measures	Control
05 08 2020	heavy lifting / got each other's back	We respect each other as equal partners with the United States. We do our fair share of the heavy lifting . We've got each other's back .	lifting or carrying very heavy objects, which requires strong muscular effort / protecting someone from behind in a dangerous situation	taking on a large share of difficult responsibilities in pandemic response / mutual help and solidarity in carrying out those tasks	Resilience, Community
05 08 2020	overwhelm the system	We have sorted all times to make measures sustainable and scalable because this gives us the opportunity to strengthen the position we're in so we can get more ICU beds in place and never overwhelm the system .	to physically overpower	to exceed the capacity of the health system to treat all patients requiring care	Crisis

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
05 08 2020	spirit of national unity	But the cooperation, the collaboration, the support, the candidness and the way people are working together in a true spirit of national unity is exactly - exactly - what you would hope to be seeing from all of your national and state and territory leaders.	Spirit: the animating essence of a person or group national unity: being undivided	agreement and cooperation among all political and social actors in responding to the pandemic	Community
31 12 2020	comeback (used again on 06 04 21)	In 2021 well we must stay vigilant as we continue our comeback . A comeback that is now well underway despite the present challenges we face.	a return to physical activity or competition after absence	the economy returns from weakness to strength after a COVID shock	Resilience
31 12 2020	Indomitable spirit	Like the generations before us in this past year we have found that same indomitable Australian spirit .	impossible to defeat or subdue	the capacity of the nation and its people to endure and recover from the hardship of the pandemic	Resilience
31 12 2020	making our way	We're a nation that prevails and we are making our way through this crisis in a very Australian way guided by our own enduring principles and values that have served us so well and together we have done better than almost any other country in the world.	to move from one place to another, usually with some effort or difficulty, step by step or slowly by creating a path	successfully managing the complex and uncertain challenges presented by the pandemic	Resilience, Crisis
06 04 2021	Anzac spirit	We welcome them back as indeed Kiwis will be welcoming Aussies and all in time for Anzac Day too, which is tremendous to see that occur in the true Anzac spirit of our two nations coming together again.	Anzac refers to the Australian and New Zealand Army Corps soldiers of WWI and their qualities	contemporary Australians' and New Zealanders' civic virtues and behaviour in response to COVID-19	War, Resilience
06 04 2021	upscale and roll out	Our vaccination program continues to upscale and continues to roll out .	to increase in size and physically unroll or extend an object across a surface	to progressively deploy and distribute the COVID-19 vaccine programme across the population	Science

Sebastian Kurz, Federal Chancellor of Austria (26 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
15 03 2020	starve the virus	All of us together must take these measures to starve the virus .	to deprive a living creature of food	to cut off the virus's ability to spread by eliminating human contact it requires for transmission	War
15 03 2020	defend the health	Dear Austrians, All of us in the federal government are aware that these are massive restrictions for every individual, but these steps are necessary to defend the health of the Austrian population and to protect the older generation in our country in particular.	to physically protect a territory or person from attack	to protect the health of the Austrian population through restrictive public health measures	War
15 03 2020	strategic reserve	I have instructed the Minister of Defence to stop the imminent retirement of conscripts and to establish the readiness of some units of the militia. They will support the police and thus be a necessary strategic reserve for logistical challenges.			
15 03 2020	contain the virus	(General applause.) Dear Austrians, it will be challenging, difficult and also painful weeks, a critical time in which we must contain and slow down the spread of the virus with all our strength and consistency, in the hope that we can resurrect socially, economically and also socially after Easter and live our lives the way we cherish and love them.	to physically enclose something within a bounded space	to prevent the further spread of the virus through strict movement restrictions	Control, Science
15 03 2020	three pillars	The €4 billion package is based on three pillars .	vertical columns of stone or concrete supporting a structure	the three foundational elements of the government's economic crisis support package	Other (construction)
15 03 2020	superhuman things (again on 06 07 21)	Today, I would like to express my special thanks to all those people who are doing superhuman things in the month.	feats beyond normal human physical capability	extraordinary dedication and sacrifice shown by frontline workers in the pandemic	Resilience
03 04 2020	not out of the woods yet	it must also be clear to all of us that we are not out of the woods yet .	still physically inside a forest or wooded area, not yet in open ground	Austria has not yet reached a safe position in the pandemic; the crisis is not over	Crisis, Other (journey)
03 04 2020	frontline	I would like to express my sincere thanks to all those who contribute to ensuring that the supply in Austria works: from agriculture, which produces food, to all those who are responsible for logistics and supply chains, but of course also those who then sell and work in the supermarkets and are directly on the frontline .	the foremost military line facing the enemy in battle	the workers in supermarkets and healthcare who are in direct and most vulnerable contact with the public	War
03 04 2020	embers	So that if there are embers , these embers can be quickly isolated and extinguished and not immediately followed by another wildfire.	small pieces of burning or glowing material left after a fire	small residual clusters of infection that could reignite a larger wave of contagion	Natural Force
03 04 2020	wildfire	So that if there are embers, these embers can be quickly isolated and extinguished and not immediately followed by another wildfire .	an uncontrolled fire burning rapidly across natural landscape	an uncontrolled resurgence of the virus spreading rapidly through the population	Natural Force
03 04 2020	defeated the disease	I hope that I will be able to look back together with you in a year's time and that we will conclude together: we have defeated the disease , we have saved lives together and we have managed to make a comeback as a business location in Austria.	to win a physical victory over an adversary in combat	to bring the COVID-19 epidemic to an end through combined public and health system effort	War
03 04 2020	whatever the cost	Our approach is clear: whatever the cost! We will do everything necessary to	To make an effort regardless of the	the government's commitment to spend whatever is necessary	Care and Support, Resilience

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
		protect jobs and to lead Austria well through this crisis as a business location	resources to be expended	to protect Austrian citizens and the economy	
03 04 2020	comeback	I hope that I will be able to look back together with you in a year\'s time and that we will conclude together: we have defeated the disease, we have saved lives together and we have managed to make a comeback as a business location in Austria.	a return to physical activity or competition after absence	the recovery of Austria's economic strength following the damage inflicted by the pandemic	Crisis, Resilience
03 04 2020	defuse this situation	As the Federal Government, we therefore immediately decided to spend 38 billion euros to provide aid money for companies and for people in order to defuse this situation and ensure that we get through this crisis.	to remove the fuse from an explosive device to render it harmless	to reduce the severity and danger of the economic crisis through aid measures	Control, War
14 09 2020	light at the end of the tunnel	Things will go up again, there is light at the end of the tunnel .	visible illumination appearing at the exit of a dark physical passage	the prospect of vaccines and treatments bringing an end to the pandemic by the following summer	Crisis, Other (journey)
14 09 2020	second wave	This is a sharp increase, and due to the fact that we are currently at the beginning of the second wave , it can also be assumed that unemployment figures will continue to rise over the autumn and winter.	a crest of water moving across the sea	a renewed surge of COVID-19 infections in the autumn following the first wave in spring	Natural Force
14 09 2020	cushion the global economic crisis	I would therefore like to take this opportunity to express my sincere thanks to all those who have contributed to the fact that we have so far done everything we can to cushion the global economic crisis and the effects on locations and employment in the best possible way.	a soft pad used to absorb physical impact	to mitigate the worst economic effects of the pandemic on Austrian businesses and workers	Care and Support
14 09 2020	pulling together	It is not an easy time for our country, it is not an easy time for Europe, it is not an easy time internationally, but I am glad that we are all pulling together and doing everything we can to cushion the impact on our country in the best possible way during this challenging phase.	to move by gripping and dragging toward oneself	cooperating in unity to manage the economic and health challenges of the pandemic	Community
14 09 2020	strengthen the location	The third point, in addition to support for companies, in addition to measures on the labour market in the field of placement and training and further education, is the following: it is of course necessary to strengthen the location .	to physically reinforce a place with materials	to make Austria more economically competitive and attractive to investment during the crisis	Resilience
26 12 2020	get through this	Thank you to all of you for your contribution, whether it's all the working people, the entrepreneurs who are doing their part to help us get through this crisis economically, the families who have reconciled homeschooling and distance learning and teleworking and all that	to physically pass through an obstacle or barrier	to survive and overcome the challenges of the pandemic and emerge to a better situation	Crisis, Other (journey)
26 12 2020	defeating this pandemic	with each vaccination we will take a step forward towards defeating this pandemic .	to overcome an enemy in physical combat	to bring the COVID-19 pandemic to an end through vaccination and collective action	War
26 12 2020	step forward	On December 27, we will carry out the first vaccination, and with each vaccination we will take a step forward towards defeating this pandemic.	the physical action of moving one foot ahead	each vaccination administered represents progress toward ending the pandemic	Science
26 12 2020	affliction	It is, as already mentioned, an affliction that we will certainly all never forget, the past year and a half of the pandemic.	a physical condition causing pain or distress to the body	the COVID-19 pandemic as a collective ordeal that has caused widespread suffering	Suffering

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
06 07 2021	heroes of everyday life	It has produced true heroes of everyday life , people who have gone above and beyond, whether in the health professions, in the security sector or in other situations in life.	legendary figures celebrated for extraordinary physical deeds in battle	ordinary people who demonstrated exceptional dedication and sacrifice during the pandemic	Resilience
06 07 2021	gone above and beyond	It has produced true heroes of everyday life, people who have gone above and beyond , whether in the health professions, in the security sector or in other situations in life.	to physically move to a higher position and past a boundary	to exceed the normal expectations of one's professional role during the crisis	Care and Support, Resilience
06 07 2021	fight against the pandemic	Thanks to the advances in research, in the fight against the pandemic through a vaccine, but also through an accurate drug, we will be able to enjoy normality again next summer.	to physically struggle against an opponent	collective societal, governmental and scientific effort to control and end COVID-19	War
06 07 2021	pointed out weaknesses	Weaknesses were pointed out, for example in the area of digitalisation, where we suddenly realised how much still needs to be done here.	to direct a finger toward a physical object or flaw	the pandemic revealed structural deficiencies in society (e.g. digitalisation) that need to be addressed	Listen and Learn

Jair Bolsonaro, President of Brazil (24 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
24 03 2020	yellow light	the yellow light has appeared for us.	the amber signal on a physical traffic light indicating caution	a warning signal that the arrival of COVID-19 in Brazil should prompt preparatory caution	Crisis
24 03 2020	fighting the virus	Our Minister of Health met with almost all the health secretaries from the states so that the strategic plan for fighting the virus could be developed.	engaging in physical combat with an adversary	undertaking medical and policy measures to combat the spread and harm of COVID-19	War
24 03 2020	front line	We thank the union and the efforts of our volunteers in various areas, especially those who were on the Front Line .	the foremost military position facing an enemy in battle	health professionals working directly with COVID-19 patients in the most exposed conditions	War
24 03 2020	scorched earth concept	A few state and local authorities must abandon the scorched earth concept, the ban on transportation, the closing of trade and mass confinement.	a military tactic of destroying all useful resources when retreating	the policy of total lockdowns and economic shutdowns that Bolsonaro views as excessively destructive	War
24 03 2020	overcome the virus	Without panic or frenzy, as I have been saying since the beginning, we will overcome the virus and be proud to be living in this new Brazil, which has everything, yes, everything to be a great nation.	to physically overpower an adversary by superior strength	to successfully defeat the COVID-19 pandemic and return to normality	Resilience
24 03 2020	the virus has arrived	The virus has arrived , is being dealt with and will soon pass.	to physically come to a place from elsewhere	COVID-19 has reached Brazil and is now present, requiring direct management	Natural Force
31 03 2020	all fronts	Since the beginning of the administration, we have been working on all fronts to solve historical problems and improve people's lives.	the various physical positions along a military battle line	multiple domains of government activity (health, economy, welfare) being addressed simultaneously	War
31 03 2020	full swing	The military's chemical-pharmaceutical laboratories have gone into full swing and, within 12 days, will produce 1 million chloroquine tablets, in addition to hand sanitizer.	the full physical arc of a pendulum or arm in motion	operating at maximum capacity and activity to produce chloroquine and health supplies	Resilience
31 03 2020	pact	In that same spirit, I express my gratitude and reaffirm the importance of collaboration and the necessary unity of all in a grand pact for the preservation of life and jobs: parliament, judiciary, governors, mayors, and society.	a formal physical agreement sealed by handshake or signature	the united commitment of all political and social institutions to jointly preserve life and employment	Community
22 09 2020	bold step	But our administration in a bold step put in place several economic measures that prevented a greater evil.	a confident physical stride forward	the government's courageous and decisive economic intervention to prevent greater hardship	Resilience
22 09 2020	politicized the virus	As was the case in much of the world, segments of the Brazilian media have also politicized the virus by spreading panic among the population.	to politicise: to turn an issue, event, or topic into a matter of political debate, conflict, or party competition	media and political actors using COVID-19 for partisan purposes rather than focusing on facts	Crisis
22 09 2020	disinformation campaign	That explains the support given by international institutions to this disinformation campaign anchored on shady interests coupled with exploitative and unpatriotic Brazilian associations with the purpose of undermining the Government and Brazil itself.	campaign: a planned series of actions over a period of time to achieve a specific goal	organised efforts by foreign entities and NGOs to spread false information about Brazil's environment policy (not COVID related, but representative of the same argumentative blame framing of Bolsonaro)	Crisis
22 09 2020	feed the world	Brazil has indeed helped to continuously feed the world .	feed: to physically provide food to hungry people	Brazil's agricultural production sustaining food supplies for a large portion of the global population	Care and Support, Community
24 12 2020	front line	We thank the union and the efforts of our volunteers in various areas, especially those who were on the Front Line .	the foremost military position in battle	healthcare workers and volunteers working in direct exposure to COVID-19 throughout the pandemic	War

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
24 12 2020	walk side by side	Our efforts have always been primarily focused on preserving life and jobs because health and economy walk side by side .	to physically move in parallel with another person	health and economy are interrelated and must be addressed together, neither sacrificed for the other	Care and Support, Community
24 12 2020	path to progress	These actions have helped our Brazil to continue on the path to progress and development, even being a reference for other nations.	a physical road or route leading to a destination	the trajectory of national development and improvement that Brazil is following despite the pandemic	Crisis, Other (journey)
24 12 2020	noble mission	I reaffirm my confidence in Brazil and will continue to fulfill this noble mission with the same firmness and readiness, above all, with transparency and truth.	a physical quest or journey of elevated moral purpose	the president's duty to govern for the welfare of the Brazilian people with transparency and determination	Resilience
24 12 2020	reborn	2021 is reborn with the desire to do good, to value small gestures, to act and give more value to others.	the physical act of coming back to life	the new year bringing renewed energy and purpose after the difficulties of 2020	Other (opportunity)
21 09 2021	verge of socialism	That's a lot, it's a solid foundation, if we take into account that we were on the verge of socialism .	the physical edge of a cliff or boundary about to be crossed	Brazil was dangerously close to adopting a socialist economic model before the current administration	Crisis
21 09 2021	legacy of inflation	Isolation and *lockdown* measures have left a legacy of inflation , especially in food products worldwide.	a physical inheritance or object left to future generations	lockdown policies creating a lasting burden of inflation on national economies	Suffering
21 09 2021	solid foundation	That's a lot, it's a solid foundation , if we take into account that we were on the verge of socialism.	a firm physical base on which a structure is built	the core principles of Brazil's governance providing stability and credibility	Community, Other (construction)
21 09 2021	credibility restored	I now present a new Brazil, with its credibility restored .	the physical act of returning an object to its place	Brazil regaining its standing as a reliable and trustworthy partner for international investment	Resilience
21 09 2021	fighting the virus and unemployment simultaneously	I have always advocated fighting the virus and unemployment simultaneously and with the same responsibility.	physically combating two adversaries at once	the dual imperative to control the pandemic and preserve jobs at the same time	War, Resilience
21 09 2021	resurgence of rail transport	During our administration, we promoted the resurgence of rail transport .	the physical reappearance of something previously dormant	a major revival of rail infrastructure investment under the current administration	Resilience, Other (construction)

Justin Trudeau, Prime Minister of Canada (27 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
13 03 2020	pulling out all the stops	We're following the situation very closely and we're pulling out all the stops .	to remove all the stop controls of a pipe organ to produce maximum sound	deploying every available resource and measure to respond to the pandemic	Resilience
13 03 2020	fiscal firepower	But what is also true is that we are in the enviable position of having significant fiscal firepower available to support you.	the destructive force of weapons in physical combat	Canada's substantial financial resources available to stimulate the economy during the crisis	War
13 03 2020	team Canada effort	Addressing COVID-19 must be a team Canada effort .	a group of people physically working together in a common task	the coordinated effort of all levels of government and society to address the pandemic	Community, Resilience
13 03 2020	protect our neighbours	But we have to do this because we have to protect our neighbours and our friends, especially our more vulnerable seniors and people with pre-existing conditions.	to physically shield a person nearby from harm	the civic obligation to take precautions to safeguard vulnerable members of one's immediate community	Care and Support
23 09 2020	tide is turning	However, now the tide is turning.	the physical rise and fall of sea water due to gravitational forces	the direction of the pandemic is shifting to a worse phase as case numbers rise again	Natural Force
23 09 2020	on the brink	We're on the brink of a fall that could be much worse than the spring.	the physical edge of a steep drop or precipice	Canada is dangerously close to a severe second wave that could be worse than the first	Crisis
23 09 2020	tools in the toolbox	And this fall, we have even more tools in the toolbox .	physical instruments stored in a box for manual work	the range of public health measures and interventions available to manage the pandemic	Control
23 09 2020	bend the curve (also use on 20 11 20)	We can bend the curve .	to physically flex a curved object	to reduce the rate of COVID-19 case growth so that the epidemic trajectory becomes more manageable	Science, Control
23 09 2020	build back better	But beyond the emergency, as we start to build back better , we must do that in a fiscally and sustainable way.	to physically reconstruct a damaged structure more durably	using the post-pandemic recovery as an opportunity to create a stronger, fairer economy and society	Crisis, Other (construction)
23 09 2020	double down	we need to double down in our efforts to fight climate change.	to increase physical effort in a high-stakes situation	intensifying Canada's commitment to fighting climate change as part of the recovery plan	Resilience
23 09 2020	crossroads	I want to speak directly to you today because Canada is at a crossroads . We are at a crossroads and the future is in our hands.	a physical intersection where two or more roads meet	a critical decision point for Canada between controlling the second wave or allowing it to worsen / making choices for a prosperous future	Other (opportunity), Other (journey)
20 11 2020	tighten up	We're in a moment right now, where even with all the sacrifices I know Canadians have been making over these past 10 months, we are now going to have to really tighten up once again.	to increase physical tension in a rope or mechanical component	to further restrict social contacts and reinforce compliance with public health rules	Control
20 11 2020	overwhelmed hospitals	We are facing a winter that's going to drive people inside more and more, and we're really at risk of seeing caseloads go up, and hospitals get overwhelmed , and more loved ones dying.	to be physically overcome by a superior force	healthcare systems at risk of exceeding capacity due to the surge in COVID-19 patients	Crisis
20 11 2020	lifeline	This program has been a lifeline for millions of Canadians, so we're making sure people continue to get this support.	a physical rope thrown to save a drowning person	the wage subsidy program providing essential financial support keeping Canadian workers solvent	Care and Support
20 11 2020	on the front lines	They've been on the front lines for almost 10 months now, putting in incredibly long hours, being creative in how they can save people and protect people while at the same time trying to	at the most forward and dangerous position in a military battle	healthcare and essential workers directly and continuously exposed to COVID-19 risk	War

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
		keep themselves safe---while at the same time having the same worries that each of us have about our loved ones, about our kids in schools, about our parents and our grandparents.			
20 11 2020	putting their lives on the line	And yet they keep showing up every single day, to be there for us, putting their health, their lives and in many cases their families' lives, on the line to keep us safe.	to physically position oneself at the boundary	healthcare workers risking their own health and safety to care for COVID-19 patients	Care and Support, Resilience
20 11 2020	reverse the tide	The only way we can reverse the tide is if we reduce the number of people each of us come into contact with.	to change the physical direction of rising sea water	to turn around the worsening trajectory of COVID-19 case numbers and hospitalizations	Natural Force
31 12 2020	lend a hand	But through it, we've seen Canadians -- from coast to coast to coast -- lend a hand , make personal sacrifices, and help others.	to physically extend one's hand to assist another person	Canadians helping one another and showing mutual support through the pandemic	Community, Care and Support
31 12 2020	everyday heroes	They are the everyday heroes who we cheered on and hung signs in our windows for.	individuals known for extraordinary physical acts of bravery	frontline workers and essential service workers whose quiet dedication sustained Canada through the pandemic	Resilience
31 12 2020	front lines of the pandemic	This is especially true for those working on the front lines of the pandemic .	at the most forward and dangerous position in a military battle	those who worked in direct exposure to COVID-19 risk throughout the pandemic	War
31 12 2020	come out of this crisis stronger	together, we will come out of this crisis stronger and more resilient.	to physically exit a place with greater force or energy	to emerge from the pandemic with a more resilient economy and society than before	Resilience
31 12 2020	kept the shelves stocked	The grocery store workers who kept the shelves stocked .	to maintain a physical store of goods on physical shelves	grocery and essential workers ensuring continued food supply during the pandemic	Care and Support
18 06 2021	doses into arms	And of course, we'll provide that information to the provinces and territories right away so that they can get these doses into arms as quickly as possible.	the physical injection of a liquid substance into a human arm	administering COVID-19 vaccines to people as rapidly as possible	Science
18 06 2021	locking in shipments	Canada is getting millions more Moderna doses brought forward from our summer shipment schedule into June, and we're locking in shipments for the first half of July.	to physically secure a cargo container with a lock	securing confirmed delivery commitments for future vaccine supply	Control
18 06 2021	turning a blind eye	Because the cost of turning a blind eye - it's much too high.	to physically avert one's gaze from an object	failing to act on hateful acts of discrimination in Canadian communities	Empathy
18 06 2021	safely reopen	This morning, I want to share some important updates about vaccine deliveries, supporting communities, and our plan to safely reopen .	to physically unlock or open a closed space	resuming international travel and normal activities while maintaining health safeguards	Control
18 06 2021	surpassed our delivery numbers	Just like we surpassed our delivery numbers for the first quarter of this year, we're doing the same for the spring quarter.	to physically exceed a counted quantity of delivered items	Canada's vaccine delivery program exceeding its targets ahead of schedule	Science, Resilience

Emmanuel Macron, President of France (29 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
16 03 2020	we are at war (used 6 times in quick succession)	We are at war , admittedly a health war: we're fighting neither an army nor another nation.	to be engaged in armed conflict with an enemy state or force	the COVID-19 pandemic requires the full mobilization of national resources as in wartime	War
16 03 2020	the enemy is there	But the enemy is there , invisible, elusive, and it's making headway.	an opposing military force physically present in a location	the virus as an invisible but real adversary threatening the nation	War
16 03 2020	front line	Together with the scientists, we've decided to reserve masks first and foremost for hospitals and for urban and rural medicine, particularly GPs and nurses, who are now also in the front line of managing the crisis.	the foremost military position facing the enemy	healthcare workers managing the crisis in the most exposed and demanding conditions	War
16 03 2020	making headway	But the enemy is there, invisible, elusive, and it's making headway .	to make physical progress through space against resistance	the virus advancing and spreading through the population despite containment efforts	Resilience, Other (journey)
16 03 2020	widespread mobilization	And that requires our widespread mobilization .	the physical assembly and deployment of military forces	the collective national effort of citizens and institutions required to fight the pandemic	War
16 03 2020	wave of serious cases	You must not call the emergency services or go to hospital unless you have a high fever or difficulties breathing, otherwise they will not be able to deal with the wave of serious cases which is already on the horizon in some regions.	a large body of water moving in a crest	the anticipated surge of severe COVID-19 patients who would overwhelm intensive care facilities	Natural Force
13 04 2020	held fast	Our hospitals have held fast , succeeding in caring for all who have been admitted.	to physically maintain a firm grip on something	hospitals and health services having maintained operations despite immense pressure during the pandemic	Resilience
13 04 2020	lines of defence	Our second line of defence has been the farmers, teachers, truck-drivers, delivery people, electricians, warehouse and supermarket workers, refuse collectors, security professionals, cleaning staff, journalists, social workers, elected officials\...	successive military positions established to repel an advancing enemy	the successive layers of workers and citizens who together sustained the nation through the pandemic	War
13 04 2020	adapt on the fly	We have had to adapt on the fly , take difficult decisions based on incomplete, rapidly evolving information, endlessly modify our approach, because the virus was an unknown quantity and to this day still holds many mysteries.	to make changes while in physical motion	making rapid adjustments to pandemic response strategies based on evolving information	Listen and Learn
13 04 2020	flattening of the coronavirus curve	through our civic responsibility, respect for the lockdown rules in cooperation with the police, have contributed to a flattening of the coronavirus curve .	to physically press a curved surface until it becomes flat	slowing the growth rate of COVID-19 infections through civic compliance with lockdown measures	Science, Control
13 04 2020	shore up the economy	There is, as you can see, a lot of work to be done in the coming days to shore up the economy .	to physically reinforce a structure to prevent it from collapsing	taking urgent economic measures to prevent businesses and workers from collapsing during the pandemic	Care and Support
13 04 2020	the battle is a long way from being won	There is hope, as I have said, but the battle is a long way from being won .	physical armed combat that has not yet reached a decisive conclusion	the pandemic is not under control and much more effort is needed before it can be declared over	War
13 04 2020	rebuild our strength	It is what we, as a country, need to do to limit the spread of the virus, ensure there are enough hospital beds for all and rebuild our strength .	to physically restore one's muscular capacity after exhaustion	restoring France's national resilience, medical capacity and economic resources after the pandemic	Resilience

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
22 09 2020	on the frontline	I am fully aware, however, that when you are on the frontline and desperately in need of equipment, it is difficult to swallow the excuse that everyone on the world is suffering the same shortages.	at the most forward and dangerous position in physical combat	healthcare workers and humanitarian workers who bore the greatest burden at the start of the pandemic	War
22 09 2020	wake-up call	The pandemic must be a wake-up call for this organization, and a moment of redemption.	a physical alarm that rouses someone from sleep	the pandemic as a signal that multilateral institutions need urgent reform and recommitment	Listen and Learn (= the UN in this case)
22 09 2020	fractures	All of the fractures that existed before the pandemic -- the hegemonic clash of powers, the undermining and the instrumentalization of multilateralism and the trampling of international law - - accelerated and deepened due to the global destabilization created by the pandemic.	physical breaks or cracks in a solid material	the deepening divisions and failures in international cooperation made worse by the pandemic	Crisis
22 09 2020	misinformation epidemic (used 3 times in speech)	Trusted third-party scientists and journalists, which are so essential to our understanding and ability to efficiently respond to the crisis, have been undermined by state propaganda, and by misinformation epidemic .	a disease that spreads through a population causing physical harm	the rapid and damaging spread of false information through media and political channels during the pandemic	Natural Force, Listen and Learn
22 09 2020	humankind will defeat this pandemic	First of all, I believe in science and knowledge, and humankind will defeat this pandemic ; a cure will be found.	to achieve physical victory over an enemy in combat	confidence that science and international cooperation will ultimately end the COVID-19 crisis	War, Community
22 09 2020	heads in the sand / sit on the fence	We can no longer keep our heads in the sand . We no longer have the opportunity, or if I may say luxury, to sit on the fence . The pandemic must be a wake-up call for this organization	the physical act of burying one's head in the ground to avoid perceiving reality / to be undecided (which side of the fence to come down on)	international leaders refusing to acknowledge the severity of the crisis and act decisively	Listen and Learn (=UN/international community)
31 12 2020	held on	Our caregivers have not only held on , but we have undertaken an in-depth transformation and historic investments for our health, the relevance of which the coming years will reveal.	to physically maintain a grip so as not to fall	healthcare workers having maintained functioning and commitment despite extreme pressure during the pandemic	Resilience
31 12 2020	historic ordeal	This historic ordeal also revealed the solidity of our Nation.	a severe physical test or trial of strength and endurance	the COVID-19 pandemic as an exceptional collective suffering that will mark the nation's history	Suffering
31 12 2020	lend a hand	Marie-Corentine is 24 years old. Last spring, this newly qualified nurse from Limoges did not hesitate to leave everything to lend a hand to the teams at the Créteil hospital overwhelmed by the influx of virus patients..	to physically extend one's hand to assist another person	Ordinary citizens helping one another and showing mutual support through the pandemic	Community, Care and Support
31 12 2020	whatever the cost (used twice in speech)	On the economic level, the " whatever the cost " to which I committed in March 2020, not only allowed us to protect our businesses and our jobs, but preserved the purchasing power of many French people and is the origin of a vigorous rebound.	To make an effort regardless of the resources to be expended	the government's commitment to spend whatever is necessary to protect French citizens and the economy	Care and Support, Resilience
31 12 2020	recovery simmering	The hope is there, and the hope grows every day in this recovery which is already simmering in France more than elsewhere	a substance slowly heated until it starts to bubble	the gradual process of economic and social recovery beginning to build momentum	Resilience
31 12 2020	Sending a message against	She lives in a retirement home in Sevran and a few days ago, you all saw	performing a communicative act that	the campaign to vaccinate the population also represents	Resilience

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
	obscurantism and conspiracy	it, like me, she was the first French woman to be vaccinated against COVID 19, sending , against obscurantism and conspiracy, a magnificent message of hope for the year ahead.	signals opposition to deliberate hiding/distortion of knowledge and to secret-plot explanations	resistance to anti-vaccine misinformation	
31 12 2020	burden for future generations	We will have to build solutions together to avoid making this a burden for future generations .	a physical weight or load imposed on a person's body	the long-term financial and social costs of the pandemic that will be inherited by younger people	Inequality, Suffering
12 07 2021	speed race	It is therefore a new speed race that is underway.	a physical competition in which participants run as fast as possible	the urgency of vaccinating the population quickly enough to stay ahead of new variants of the virus	Resilience
12 07 2021	rushes into all spaces	Because this variant is three times more contagious than the first strain, it rushes into all spaces not covered by vaccination.	to physically move quickly through an open area	the more contagious Delta variant spreading rapidly wherever people are not fully vaccinated	Natural Force
12 07 2021	vigorous rebound	On the economic level, the "whatever the cost" to which I committed in March 2020, not only allowed us to protect our businesses and our jobs, but preserved the purchasing power of many French people and is the origin of a vigorous rebound .	the physical return of an object to its original position after an impact	France's strong economic recovery gathering momentum as restrictions ease	Resilience

Narendra Modi, Prime Minister of India (29 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
19 03 2020	passing through	My dear fellow citizens, The whole world is currently passing through a period of very serious crisis.	to move physically from one side of a place to another	to be experiencing or undergoing a difficult period of time (a serious crisis)	Crisis, Suffering
19 03 2020	explosion	In these countries, the spread of the disease has witnessed almost an explosion after the initial few days.	a sudden violent release of energy, as from a bomb	a sudden dramatic and rapid increase in the number of COVID-19 infections	War
19 03 2020	combat	Hence, it is imperative to keep two key factors in mind in order to combat this global pandemic - Determination and Patience.	to engage in physical fighting or armed conflict	to take active measures to counter and suppress the COVID-19 pandemic	War
19 03 2020	defenders of the nation	As defenders of the nation , they stand firmly between us and the Corona pandemic.	soldiers or warriors who protect a country from military attack	healthcare workers, doctors, and nurses protecting citizens from the virus	War, Resilience
19 03 2020	stand firmly between us and the Corona pandemic	As defenders of the nation, they stand firmly between us and the Corona pandemic .	to physically position oneself between two parties in conflict	healthcare workers serving as a protective barrier shielding citizens from the disease	Resilience
19 03 2020	nipped in the bud (describing a Hindu adage)	An illness and its scourge should be nipped in the bud itself — later, when it becomes incurable, its treatment is very difficult.	to cut off a plant shoot or bud before it grows	to suppress an illness or problem at its earliest stage before it worsens	Control
19 03 2020	litmus test	This people's curfew will in a way be a litmus test for us, for our nation.	a chemical test using litmus paper to determine acidity or alkalinity	a decisive test of India's readiness and resolve to face the pandemic	Science
29 03 2020	incarcerated the world	Brothers, Sisters, Mothers and the elderly, Corona virus has incarcerated the world .	to imprison someone in a jail or correctional facility	the coronavirus has confined humanity and restricted all normal freedoms of movement	Control, Empathy
29 03 2020	war	Friends, in this war , there are many soldiers who are fighting the Corona virus, not in the confines of their homes but outside their homes.	armed conflict between nations or groups involving military forces	the collective national effort and struggle against the COVID-19 pandemic	War
29 03 2020	front line soldiers	These are our front line soldiers - especially our brothers and sisters on duty as nurses, doctors and paramedical staff.	troops fighting at the foremost position in a military battle	doctors, nurses and paramedics working directly with COVID-19 patients at great personal risk	War
29 03 2020	picked up the gauntlet	This virus has, in a way, obstinately picked up the gauntlet to annihilate the human race.	to accept a challenge thrown down by an opponent in a duel or fight	the virus has defiantly taken up a challenge to destroy the human race	Resilience, War
29 03 2020	chase out this scourge (scourge used 3 times in speech)	Friends, all these people, all these friends are persevering to the best extent possible to chase out this scourge .	to drive away or expel by force	to eradicate or eliminate the COVID-19 disease from the country	Resilience
29 03 2020	battle on such a massive scale	We are able to fight a battle on such a massive scale , only on account of the zeal and grit of frontline warriors like you.	a large military engagement between opposing forces	the enormous national effort required to fight the coronavirus pandemic	War
29 03 2020	Lakshman Rekha	For the next many days, you have to continue displaying this patience; abide by the Lakshman Rekha .	a line drawn by the mythological figure Lakshman not to be crossed	the boundary of social distancing rules that must not be violated during the pandemic	Control, Community
03 04 2020	darkness spread by the Corona pandemic	Friends, amidst the darkness spread by the Corona pandemic , we must continuously progress towards light and hope.	the absence of light	the despair, fear, and suffering caused by COVID-19 across the nation	Suffering
03 04 2020	challenge the darkness	And that is why, this Sunday, on the 5th of April, we must all together, challenge the darkness spread by the corona crisis, introducing it to the power of light.	to openly confront or defy the absence of light	to actively oppose the despair and gloom brought by the coronavirus	Resilience

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
03 04 2020	progressing towards light	We must end the darkness and uncertainty emanating from the crisis, by progressing towards light and certainty.	moving in the direction of illumination	moving from despair and crisis toward hope, recovery, and certainty	Resilience, Other (journey)
03 04 2020	superpower of 130 crore Indians (used superpower four times in speech)	On this 5th of April, we must awaken the superpower of 130 crore Indians .	extraordinary ability and strength beyond normal human capabilities	the collective strength, resolve and unity of all Indian citizens fighting the pandemic	Community, Resilience
03 04 2020	awaken	On this 5th of April, we must awaken the superpower of 130 crore Indians.	to rouse from sleep to a state of consciousness	to activate and mobilise the collective strength and determination of all Indian citizens	Resilience
03 04 2020	break the chain	This is the only panacea to break the chain of Corona virus.	to physically snap or sever a chain of linked metal rings	to interrupt the sequence of COVID-19 transmission from person to person	Control
26 09 2020	raging pandemic	Even during these very difficult times of a raging pandemic , the pharma industry of India has sent essential medicines to more than 150 countries.	burning or blazing violently and out of control (of fire)	a pandemic that is intensely active, spreading rapidly and causing widespread harm	Natural Force
26 09 2020	joint fight against the pandemic	Where is the United Nations in this joint fight against the pandemic ?	a collective physical combat against an adversary	the coordinated international effort by nations to combat COVID-19 together	War
26 09 2020	delivery capacity will be used to help all humanity	India's vaccine production and delivery capacity will be used to help all humanity in fighting this crisis.	the physical ability to transport goods from one location to another	India's vaccine production and distribution infrastructure deployed in service of global health	Care and Support, Community
26 09 2020	enemies of humanity	India will not hesitate in raising its voice against the enemies of humanity , human race and human values -- terrorism, smuggling of illegal weapons, drugs and money-laundering.	military adversaries or opposing forces in armed conflict	threats such as terrorism and the pandemic that harm humanity	War
26 09 2020	driving force	This philosophy has always been the driving force of India's policies.	the mechanical force that propels a vehicle or machine forward	the motivating principle or ideology that guides India's foreign policy decisions	Resilience
26 09 2020	fighting this crisis	India's vaccine production and delivery capacity will be used to help all humanity in fighting this crisis .	to engage physically in combat against an opponent	to take active measures to overcome the challenges posed by the COVID-19 pandemic	Resilience
25 09 2021	biggest ever pandemic in 100 years	Mr President, For the last one and a half years, the whole world has been facing the biggest ever pandemic in 100 years .	exceptionally large in size or magnitude	a pandemic of unprecedented severity and scope affecting the whole world	Crisis
25 09 2021	Mother of Democracy	Mr President, I am representing a country which has the distinction of being named as the ' Mother of Democracy '.	a female parent who gave birth to a child	India's status as the originator or founding source of democratic governance	Family

Cyril Ramaphosa, President of South Africa (25 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
15 03 2020	no country is immune	Given the scale and the speed at which the virus is spreading, it is now clear that no country is immune from the disease or will be spared its severe impact.	protected by the body's biological defence system against a specific disease	no nation can be shielded from or unaffected by the impact of COVID-19	Crisis
15 03 2020	mobilising all resources	All the institutions of the state will be mobilised to lead this effort, but, if we are to succeed, every company, trade union, NGO, university, college, school, religious group and taxi association will need to play its part.	assembling military troops and equipment in preparation for war	bringing together all state and economic resources to respond to the pandemic emergency	War
15 03 2020	frontline of defence	Ministers who are at the frontline of coordinating our response to this crisis will be briefing the nation tomorrow, where they will unpack details in relation to the measures we announced tonight.	the foremost position in a military battle facing the enemy directly	healthcare professionals are positioned as the first line of protection against COVID-19	War
23 03 2020	flattening the curve	We must therefore do everything within our means to reduce the overall number of infections and to delay the spread of infection over a longer period — what is known as flattening the curve of infections.	making a curved line straight or less steep by pressing it down	slowing the rate of COVID-19 infections so they do not spike simultaneously and overwhelm hospitals	Science
23 03 2020	disrupt the chain of transmission	The nation-wide lockdown is necessary to fundamentally disrupt the chain of transmission across society.	to break apart a series of linked rings	to interrupt the sequence of person-to-person COVID-19 infection	Control
23 03 2020	marshal our every resource (used twice in speech)	Therefore, as we marshal our every resource and our every energy to fight this epidemic, working together with business, we are putting in place measures to mitigate the economic impact both of this disease and of our economic response to it.	to organise and direct military forces for battle or a military operation	to mobilise and direct all available national capabilities against the pandemic	War
23 03 2020	cushion our society	We are today announcing a set of interventions that will help to cushion our society from these economic difficulties.	a soft padded item that absorbs impact or shock	to protect society from the economic hardship caused by the pandemic and lockdown	Care and Support
23 03 2020	we will surely prevail	For we are a nation at one, and we will surely prevail .	to win a physical contest or battle against an opponent	South Africa will overcome and emerge victorious from the pandemic crisis	Resilience
23 03 2020	fight this epidemic	Therefore, as we marshal our every resource and our every energy to fight this epidemic , working together with business, we are putting in place measures to mitigate the economic impact both of this disease and of our economic response to it.	to engage in physical combat against an enemy	to take all necessary measures to defeat and overcome the COVID-19 epidemic	War
28 12 2020	let down our guard (twice in this speech)	We have let down our guard , and unfortunately we are now paying the price.	to lower a physical defensive shield or barrier in combat	to relax vigilance against COVID-19 safety protocols, leading to increased infections	War
28 12 2020	paying the price	We have let down our guard, and unfortunately we are now paying the price .	handing over money in exchange for goods or services	suffering consequences of relaxing precautions: increased infections and deaths	Suffering
28 12 2020	frontline healthcare workers	Our frontline healthcare workers , who have put their lives on the line over the past nine months to care for the ill, are becoming infected in higher numbers.	troops fighting at the foremost position in a military battle	healthcare workers providing direct patient care, exposed to the greatest risk from COVID-19	War
28 12 2020	put their lives on the line	Our frontline healthcare workers, who have put their lives on the line over the past nine months to care for the ill, are becoming infected in higher numbers.	to physically position oneself at the boundary	healthcare workers risking their own health and lives to care for COVID-19 patients	Care and Support, Suffering
28 12 2020	break point	They are themselves almost at break point .	the point at which a material fractures under stress or pressure	the maximum level of strain healthcare workers can endure before collapsing under COVID-19 pressure	Suffering, Crisis

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
28 12 2020	weather this storm	We can only weather this storm if we immediately and fundamentally change our mindsets.	to survive a violent atmospheric storm at sea by remaining on course	to endure and survive the severe and disruptive impact of the COVID-19 pandemic	Natural Force, Other (change)
	flatten the curve	As we had to in the early days of the lockdown, we now have to flatten the curve to protect the capacity of our healthcare system to enable it to respond effectively to this new wave of infections.	to make a curved line flat by pressing or smoothing it	to reduce the rate of new COVID-19 infections to protect hospital capacity	Science
31 12 2020	ubuntu	In the face of this unprecedented crisis, South Africans have demonstrated the true meaning of ' ubuntu '.	a southern African philosophy of human solidarity and mutual care	the spirit of collective compassion and shared responsibility demonstrated by South Africans during the pandemic	Community, Care and Support
31 12 2020	keep businesses afloat	Working together, we have mobilised the nation's resources under difficult conditions and in a very short space of time to support poor families, protect jobs and keep businesses afloat .	to prevent a vessel from sinking by keeping it buoyant on water	to maintain businesses financially so they do not fail during the pandemic	Community, Empathy
31 12 2020	struck by coronavirus	Even as we were struck by coronavirus , we had to confront another pandemic that has long plagued our nation.	to be hit hard by a physical blow	to be severely impacted by the COVID-19 pandemic as if hit by a powerful force	Natural Force
31 12 2020	Struck by another pandemic that has long plagued our nation.	struck by another pandemic that has long plagued our nation. We mourn the many women and children who lost their lives at the hands of men. We think of the many more who have had to endure rape and beatings, abusive relationships and sexual harassment. We think of the many children that have been injured and traumatised by adults – the very people who are responsible for their wellbeing and safety.	a widespread outbreak of an infectious disease that affects people over a very large region or globally, with person-to-person transmission, morbidity, mortality	there is systemic, pervasive gender-based (described as male) violence against women and children described as if it were an infectious outbreak spreading through the population	Inequality, Suffering
31 12 2020	second wave	They are exhausted, and they are struggling under the strain of the second wave .	a large surge of water moving forward across a body of water	a resurgence of COVID-19 infections following a period of relative decline	Natural Force
30 09 2021	living under the shadow of the pandemic	We have been living under the shadow of the pandemic for 574 days now, and all of us have taken strain.	to be positioned in the darkened area where sunlight is blocked by an object	to exist in a state of threat, constraint and uncertainty caused by the ongoing COVID-19 pandemic	Suffering
30 09 2021	taken strain	We have been living under the shadow of the pandemic for 574 days now, and all of us have taken strain .	to bear a physical force that stretches or deforms a material	to have experienced severe stress and hardship over the course of the pandemic	Suffering
30 09 2021	gathering pace	Since we launched our national vaccination drive, it has been gathering pace .	increasing speed of physical movement or locomotion	the vaccination campaign is accelerating and becoming more widespread and efficient	Science, Control
30 09 2021	these freedoms are within our reach	These freedoms , which we all long for, are within our reach .	close enough to be touched or grabbed with one's hand	normal life and its freedoms are attainable in the near future through vaccination	Control
30 09 2021	health facilities and staff from being overwhelmed	To save lives and prevent our health facilities and staff from being overwhelmed , we have therefore prioritised those above 50 and those above 60 for vaccination.	to defeat or overpower completely	hospitals and health workers being unable to cope with the volume of COVID-19 patients	Natural Force, Crisis

Pedro Sánchez, Prime Minister of Spain (33 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
13 03 2020	shield against the virus	The first line is made up of health professionals. Our shield against the virus .	a piece of armour carried in battle to protect the body from weapons	healthcare professionals serving as the primary defensive protection for society against COVID-19	War
13 03 2020	mobilizing all resources	These decisions will be aimed at mobilizing all the resources of the State as a whole to better protect the health of all citizens.	assembling and organizing military troops and equipment for warfare	bringing together all state, health, and economic resources to fight the pandemic	War
13 03 2020	The first line	The first line is made up of health professionals. Our shield against the virus.	the foremost military position directly facing enemy forces	healthcare workers positioned at the most exposed and dangerous position fighting COVID-19	War
13 03 2020	fight against the virus	We are only in the first phase of a fight against the virus that is being waged by all the countries of the world and in particular our continent, Europe.	to engage in physical combat against an opponent	the collective effort of all countries to combat and control COVID-19	War
13 03 2020	weaken their defences	I would also like to convey a very special message to our elderly and to people with chronic illnesses that, logically, weaken their defences ; They must be protected as much as possible from infection.	to reduce the strength of military fortifications protecting against attack	chronic illnesses and age reduce elderly people's immune system's capacity to resist the virus	War
13 03 2020	cut the contagion	Their collaboration, the collaboration of young people, is decisive to cut the contagion and that is why they must limit contacts and maintain social distance.	to sever something with a blade or sharp instrument	to interrupt and stop the chain of virus transmission between people	Control
04 04 2020	front line of defence	We have observed, for example, that in this war we have a competent, yet sensitive, front line of defence .	the foremost military position directly facing enemy forces	healthcare workers positioned at the most exposed and dangerous position fighting COVID-19	War
04 04 2020	Fighting under extreme conditions	our compatriots that are capable of fighting under extreme conditions while tending to the sick, and protecting every life, and celebrating every recovery as if it were a triumph, which indeed it is	engage in physical combat with an opponent in an environment that pushes the limits of human functioning	healthcare workers working very hard and persistently against the effects of COVID-19, despite very difficult circumstances	War
04 04 2020	bearing fruit	Today we can see that these three weeks of isolation and collective sacrifice are bearing fruit .	a plant or tree producing its edible products after growing	weeks of isolation and collective sacrifice are producing positive results in slowing the virus	Care and Support
04 04 2020	avalanche at our hospitals (two mentions in speech)	They have also served to contain the avalanche at our hospitals that are taking in fewer patients each day than they were two weeks ago; albeit at still very high levels.	a large mass of snow or rock sliding rapidly down a mountain	an overwhelming and rapidly increasing surge of COVID-19 patients threatening to overwhelm hospitals	Natural Force
04 04 2020	crossroads	As 2021 is about to begin, Spain stands at a crucial crossroads . It can opt for one of these two paths: the path of fear or the path of hope	a physical intersection where two or more roads meet	a decisive moment in history where fundamental choices will determine society's future direction	Other (opportunity), Other (change)
04 04 2020	the war we are waging against COVID-19	Other patients who are suffering from other types of pathologies or sicknesses and who have been pushed to one side as a result of the war we are waging against COVID-19 .	to engage in or carry out armed military conflict	the all-out national and collective effort to overcome and defeat the COVID-19 pandemic	War
04 04 2020	scent victory	And it falls to us once again to implore everyone to make this sacrifice, to resist and to scent victory to undertake the upcoming tasks in this battle.	to detect or smell a particular odour in the air	to begin to perceive the possibility of prevailing over the virus and ending the crisis	War, Resilience
04 04 2020	jumping the gun	Jumping the gun , relaxing or not maintaining unity now would be the worst thing, which would return us to the starting point because it would unleash a second wave that would hit us when our resistance is, let's face it,	a runner starts running before the starting pistol is fired	acting too soon or prematurely on lifting pandemic restrictions, before the appropriate or officially agreed time, without enough information or reflection	Control

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
		weakened and our strengths are thus diminished.			
04 04 2020	unleash a second wave	Jumping the gun, relaxing or not maintaining unity now would be the worst thing, which would return us to the starting point because it would unleash a second wave that would hit us when our resistance is, let's face it, weakened and our strengths are thus diminished.	to release or let loose something powerful that was restrained	to trigger a new surge of COVID-19 infections by relaxing restrictions prematurely	Natural Force
04 04 2020	guard down	We cannot afford to let our guard down for so much as a moment.	to lower defensive protection, leaving one exposed to attack in combat	to relax vigilance and stop following safety measures against COVID-19	War
25 09 2020	tragedy makes men brothers	On one occasion, he regretted that "it is sad to see that only tragedy makes men brothers ".	male siblings who share the same parents	shared catastrophe and suffering creates bonds of solidarity and unity among people	Community, Suffering
25 09 2020	paralysed the whole world	And now, this year, an initially localised outbreak in a market in Wuhan, in China, has paralysed the whole world for months and submerged mankind in the worst crisis of the last century.	to render someone unable to move by damaging the nervous system	COVID-19 has brought global economic and social activity to a complete standstill	Crisis
25 09 2020	shouldered the main burden	But when it has spread more widely, as we are seeing at this time, women have once again shouldered the main burden of care activities.	to carry a heavy load on one's shoulders or back	women have disproportionately taken on the weight of care responsibilities during the pandemic	Inequality
25 09 2020	winning the battle against AIDS	Swaziland was winning the battle against AIDS 10 years earlier than expected, However, the pandemic, as well as widening gaps, has suddenly and abruptly halted progress.	achieving victory in an armed military engagement	successfully reducing AIDS infections through preventive programs before COVID disrupted progress	War
25 09 2020	widened the gaps	The pandemic has widened the gaps in injustice and vulnerability.	to make a physical opening or breach larger	the pandemic has increased pre-existing social and economic inequalities	Inequality
25 09 2020	virus of disappointment	Because there is another virus spreading around the world - the virus of disappointment , of weariness, of disrepute, even of indifference - by these young people who can hear us - although, unfortunately, most of them don't listen to us - in the four corners of the world.	a microscopic infectious agent that replicates inside living organisms	disappointment and disillusionment with governance spreading through youth worldwide	Suffering, Inequality, Empathy
25 09 2020	we cannot drop our guard	We cannot, in these moments, drop our guard , because there is a whole part of the agenda that has been paralysed by this virus and which must be recovered.	to lower a defensive shield in a fight, becoming vulnerable to attack	to not relax vigilance and continue necessary pandemic precautions	War
29 12 2020	cut off the dead branches	That will be our chance to cut off the dead branches and resume the course where we left off.	to sever dead or diseased limbs from a tree or plant by pruning	to eliminate outdated economic and social structures that no longer serve society after the pandemic	Crisis, Other (opportunity)
29 12 2020	we cannot drop our guard	Thus, avoiding this third wave at such an important holiday time as Christmas is our collective priority. We cannot, and must not, drop our guard	to lower a defensive shield in a fight, becoming vulnerable to attack	to not relax vigilance and continue necessary pandemic precautions	War
29 12 2020	world frozen by the ravages of the virus	It will not be enough to reanimate in the middle of spring a world frozen by the ravages of the virus .	to be at a temperature below freezing, turning liquid to solid	the world stopped and halted by the destructive impact of COVID-19	Natural Force
29 12 2020	fight together with you	And from the first to the last of the Spanish people, of your compatriots, from the first healthcare worker to the last child we will fight together with you , our elderly folk, for you, the elderly.	to engage in physical combat alongside someone against a common enemy	to work collectively with elderly citizens to protect them from COVID-19	Community, Empathy

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
29 12 2020	sacrifice, resistance and a sense of victory	There is only one path: sacrifice, resistance and a sense of victory.	enduring loss or hardship in combat; military opposition to an attacking force	giving up freedoms and comforts, persisting through hardship, and striving to overcome COVID-19	Resilience
29 12 2020	historic crossroads	I would like to convey that we are at an historic crossroads . . We can opt to listen to those who do not offer solutions, only reproaches. ... On, in contrast, we can take a completely different approach; we can appreciate that the new world, that we are already entering, will not be the same as yesterday's world, and much less like the one before that	a physical intersection where two or more roads meet	a decisive moment in history where fundamental choices will determine society's future direction	Other (journey), Other (opportunity)
29 12 2020	flatten this curve	Today, it falls to me to appear again to announce that the figures the experts are giving the government forecast that in the coming days, once the peak of the spread of the virus passes, we will be in a position to flatten this curve .	to press or smooth a curved line or surface until it is flat	to slow the rise of COVID-19 infections so hospitals are not overwhelmed simultaneously	Science
25 10 2021	fighting the disease	My first few words are of firm support to those who are fighting this disease , and also obviously my deepest sympathies to the families and friends of those who have regrettably died.	to engage in physical combat against an opponent	to actively resist and take all measures to overcome COVID-19	War
25 10 2021	darkest hours	As I announced in my last press briefing, this week has seen the darkest hours , the toughest days and the most bitter times.	the period of least light before dawn	the most severe and desperate period of the pandemic with highest death tolls	Suffering
25 10 2021	bearing fruit	Today we can see that these three weeks of isolation and collective sacrifice are bearing fruit .	a plant producing edible growth from flowers after development	collective sacrifice and isolation are producing measurable positive results in controlling the pandemic	Care and Support
25 10 2021	curve is within our sight	So now, after so much effort, the flattening of the curve is within our sight ; the epidemic will now begin to tail off, but we must keep up our guard. Between us all we will flatten this curve.	visible within the range of one's physical vision	the flattening of COVID-19 infection rates is now achievable and close to being accomplished	Science

Stefan Löfven, Prime Minister of Sweden (27 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
22 03 2020	testing our country	The new coronavirus is testing our country , our society and us as human beings.	to examine or check the quality, performance, or reliability of someone or something	the coronavirus is challenging and placing Sweden under severe pressure to prove its resilience	Crisis, Resilience
22 03 2020	bid a loved one their last farewell	More people will fall ill, more will have to bid a loved one their last farewell .	to say goodbye to someone departing for a journey	to lose a family member or friend to COVID-19 without a proper goodbye	Suffering, Family
22 03 2020	face the crisis as a society	The only way of handling this, is to face the crisis as a society where everyone takes responsibility for themselves, for each other and for our country.	to confront and stand in front of something challenging or threatening	to collectively confront and respond to the COVID-19 crisis as a unified society	Community, Resilience
22 03 2020	unity is at its strongest	You show that when times are at their toughest, our unity is at its strongest .	the physical property of elements bonded tightly together forming a whole	people's collective solidarity and cooperation is at its most powerful in the worst times	Community, Resilience
22 03 2020	society is strong	But our society is strong .	having great physical force or structural solidity	Swedish society has the resilience and institutional capacity to withstand the pandemic pressure	Resilience, Community
08 09 2020	cracks in our society (twice in speech)	The COVID-19 crisis has clearly exposed cracks in our society -- cracks that can only be mended through substantial investments and hard political effort.	narrow fractures or breaks in a hard material	pre-existing structural weaknesses in Swedish welfare and elder care revealed by COVID-19	Inequality
08 09 2020	build back even better	We will build back even better .	to construct a physical structure again after it has been destroyed	to reconstruct Sweden's society and economy in an improved form after the pandemic crisis	Other (construction)
08 09 2020	work Sweden out of the economic crisis (used three times in speech)	Together we will work Sweden out of the economic crisis .	to use physical effort to move something out of a confined space	to collectively apply national effort to restore economic health and growth after COVID-19	Community, Resilience
08 09 2020	safety nets	We have safety nets and support for people who become unemployed or sick; we have free education and innovative businesses.	a physical net positioned to catch people falling from a height	social welfare systems designed to protect vulnerable people from economic and social hardship	Care and Support, Empathy
22 11 2020	heading into winter darkness	Tonight I want to say a few words that I would like you to keep in mind as we head into the winter darkness .	moving toward the season of least daylight and cold temperatures	entering a difficult period of increased COVID-19 infections and hardship during winter	Suffering
22 11 2020	flatten the curve of infection	We know how to flatten the curve of infection .	to press a curved line flat by applying downward force	to slow the rate of new COVID-19 infections to a manageable level for healthcare	Science
22 11 2020	Sweden will stand firm	But Sweden will stand firm .	to maintain a steady upright physical position without yielding to force	Sweden will remain resilient and endure the challenges of the pandemic without collapsing	Resilience
22 11 2020	raised our country	Remember how we pushed the spread of infection down and raised our country .	to lift something physically to a higher position	to improve and elevate Sweden's condition by successfully controlling the spread of infection	Community, Resilience
22 11 2020	defeat the virus	And that it is stronger than the virus we must defeat .	to overcome an opponent in a battle or military contest	to overcome and eliminate the coronavirus through collective action and discipline	War
22 11 2020	sacrifices	There are a few crucial moments in life when you have to make sacrifices , not only for your own sake but also in order to take responsibility for the people around you, for your fellow human beings, and for our country.	an act of offering something of value, especially in a religious ritual	giving up personal freedoms, social activities and comfort to protect others from COVID-19	Suffering, Community
20 12 2020	strength that community gives	I believe we have learnt during this long year: that the strength that community gives is priceless for us as humans, for our country Sweden.	the physical power or force a solid or bonded structure possesses	the emotional and practical support that togetherness and solidarity provide during the crisis	Community, Resilience

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
20 12 2020	suffocating darkness	To you I want to say: Yes, loneliness can be a suffocating darkness .	to die or cause death from lack of oxygen or inability to breathe	the overwhelming and oppressive loneliness some people experience, especially during the pandemic	Suffering
20 12 2020	cracks in how our country is organized	This year the cracks in how our country is organized have become clear.	narrow breaks or splits in a hard solid material	structural flaws and inadequacies in Sweden's public services exposed by COVID-19	Inequality
20 12 2020	build Sweden stronger	After the crisis we will build Sweden stronger , better.	to construct a physical structure using materials	to reconstruct Swedish society and institutions to be more resilient after the pandemic	Other (construction), Other (opportunity)
20 12 2020	reach out a hand	Call, reach out a hand , do what you would like others to do for you.	to extend one's arm physically toward another person	to offer help and contact to people experiencing loneliness or difficulty during the pandemic	Care and Support
20 12 2020	whole country by your side	I promise to continue to spend my days, my weeks, together with you, on building a stronger Sweden, a Sweden where you in your moments of trials will have a whole country by your side .	physically adjacent to someone in space	collective societal support and solidarity available to every individual facing difficulty	Community
14 09 2021	seeds of the welfare society were planted	The seeds of the welfare society were planted .	to place seeds in soil so they will grow into plants	the foundations of Sweden's welfare state were laid down in the early democratic era	Community
14 09 2021	flourish	Culture will flourish after the pandemic.	grow vigorously and healthily, especially of plants or living things	cultural activities in the country (re)emerging and thriving in response to the COVID-19 crisis	Community, Resilience
14 09 2021	cracks in our society	The COVID-19 crisis has clearly exposed cracks in our society -- cracks that can only be mended through substantial investments and hard political effort.	narrow breaks or fractures in a hard surface	structural failures and inadequacies in Swedish society revealed by the COVID-19 pandemic	Inequality
14 09 2021	threats cannot be tackled by one country alone	Threats such as the climate crisis, pandemics, terrorism and organised crime cannot be tackled by one country alone .	to physically bring an opponent to the ground in wrestling or sport	challenges like COVID-19 and climate change require collective international cooperation to address	Community
14 09 2021	pull together	Political parties that had previously struggled to cooperate pulled together , putting their differences aside.	to haul or drag something collectively in the same direction	to cooperate and work collectively toward shared goals, setting aside differences	Community
14 09 2021	war, will also be increased	Society's capacity to manage a heightened state of alert, and ultimately war , will also be increased.	armed military conflict between states or groups	Sweden's preparedness against military threats and crises including pandemics will be strengthened	War

Boris Johnson, Prime Minister of the United Kingdom (26 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
12 03 2020	lines of defence	The Chief Medical Officer will set out our lines of defence .	military fortifications or positions arranged to resist an enemy attack	successive public health measures deployed to slow and prevent the spread of COVID-19	War
12 03 2020	bought us valuable time	We've done what can be done to contain this disease and this has bought us valuable time .	to purchase time as if it were a commercial commodity for a price	containment measures have gained additional time to prepare the NHS and develop treatments	Control
12 03 2020	stretch the peak	We can also act to stretch the peak of the disease over a longer period so that our society is better able to cope.	to physically extend or elongate something to make it longer	to spread the highest point of COVID-19 infections over a longer period to reduce peak pressure on the NHS	Science
12 03 2020	mobilise millions of people	We're going to need to mobilise millions of people to help and support each other.	to organise and prepare military troops for active service	to activate citizens to help and support vulnerable people in their communities during the pandemic	Community
23 03 2020	invisible killer (twice in speech)	All over the world we are seeing the devastating impact of this invisible killer .	a person who commits murder by deliberate violent action	the coronavirus, which is unseen and yet causes death across the world	War
23 03 2020	fight the disease	And so tonight I want to update you on the latest steps we are taking to fight the disease and what you can do to help.	to engage in physical combat against an opponent	to actively oppose and take all measures to defeat the spread of COVID-19	War
23 03 2020	directly enlisted	But in this fight we can be in no doubt that each and every one of us is directly enlisted .	to formally enrol someone into military service	every citizen is required to join in the national effort against COVID-19 as if called to serve	War
23 03 2020	turn the tide	And we are buying millions of testing kits that will enable us to turn the tide on this invisible killer.	to reverse the direction of water flow in the ocean's tidal movement	to reverse the momentum of COVID-19 infections from increasing to decreasing	Natural Force
23 03 2020	frontline	Everyone from the supermarket staff to the transport workers to the carers to the nurses and doctors on the frontline .	the foremost military position directly facing the enemy in battle	healthcare workers and essential workers facing the greatest exposure and risk from COVID-19	War
23 03 2020	come through it stronger than ever	And we will come through it stronger than ever .	to emerge from a physical ordeal with greater power or force	to emerge from the pandemic with the nation having grown in resilience and solidarity	Resilience
31 10 2020	humble in the face of nature	But as we've also seen from those charts, we've got to be humble in the face of nature .	to lower oneself in the physical presence of someone more powerful	to acknowledge that the virus and natural forces of disease exceed our control and expectations	Natural Force, Listen and Learn
31 10 2020	surge	We will get through this - but we must act now to contain this autumn surge .	a sudden large wave of water rushing forward with great force	a rapid and powerful increase in COVID-19 cases threatening to overwhelm the health system	Natural Force
31 10 2020	overrunning of the NHS	Let me explain why the overrunning of the NHS [National Health Service] would be a medical and a moral disaster beyond the raw loss of life - because the huge exponential growth in the number of patients - by no means all of them elderly, by the way - would mean that doctors and nurses would be forced to choose which patients to treat, who would get oxygen and who wouldn't, who would live and who would die.	to go beyond a boundary or limit by running across it	COVID-19 demand exceeding the NHS's capacity to treat all patients, causing a collapse in healthcare	Crisis
31 10 2020	fight this second wave	And so as we come together now to fight this second wave , I want to say something about the way ahead - because people will reasonably ask, "When will this all end?" And as I've said before I am optimistic that this will feel very different and better by the spring.	to engage in physical combat against a military offensive	to take collective action against the renewed surge of COVID-19 infections in autumn	War, Natural Force
31 12 2020	beacon of hope	In 2020 we have seen British scientists not only produce the world's first effective treatment of the disease, but just in the last few days a beacon of	a lighthouse or tall signal fire used to guide seafarers in darkness	the Oxford vaccine represents a powerful signal of approaching relief from the pandemic	Crisis, Other (journey)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
		hope has been lit in the laboratories of Oxford.			
31 12 2020	fight new waves of the virus	And time after time as it became necessary to fight new waves of the virus , we saw people unite in their determination, our determination, to protect the NHS and to save lives.	to engage in physical combat against an advancing force	to respond collectively to renewed surges of COVID-19 infections	Resilience, Natural Force
31 12 2020	pulled the stops out	A year in which working people pulled the stops out to keep the country moving in the biggest crisis we have faced for generations.	to remove the mechanical stops on an organ to allow maximum sound	to make the maximum effort possible without holding back anything in reserve	Resilience
31 12 2020	bounce back from Covid	We will work with partners around the world, not just to tackle climate change but to create the millions of high skilled jobs this country will need not just this year as we bounce back from Covid , but in the years to come.	to spring back to an original position after being compressed	to recover economic vitality and normal life after the disruption caused by COVID-19	Crisis, Resilience
31 12 2020	turbocharge our ambition	And free to turbocharge our ambition to be a science superpower.	to boost engine power using a turbine driven by exhaust gases	to dramatically accelerate and intensify national ambitions for science and technology post-pandemic	Resilience
31 12 2020	a science superpower	And free to turbocharge our ambition to be a science superpower .	of extraordinary, unsurpassable strength	becoming a global leader in scientific research and application	Science, Resilience
31 12 2020	changing the odds in favour of humanity	And with every jab that goes into the arm of every elderly or vulnerable person, we are changing the odds in favour of humanity and against Covid.	to alter the probability or statistical likelihood of an outcome	vaccination is shifting the balance of the pandemic toward human survival and victory over COVID-19	Science, Resilience
22 09 2021	adolescence of humanity is coming to an end	My friends the adolescence of humanity is coming to an end .	the developmental period between childhood and adulthood in human biology	humanity is leaving behind an immature, irresponsible phase in its history and must now act as an adult	Listen and Learn, Other (change)
22 09 2021	being green	when Kermit the frog sang It's Not Easy Bein' Green , I want you to know he was wrong - and he was also unnecessarily rude to Miss Piggy.	someone or something that is green	to promote and/or adhere to policies and practices of sustainability	Community, Science
22 09 2021	gloomy scientists being proved right	It is time for us to listen to the warnings of the scientists -- and look at Covid, if you want an example of gloomy scientists being proved right -- and to understand who we are and what we are doing.	dark in colour or filled with low light	scientists who gave pessimistic warnings about COVID-19 were validated by events as correct	Science, Listen and Learn
22 09 2021	trash our habitats	We trash our habitats again and again with the inductive reasoning that we have got away with it so far, and therefore we will get away with it again.	to physically destroy or ruin a place by discarding refuse	humanity's destructive exploitation of natural environments, as demonstrated during COVID and climate change	Natural Force, Listen and Learn
22 09 2021	coming of age (twice in speech)	We must come together in a collective coming of age .	reaching the age of legal maturity or adulthood	humanity demonstrating the maturity and collective wisdom to take responsibility for planetary harm	Listen and Learn, Other (opportunity)
22 09 2021	blow out the candles of a world on fire	I invite you in November to celebrate what I hope will be a coming of age and to blow out the candles of a world on fire .	person literally blowing on small candle flames so they go out.	Take required steps to address a world in severe crisis, turmoil, or devastation, morally, politically or ecologically	Crisis, Natural Force

Section 2: Female Leaders

Sheikh Hasina, Prime Minister of Bangladesh (20 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
15 03 2020	Combat (twice in speech)	They can work together and they can continue the discussion how we can combat a business situation or the challenge of COVID 19 and other diseases.	to fight in armed conflict; to engage in battle	to deal with / overcome the challenge of COVID-19	War
15 03 2020	world is suffering	Now whole world is suffering and all the people I think for the first time it happened because of this COVID 19 now people from everywhere actually the whole world become very much worried about it.	experiencing physical pain or bodily injury	the whole world undergoing hardship and distress due to COVID-19	Suffering, Empathy
25 03 2020	war	Coronavirus is also a battle. In this war your responsibility is to stay at home.	armed conflict between nations or groups involving military force	the struggle against COVID-19 framed as a collective battle to win	War
25 03 2020	battle	In 1971, we fought shoulder to shoulder with the enemy and emerged victorious. Coronavirus is also a battle .	a military engagement between armed forces	the collective effort of the nation to overcome the coronavirus pandemic	War
25 03 2020	turmoil	The whole world is now in turmoil due to the outbreak of the deadly coronavirus.	a state of confused and disorderly movement, like a storm or flood	the disruption and upheaval caused globally by the coronavirus outbreak	Natural Force
25 03 2020	stand by them	Many people have lost their jobs due to coronavirus. We have to stand by them .	to stand physically next to or beside someone	to offer support and assistance to those who have lost jobs due to COVID-19	Care and Support, Empathy
25 03 2020	supply chain is intact	There is no shortage of products in the market. The supply chain is intact with the inside and outside of the country.	a physical chain or linkage remaining unbroken	the logistical network for distributing goods remains functional and undisrupted	Control
08 07 2020	bear the brunt	The least developed countries (LDCs) and developing nations bear the brunt of this crisis, despite not being its originators.	to receive the main force or impact of a physical blow	to suffer most severely from the economic consequences of COVID-19	Suffering, Inequality
08 07 2020	foundation of globalization	This global calamity has threatened the very foundation of globalization and connectivity that we have all diligently established over the years.	the base or groundwork upon which a physical structure is built	the core principles and systems underpinning global economic integration	Crisis
08 07 2020	forefront	The UN and international organizations should be at the forefront of all recovery measures, with support from the G7, G20, OECD, and international financial institutions.	the front line of military battle; the leading position in a combat zone	at the leading edge of recovery efforts and pandemic response	War
08 07 2020	robust global response	In conclusion, a robust , well-coordinated global response involving all countries, international organizations, civil society organizations, and the private sector is imperative.	physically strong and sturdy in constitution	a comprehensive and effective international reaction to the pandemic	Resilience
26 09 2020	fates are interconnected	The pandemic is a stark reminder that our fates are interconnected and that no one is secured until everyone is secured.	physical paths or threads literally tied or linked together	the destinies of nations and people are mutually dependent in the pandemic	Community
26 09 2020	frontline fighters	I take this opportunity to pay my tribute to all frontline fighters including health workers and public servants who are working tirelessly to ensure safety of the affected countries and population.	soldiers positioned at the front of a combat zone facing the enemy	healthcare workers and public servants working directly against COVID-19	War
26 09 2020	global public good	It is imperative to treat the vaccine as a ' global public good .'	a (public) benefit or resource that is, by nature, broadly available and not restricted to individual ownership	Vaccines need to be provided and shared so that everyone, everywhere, can access them, regardless of wealth or nationality	Inequality, Community

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
26 09 2020	safety nets	We have greatly expanded social safety nets coverage.	a physical net used to catch people who fall from heights	social protection programs that prevent vulnerable people from falling into poverty	Care and Support
26 09 2020	stand firm	He taught the Bangalee nation to stand firm in the world by ending exploitation, deprivation, and oppression.	to maintain a physical position and not retreat	to resist exploitation and deprivation through strong national character	Resilience
20 09 2021	upset our world	The COVID-19 pandemic has upset our world . It has taken countless lives and upset livelihoods.	to physically overturn or knock over an object	the COVID-19 pandemic has disrupted and destabilized global order and livelihoods	Crisis
20 09 2021	build forward better	I thank you for the opportunity to share our experiences and my perspectives on how to " build forward better " and to get back on track to achieve the 2030 Agenda, and the Paris Climate Agreement.	to construct a physical structure from the ground up	to reconstruct societies and economies in an improved, more equitable way post-pandemic	Community, Other (construction)
20 09 2021	development miracle	We were recognized by the international community as a " development miracle " for our success, especially in poverty reduction, food security, gender parity in primary and secondary school, decreasing infant and maternal mortality rate, gender equality, etc.	a supernatural event that defies natural laws	Bangladesh's extraordinary and unexpected success in development indicators	Resilience, Other (construction)
20 09 2021	get back on track	I thank you for the opportunity to share our experiences and my perspectives on how to "build forward better" and to get back on track to achieve the 2030 Agenda, and the Paris Climate Agreement.	to return to a physical path or railway line	to resume progress toward the 2030 Agenda after pandemic-induced setbacks	Crisis, Other (journey)

Sophie Wilmès, Prime Minister of Belgium (32 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
17 03 2020	venturing into uncharted territory	Right now, the world, Europe and Belgium are venturing into uncharted territory .	physically entering unexplored geographic land without a map	facing an unprecedented situation for which there are no established guidelines	Crisis, Other (journey)
17 03 2020	at the forefront	Challenges that are well understood by the nursing staff, who are at the forefront of the care and services provided to patients.	at the front line of battle; the foremost combat position	nursing staff working most directly and exposed in the fight against COVID-19	War
17 03 2020	hand in hand	This requires us to work together, in national unity. Hand in hand .	physically holding hands as people walk together	government and parliament working in close cooperation and unity	Community
17 03 2020	overwhelmed	They should make us aware of the absolute need to follow the rules and to not put ourselves at risk or infect others - thereby avoiding the risk of our hospitals being overwhelmed .	to be physically overcome by a flood or wave of something	hospitals becoming unable to cope with the volume of COVID-19 patients	Natural Force
17 03 2020	forged	National unity is not something you achieve by proclaiming it on a Sunday evening. It is forged during the hard times we face, hour after hour and day after day.	to shape metal by heating and hammering it	national unity is built and hardened through difficult shared experiences	Resilience
17 03 2020	sprung into action	The government and all healthcare bodies have also sprung into action to address the issue of the availability of medical equipment and devices.	to physically jump or leap suddenly into movement	government and healthcare bodies responding rapidly to the crisis	Resilience
19 03 2020	links in the same chain	I would like to remind you that by going to work in the morning, regardless of your industry, we are all links in the same chain .	individual metal rings physically connected to form a chain	all citizens and workers are interdependent parts of a collective society	Community
19 03 2020	human chain	All the links in this human chain make it possible, directly or indirectly, to provide the best care for our sick.	a literal chain formed by people holding hands	the interconnected network of all workers contributing to healthcare and societal functioning	Community
19 03 2020	rise again	The sense of responsibility, solidarity, courage, but also the confidence in our ability to rise again , to emerge stronger from this ordeal, must drive us more than ever.	to physically stand up after falling down	the country's ability to recover and restore itself after the COVID-19 crisis	Resilience
19 03 2020	self-sacrifice	In this fight, the dedication and self-sacrifice of health workers, researchers, child care workers, cashiers and everyone else who I cannot mention here because the list would be too long is exemplary.	giving up something of personal value, rooted in religious sacrifice of a physical offering	health workers and others giving up safety and comfort to serve others during the pandemic	Care and Support, Suffering
19 03 2020	fully mobilised	The government and I will be a loyal partner, a partner that is open but also focused on the task ahead, fully mobilised and determined to carry out its mission.	to assemble and deploy military forces for action	the government being completely committed and active in managing the crisis	War
05 04 2020	ordeal (also 17 03 and 19 03)	This information, which will come in the coming weeks, will be an ordeal . But in spite of everything, we must persevere, more than ever.	an ancient trial by physical pain or fire to determine guilt	the extremely difficult collective experience of COVID-19 and the lockdown	Suffering
05 04 2020	persevere	This information, which will come in the coming weeks, will be an ordeal. But in spite of everything, we must persevere , more than ever.	to persist in a physical journey despite obstacles	to continue efforts against COVID-19 despite ongoing hardship and death	Resilience
05 04 2020	stay strong	Our willpower is put to the test every day, as is our ability to cope. We have to stay strong .	to maintain physical strength or bodily power	to maintain resolve and resilience collectively in the face of COVID-19	Resilience
05 04 2020	fighting every day	The federal government, federated states and health services are fighting	engaging in physical combat or battle on a daily basis	the federal government constantly working to source	War

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
		every day to find face masks, high-quality medical devices and medication.		face masks and medical equipment	
05 04 2020	long process of reconstruction	We have a long process of reconstruction ahead of us. It is obvious that there will be a before and after corona.	physically rebuilding damaged infrastructure after destruction	the gradual recovery and rebuilding of Belgium's society and economy after COVID-19	Crisis, Other (construction)
05 04 2020	obstacles	The situation on the ground is improving, but many of us are still unsatisfied. There are still many obstacles .	physical barriers placed in one's path to block forward movement	difficulties in sourcing medical supplies and maintaining healthcare operations	Crisis
05 04 2020	willpower is put to the test	Our willpower is put to the test every day, as is our ability to cope.	a physical trial or examination to assess strength	the collective determination of citizens is being severely challenged by COVID-19	Resilience
17 09 2020	resurgence of the epidemic	Europe is facing a resurgence of the epidemic . In Belgium too, after a constant decline in all trends, the virus is starting to spread again.	a physical rising again, like water swelling upward	the renewed increase of COVID-19 infections after a period of decline	Natural Force
17 09 2020	gain momentum	It was to be expected that the virus would gain momentum again, but it happened much faster than we were hoping.	a physical object accelerating in speed of movement	the virus spreading more rapidly and its numbers growing	Natural Force
17 09 2020	thirst for freedom	We all aspire to some form of normality. In our activities, our social contacts and our life in general. This thirst for freedom is perhaps stronger among young people.	a craving for something to drink	people's intense desire to return to normal life and unrestricted social activity	Suffering
17 09 2020	hitting the same nail	And remind them, always, always and again, hitting the same nail . Whenever we have the opportunity, let us remind the population that keeping their distance, washing our hands regularly, staying at home when we do not feel well, respecting mandatory quarantine, are now part of our daily lives.	repeatedly striking a nail with a hammer	continually repeating the same public health message to ensure it is absorbed	Listen and Learn
17 09 2020	mental fatigue	The mental fatigue of the population is also due to the plethora of contradictory reports, both on the analysis of the current situation itself and on the measures to be taken.	physical exhaustion of muscles from overuse	psychological and emotional exhaustion of the population due to prolonged restrictions	Suffering
17 09 2020	circulating more and more	But we must not hide our faces. The virus is still just as dangerous and it is circulating more and more . We will all have to continue our efforts.	physically moving in a circular path, like blood through the body	the virus spreading increasingly through the population	Natural Force
17 09 2020	barrier gestures	We know the basic rules. Barrier gestures are our first and best protection. We must continue to apply them.	physical barriers or walls that stop movement	hygiene and distancing practices that prevent transmission of the virus	Control
26 09 2020	pillars	Trust - Responsibility - Commitment. These are the three pillars that influence mutual aid and cooperation among our various countries: effective multilateralism.	physical vertical columns that support a structure	the foundational values of trust, responsibility, and commitment underpinning multilateralism	Community
26 09 2020	took us by surprise	The COVID-19 pandemic took us by surprise . Each of our States faced an unprecedented crisis.	to physically ambush or catch someone unaware	the COVID-19 pandemic arrived unexpectedly and nations were unprepared	Crisis, Listen and Learn
26 09 2020	shattered many families	The virus claimed the lives of hundreds of thousands of people. It shattered many families around the world.	to break a physical object into many pieces by force	the virus destroying family units through death and separation	Suffering, Family
26 09 2020	combat the pandemic	While we continue to combat the pandemic and its consequences with vigour and determination, we cannot turn our backs on the other major challenges of the twenty-first century.	to engage in armed combat against an enemy	to fight actively against the spread and effects of COVID-19	War

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
26 09 2020	left by the wayside	We must acknowledge the negative and disproportionate effects of the pandemic on those who suffer disproportionately from inequalities: women and girls, children, older persons and people with disabilities. No one should be left by the wayside .	abandoned on the side of a physical road	vulnerable groups being ignored and excluded from pandemic response and support	Inequality, Empathy
26 09 2020	fragile balance	Geopolitical tensions are palpable and conflicts are under way or loom in various corners of the globe. They threaten the fragile balance of our world.	a physical equilibrium easily broken or disrupted	the precarious stability of international geopolitics threatened by the health crisis	Crisis
26 09 2020	eye opener / open our eyes	The pandemic must serve as an eye opener ... Yet, we should not be blinded by COVID-19. On the contrary, it should open our eyes to the shortcomings that have been exposed in our models of society, for example.	the literal physical act of opening one's eyelids	the pandemic revealing and making us aware of systemic failures in our social models (and trigger remedial action)	Listen and Learn, Other (change)

Jeanine Áñez, President of Bolivia (31 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
15 03 2020	battle	It will be a tough battle and it will be a long one but I want you to know that it is a battle that we are going to win if we do it among all Bolivians.	a military engagement between armed forces	the collective national effort against the COVID-19 pandemic	War
15 03 2020	Bolivian families (used in most speeches as general address)	Good evening Bolivian families , as President of Bolivia today do everything you have to do to protect Bolivian families against the coronavirus	a group of people related by blood or marriage living together	all Bolivians as a single unified community bound by mutual care and responsibility	Family, Community
15 03 2020	fighting for the health	I will dedicate 100% of my time to fighting for the health of Bolivians.	engaging in physical combat, using force against an opponent	dedicating all efforts to preserving the health of Bolivians from COVID-19	War, Community
15 03 2020	face the virus	2 months ago we started to face the virus .	to physically turn toward and confront an opponent	to confront and respond to the challenge of coronavirus	Resilience
15 03 2020	great threats / great responses	Throughout the world, in each country today, this is a very difficult battle, but in the face of great threats, great responses .	a dangerous physical challenge requiring physical defense	the magnitude of COVID-19 as a threat demands proportionally large collective responses	Crisis, Resilience
15 03 2020	pacified the country / fight the coronavirus	Let me tell you something from the heart, with the same decisiveness, with which we pacified the country . We are going to fight the coronavirus.	to bring peace to a territory by suppressing armed conflict / engaging in physical combat, using force against an opponent	bringing political calm and stability to Bolivia before the pandemic crisis, and using the same virtues to overcome the pandemic	War
15 03 2020	courage and bravery	Here I am with you as president, as a woman, as a mother, here I am, and together we will fight with courage and bravery .	physical fearlessness in the face of bodily danger	the moral and emotional strength needed to face the pandemic as a nation	Resilience
17 03 2020	new stage / sacrifices	Bolivian families, good afternoon. Today we begin a new stage in the fight against the coronavirus, a new stage where we will all make greater sacrifices.	a raised physical platform for performance or exhibition / giving up something of personal value, rooted in religious sacrifice of a physical offering	a new phase or escalation in the fight against the coronavirus / significant things people or the country give up or endure for a higher goal, such as income, freedoms, social contact, or safety, in order to protect lives and public health	Crisis, Suffering
17 03 2020	overcome	A danger that threatens all of the party that we are and of the belief that we have, but a danger, remember, that we are going to overcome among all coordinated, disciplined, with the spirit of good neighbors.	to physically defeat or overpower an opponent	to defeat and survive the COVID-19 danger as a united nation	Resilience
17 03 2020	day of victory	But until that day, until the day of victory against the virus, no more tears, no weakness, no hesitation, no doubt until that day, firmness, determination and unity.	a military triumph over an enemy in battle	the future moment when Bolivia will have successfully defeated the coronavirus	War
17 03 2020	spirit of good neighbors	A danger that we are going to overcome among all coordinated, disciplined, with the spirit of good neighbors , with the spirit of family, brothers and parents, with red yellow and green spirit.	the inner essence or soul of a person	an attitude of solidarity and mutual helpfulness among Bolivian citizens	Community
21 03 2020	enemy	Second, I ask you to remain calm and calm because our first enemy is the virus, but the second enemy we have is panic.	an adversary in war; someone who opposes with hostile intent	the coronavirus as the primary threat and panic as a secondary threat to be defeated	War
21 03 2020	protected by God (used twice in speech)	He is asking you not to be afraid, we are protected by God .	shielded from harm by a divine being	spiritual protection and divine favor invoked for the Bolivian people during the crisis	Care and Support
21 03 2020	path that will walk all united	And dear families from every corner of Bolivia, and it is the path that we will walk all united and solidary.	a physical road or track along which people travel	the collective course of action that all Bolivians must follow together	Community, Other (journey)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
21 03 2020	stronger than ever	We comply with all provisions with discipline and we'll get more or nests than ever, stronger than ever . It is time to help each other.	having greater physical force or muscular power	Bolivia will emerge from the quarantine more resilient and united	Resilience
21 03 2020	alleviate	For example, as we committed credit payment we will alleviate credits and taxes.	to lift or reduce a physical weight or burden	to reduce economic hardship on families and companies through tax and credit relief	Care and Support
21 03 2020	one family	It's time to stop any difference because we are all Bolivians, and for all, before God, are equal. And being Bolivians and being equal, we are one family where we all have to take care of everyone.	a group of people related by blood or marriage living together	all Bolivians as a single unified community bound by mutual care and responsibility	Family, Care and Support
25 03 2020	greatest challenge	Goodnight. Today we face the greatest challenge for the health of Bolivian families.	a physical contest or trial of strength	COVID-19 as the most severe test Bolivia's health system has ever faced	Crisis
25 03 2020	attacks mainly our older adults	This pandemic attacks mainly our older adults , our grandparents and grandmothers. We have to do everything in our power to protect them.	to physically assault or strike someone with force	COVID-19 disproportionately endangers the elderly population	War, Empathy
25 03 2020	they already fought for us	Just as yesterday they were the ones who took care of us, today we have to take care of them. They already fought for us , today we have to fight for them.	to engage in physical combat on behalf of another	the elderly generation who sacrificed and struggled for Bolivia in earlier times	Family, Empathy, Suffering
25 03 2020	body and soul	Today I speak to you from the strategic coordination center, where we are dedicated day and night, body and soul , to work for our country.	one's entire physical and spiritual being	total and unconditional dedication of the government to managing the health crisis	Resilience
25 03 2020	defending and caring for each other	I ask that we all continue to act together, defending and caring for each other . All in Unity, with love, with solidarity, but above all with discipline.	physical protection against attack combined with physical nurturing	mutual solidarity and protective behavior among Bolivians during the pandemic	Care and Support, Empathy
25 03 2020	get ahead	With God's help and our own effort, we are going to get ahead .	to move forward and surpass others in a physical race	to overcome the crisis and emerge successfully on the other side	Resilience
25 03 2020	control the virus	If we respect quarantine, we will control the virus . If we comply with the quarantine, we will decrease the virus, we will decrease it until it gradually disappears.	to have physical mastery or dominion over a force or creature	to manage the spread of COVID-19 through strict quarantine compliance	Control
23 09 2020	two roads (4 times in speech)	At no other time has Latin America seen more clearly that it must choose between the two roads that lie before it. ... two roads of freedom and oppression	a choice of paths or tracks for travel toward a destination	the contrasting political paths of freedom versus oppression available to Latin America	Other (journey), Other (opportunity)
23 09 2020	kidnapping of public life	They encourage the appropriation and, if necessary, kidnapping of public life by a caudillo and his caste.	to abduct a person by force and hold them against their will	the seizure and domination of public and civic life by authoritarian figures	Control
23 09 2020	sowing chaos and terror	It was an extraordinarily inhuman and cruel way of sowing chaos and terror . Such actions led to death and damage, which under the eyes of the law can clearly be seen as crimes against humanity.	to scatter seeds in soil to grow crops	deliberately spreading disorder and fear through violent political actions	War
23 09 2020	turn the page	We are a people who have decided to turn the page and leave behind the populist dictatorship.	to physically flip a page in a book	to move beyond a painful political past and start a new democratic era	Crisis, Other (change)
23 09 2020	thrall of authoritarian temptation	And let us concede that very important people in Latin American politics remain in the thrall of authoritarian temptation .	physical captivity or enslavement under another's power	influential political actors still seduced by and captive to the appeal of authoritarianism	Control
23 09 2020	building political coexistence	Latin America has the option of building political coexistence , based on the republican tradition --- which is the tradition of freedom.	physically constructing a structure from raw materials	creating peaceful democratic institutions and shared governance based on republican values	Community

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
23 09 2020	path leading towards restoring freedom	It is the path leading towards restoring the freedom of the citizens.	a physical road leading to a destination	the political course of action that will return democratic freedoms to Bolivian citizens	Resilience, Other (journey)

Mette Frederiksen, Prime Minister of Denmark (30 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
11 03 2020	spreads extremely quickly	The number is more than tenfold since Monday, when the number was 35. The coronavirus spreads extremely quickly .	to physically extend or disperse over a wider area	the rapid transmission of COVID-19 from person to person	Natural Force
11 03 2020	the weakest in our society	I would like to emphasize again that we have a very big obligation to especially help the weakest in our society , those who are most vulnerable to diseases, people with chronic diseases, cancer patients and the elderly.	those with the least physical strength or bodily resilience	the most vulnerable members of society who face the greatest health risks from COVID-19	Care and Support, Empathy
11 03 2020	overloaded	Not only because hospitals can become overloaded with critically ill people. But also because some of the staff themselves may become infected and be sent to quarantine.	to put an excessive physical weight or cargo on something	hospitals being overwhelmed beyond their capacity with COVID-19 patients	Natural Force
11 03 2020	stand together by keeping our distance (also used on 13 03 20 and 01 01 21)	As Danes, we tend to seek community by being close to each other. Now we must stand together by keeping our distance from each other.	to physically stand side by side in a group	maintaining national solidarity through physical distancing as a public health measure	Community
11 03 2020	rests on the shoulders (also on 13 03 20)	Much of the solution to what we are facing rests on the shoulders of the Danes.	to place a physical weight or load on the top of someone's back	the primary responsibility for tackling the crisis lies with Danish citizens	Empathy, Resilience
11 03 2020	throw Denmark into an economic crisis	We must minimize activity in society as much as possible, but without bringing Denmark to a standstill. And we must not throw Denmark into an economic crisis .	to hurl something forcefully so it falls into a pit or difficult place	the risk of government shutdown measures causing severe economic damage	Crisis
13 03 2020	collapsing	We must stand together by keeping our distance. If too many people are infected at the same time, then we risk the healthcare system collapsing , and that is what we are doing everything we can to avoid now.	the physical falling down or sudden structural failure of a building	the healthcare system failing under the overwhelming pressure of COVID-19 cases	Crisis
13 03 2020	keep the wheels turning	And thanks to all of you who we rarely get to mention when we say thank you. Namely, all of you who still help keep the wheels turning , who ensure that Danes can shop, still use public transport.	to maintain the physical rotation of wheels on a vehicle or machine	keeping essential services and the economy functioning during the crisis	Control
13 03 2020	burdened by the situation	Many places are already burdened by the situation . You are making a huge effort. Thank you!	to carry a heavy physical load that weighs one down	healthcare facilities and staff overwhelmed by the demands of the COVID-19 crisis	Suffering
13 03 2020	untrodden ground (also used on 11 03 20)	In relation to the whole thing, I would like to say that we are standing on untrodden ground .	earth or terrain that no one has walked on before	a completely unprecedented situation that no one has experienced before	Other (journey)
13 03 2020	tight travel guidelines	This also follows the tightening of the travel guidelines . So I hope everyone has heard that you should not go on an Easter holiday out of Denmark this year.	narrow physical constraints that limit movement along a path	strict restrictions on international travel to prevent the spread of COVID-19	Control
13 03 2020	neighbouring communities flourish	Neighbouring communities flourish . Thanks to the trade union movement and to Danish business, which is in the process of finding solutions for the employees and for the companies.	grow vigorously and healthily, especially of plants or living things	local solidarity networks emerging and thriving in response to the COVID-19 crisis	Community, Resilience
06 10 2020	common enemy	The spring of 2020 was a test of strength for Denmark. A common enemy . A global pandemic.	an adversary or opponent in battle shared by multiple parties	COVID-19 as a shared threat that unites all Danes in a collective struggle	War
06 10 2020	virus must not win	But the virus must not win this time around either. Because - what does it do to a society?	to achieve victory in a physical contest or battle	the moral imperative to prevent COVID-19 from causing societal collapse	War

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
06 10 2020	gain momentum	It was to be expected that the virus would gain momentum again, but it happened much faster than we were hoping.	a physical object accelerating and building force in motion	COVID-19 spreading faster and in greater numbers than anticipated	Natural Force
06 10 2020	dance with corona	The so-called dance with corona is and will be tough, as well as long and exhausting.	a physical performance involving rhythmic movement with a partner	the ongoing process of managing and adapting to COVID-19 over a prolonged period	Resilience, Other (journey)
06 10 2020	safety is the foundation of prosperity	Because we closed down the spread of the virus, we were able to reopen society quite quickly. Health and economy need not be opposites. On the contrary. Safety is the foundation of prosperity.	the physical base or groundwork upon which a structure is built	public health security is the precondition for economic wellbeing	Community
06 10 2020	magnifying glass on our life	The Corona virus is a magnifying glass on our life , on our society.	an optical lens that enlarges the physical appearance of objects	COVID-19 revealing and intensifying the underlying strengths and weaknesses of society	Listen and Learn
06 10 2020	thirsting after audiences	The realm of culture, thirsting after audiences . And most of us miss our life as it was - and shall be again.	a physical craving for liquid to satisfy bodily dryness	the cultural sector's desperate need for in-person attendance and public engagement	Suffering
01 01 2021	illness raged	We have seen the world in slow motion. While the illness raged , the last tourists returned home, the last party was cancelled and everything turned so quiet that we were able to hear our own heartbeat.	a fire or storm raging with violent, uncontrolled physical force	COVID-19 spreading with uncontrolled and destructive force across society	Natural Force
01 01 2021	all in the same boat	Everybody has made sacrifices. Everyone has contributed. We are all in the same boat .	sharing the same vessel on water	all citizens facing the same shared hardships and fate during the pandemic	Community
01 01 2021	cut to the core	When we cut to the core of human existence -- life and death -- it all becomes more complicated and simpler at the same time.	to slice through to the physical centre of something	when stripped to the most fundamental aspects of human existence	Empathy
01 01 2021	ancient vulnerability	We experienced the human being's ancient vulnerability , and we found a new strength.	an old physical weakness or bodily frailty	the deep-seated human susceptibility to illness and death that the pandemic has exposed	Suffering
01 01 2021	each other's lives in our hands	Across generations. Across the country. Across the different people we are -- we have stood with each other's lives in our hands .	physically holding someone's body in one's hands	the shared responsibility of all citizens to protect one another's health	Empathy
01 01 2021	world in slow motion	We have seen the world in slow motion . While the illness raged, the last tourists returned home, the last party was cancelled and everything turned so quiet that we were able to hear our own heartbeat.	the physical world moving at a reduced speed	the suspension of normal life and activity as the pandemic brought society to a halt	Crisis, Other (journey)
24 09 2021	leave COVID behind	None of us can leave COVID behind until all of us can.	to physically move away from something and not take it with you	ending the pandemic requires universal progress, not just individual national recovery	Community, Other (journey)
24 09 2021	battle this pandemic	If we are to battle this pandemic . We have to strengthen our ability to prevent and respond to future pandemics.	to engage in military combat against an armed enemy	the collective global effort required to overcome COVID-19	War
24 09 2021	standing at a global crossroad	The latest IPCC report makes it clear that we are standing at a global crossroad .	a physical intersection where two or more roads meet	humanity facing a decisive turning point in how it responds to climate change	Other (opportunity), Other (change)
24 09 2021	hits the world's poorest hardest	Climate change hits the world's poorest and weakest communities hardest .	to strike someone with maximum physical force	the disproportionate impact of global challenges on the most vulnerable populations	Inequality, Empathy
24 09 2021	massively scale up	Denmark will respond to the call of the Secretary-General. And massively scale	to climb a large physical structure with great force	dramatically increasing financial commitments to climate action	Resilience

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
		up Danish grant-based climate finance to at least \$500 million a year by 2023.			

Sanna Marin, Prime Minister of Finland (19 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
16 03 2020	working around the clock	The government has by no means been spending the weekend but we have been working the whole weekend's work , one could say around the clock , with the responsible ministries and responsible ministers.	to work continuously for all 24 hours of the day	the government working continuously without rest to manage the COVID-19 crisis	Resilience
16 03 2020	stronger shoulders	The government will do everything in its power to ensure that ordinary Finnish people, employees, companies do not fall victim to this acute crisis, the state has stronger shoulders than individuals do to deal with such an equally common serious situation.	having greater physical strength in the upper body to bear weight	the state's greater capacity to absorb the economic burden of the crisis than individuals	Care and Support, Empathy
16 03 2020	fall victim	The government will do everything in its power to ensure that ordinary Finnish people, employees, companies do not fall victim to this acute crisis.	to physically fall down as a result of being attacked or injured	to suffer harm or loss as a result of the economic consequences of COVID-19	Suffering
26 03 2020	driven countries' healthcare systems to their limits	As it spreads, the virus has driven countries' healthcare systems to their limits , especially hospital care.	to force a vehicle or animal to its maximum physical capacity	the virus pushing healthcare infrastructure to the point of collapse	Crisis
26 03 2020	unprecedented burden	In Finland, too, the epidemic means an unprecedented burden on specialised medical care, and especially on acute intensive care.	a physical load of exceptional weight that has never been carried before	the extraordinary pressure placed on Finland's healthcare system by COVID-19	Suffering
26 03 2020	safeguard the carrying capacity	The aim of the restrictive measures has been to prevent the disease from progressing among the population, to safeguard the carrying capacity of our healthcare system in all situations and, in particular, to protect the lives and health of people at risk.	to protect the physical ability of a structure to hold weight	to preserve the healthcare system's functional ability to treat all patients needing care	Control, Care and Support
29 04 2020	driven societies into a crisis	The global COVID-19 pandemic has driven societies into an exceptionally serious crisis , both in terms of health and financially.	to forcibly push or herd something into a confined space	the pandemic pushing societies into severe disruption and emergency	Crisis
29 04 2020	breathe a sigh of relief	Although the situation has fortunately remained moderate in Finland thanks to the restrictive measures, it is not yet time to breathe a sigh of relief . The situation is still very serious.	the physical act of exhaling after a period of physical tension	relaxing the response to COVID-19 prematurely when the situation remains dangerous	Suffering, Control
29 04 2020	test, trace, isolate and treat	Finland's hybrid strategy focuses on a " test, trace, isolate and treat " approach, alongside the controlled dismantling of restrictive measures.	sequential physical actions to locate, confine and heal	the public health methodology used to identify and contain COVID-19 cases	Science, Control
29 04 2020	controlled dismantling	the controlled dismantling of restrictive measures.	the systematic taking apart of a structure	a careful, step-by-step removal of the pandemic-related restrictions	Control
29 04 2020	leave its mark	However, the crisis will inevitably leave its mark on society.	to physically inscribe or imprint a trace on a surface	the lasting damage and transformation that COVID-19 will cause to Finnish society	Suffering
29 04 2020	burden caused by the crisis	It is important to make sure that the burden caused by the crisis is shared in a socially, economically and environmentally sustainable way.	a heavy physical load or weight carried by a person	the social and economic hardship created by the pandemic that must be fairly distributed	Suffering, Inequality
29 04 2020	learn to live with the virus	Even if we succeeded in suppressing the disease in Finland, it is possible that it will come back later. One way or another, we have to learn how to live with the virus for the time being.	to acquire knowledge through study or experience	to adapt socially and behaviourally to the ongoing presence of COVID-19	Listen and Learn
31 12 2020	see light ahead	Vaccinations have begun, and we can once again see light ahead of us .	In darkness, to perceive illumination in the distance	signs of hope and improvement in the pandemic situation becoming visible	Care and Support

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
					Other (journey)
31 12 2020	rebuild our societies	When we rebuild our societies and economies, we cannot simply go back to our old habits and ways of working.	to physically reconstruct a destroyed or damaged structure	the process of restoring and improving economies and social systems after the pandemic	Community, Other (construction)
31 12 2020	sustainable foundation	We must build our future on a more sustainable foundation and aim for a balance between humans and nature.	a physical base that can bear weight over a long period without degrading	a basis for societal recovery that does not deplete environmental or social resources	Other (opportunity), Resilience
31 12 2020	balance between humans and nature	We must build our future on a more sustainable foundation and aim for a balance between humans and nature .	an equilibrium of physical weight between two objects on a scale	a harmonious relationship between human activity and the natural environment	Natural Force, Empathy
31 12 2020	fared better	When it comes to managing the health and economic effects of COVID-19, Finland has fared better than many other countries.	to travel or journey with greater ease and success	Finland having managed the pandemic more effectively than comparable nations	Resilience
28 04 2021	controlled lifting	Restrictions cannot be lifted carelessly or prematurely. The controlled lifting of restrictions requires that we all take responsibility for complying with the restrictions and recommendations in force	physically raising something (or someone) with force or machinery	a careful, step-by-step removal of the pandemic-related restrictions	Control, Other (construction)
28 04 2021	opening up society	The plans for opening up society are based on available research data, modelling, forecasts and monitoring, as well as on the overall consideration based on these.	to physically open a sealed or closed container or space	gradually restoring normal social, economic and public life after pandemic restrictions	Community

Angela Merkel, Federal Chancellor of Germany (33 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
18 03 2020	pass this test	I firmly believe that we will pass this test if all citizens genuinely see this as THEIR task.	to succeed in an examination or assessment	to successfully manage and overcome the coronavirus crisis as a nation	Resilience
18 03 2020	front lines of this fight	You are on the front lines of this fight for us.	at the most forward and dangerous position in a military battle	healthcare workers directly facing the virus and its dangers at the point of patient care	War
18 03 2020	flatten the curve	Then only one thing matters, namely that we slow the spread of the virus, flatten the curve over the course of several months and buy time.	to make a curved line less steep or pronounced	to slow the rate of infection spread so it remains manageable over time	Science
18 03 2020	buy time	Then only one thing matters, namely that we slow the spread of the virus, flatten the curve over the course of several months and buy time .	to purchase something using time as a currency	to gain additional time for research and medical preparation through restrictive measures	Control
18 03 2020	hard-fought right	for someone like me, for whom the freedom of travel and the freedom of movement were a hard-fought right , such restrictions can only be justified if they are absolutely imperative	difficult, intense physical combat	the political and social struggle to achieve collective freedoms	Resilience
18 03 2020	cushion the economic impact	I assure you that the Federal Government is doing everything that it can to cushion the economic impact - and, above all, to safeguard jobs.	a soft pad or pillow that absorbs physical impact	to reduce and soften the damaging economic consequences of the pandemic	Care and Support
18 03 2020	keeping us all going	Thank you for being there for your fellow citizens and for keeping us all going .	physically moving or propelling something forward	maintaining society's essential functions during the crisis	Community
18 03 2020	spirit of solidarity	Since German reunification, no, since the Second World War, there has not been a challenge for our country in which action in a spirit of solidarity on our part was so important.	the non-material animating force within a person	the collective attitude and commitment of citizens to support one another	Community
23 03 2020	heavy scars on the economy	It is becoming increasingly clear that this will of course also leave heavy scars on the economy .	marks left on skin or tissue after a wound heals	lasting and serious damage to economic life caused by restrictive measures	Suffering
23 03 2020	social protection pact	The supplementary budget enables us to adopt an important and large-scale social protection pact .	a solemn agreement or covenant between parties	a comprehensive policy package to shield citizens from financial hardship	Care and Support, Community
23 03 2020	community keeps running	I thank everyone who is getting to work now, whether it's the Kreditanstalt für Wiederaufbau, the economic development banks, whether it's the great achievements in the health care system or the many people elsewhere who ensure that our community keeps running .	physical locomotion, moving at speed	maintaining the normal, functional operation of society and its institutions	Community, Resilience
23 03 2020	guide us through this difficult time	The Federal Government has today adopted a far-reaching, I may say unprecedented, package of measures to mitigate the consequences of the spread of the coronavirus and to better guide us through this difficult time .	to lead or direct someone along a path	to steer the country safely through the pandemic period	Control, Other (journey)
23 03 2020	stand by them	We now feel obliged to help as many people as possible and stand by them in a difficult time.	to remain physically beside someone	to support and not abandon people experiencing hardship during the pandemic	Care and Support, Empathy
23 04 2020	thin ice	We are walking on thin ice , you could also say: on the thinnest ice.	ice that is insufficiently thick to bear weight safely	a precarious and dangerous position in which any misstep could lead to catastrophic resurgence	Natural Force, Other (journey)
23 04 2020	overrun by the virus	We are all familiar with the horrific reports from hospitals in some countries that were simply overrun by the virus for a few weeks.	to be invaded or overwhelmed by an advancing force	when hospital systems could not cope with the volume of seriously ill patients	War

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23 04 2020	long-distance race	This is a long-distance race in which we must not run out of energy and air too early.	an athletic competition over an extended distance	the sustained, prolonged nature of the pandemic effort requiring endurance rather than short bursts	Resilience, other (journey)
23 04 2020	hand in hand	This helps researchers and physicians at all German university hospitals to work hand in hand on this task	physically holding hands as people walk together	critical scientific institutions working in close cooperation and unity	Community
23 04 2020	protective umbrella	It is now a matter of supporting our economy and creating a protective umbrella for workers.	a handheld canopy device protecting against rain	a set of economic measures designed to shield workers and businesses from financial harm	Care and Support
23 04 2020	final stage	we are not living in the final stages of the pandemic, but still at its beginning	a raised physical platform for performance or exhibition	the end phase in the fight against the coronavirus	Crisis
23 04 2020	slowed down the spread	Through the strictness with ourselves, the discipline and patience of the last few weeks, we have slowed down the spread of the virus.	to reduce the physical speed or velocity of something moving	to reduce the rate at which the virus was infecting new people	Control
23 04 2020	community with a common destiny	We are a community with a common destiny — Europe must now prove this in the face of this unexpected challenge of the pandemic.	a group of people living together in one place	Europe as a collective entity sharing inescapably interlinked futures	Community
23 04 2020	fight against the pandemic	Perhaps less noticed by the public, but equally crucial role in the fight against the pandemic , the public health service is playing.	physical combat or struggle against an opponent	the collective effort of government and citizens to control and defeat COVID-19	War
31 12 2020	invaded our bodies and our lives	A previously unknown virus that has invaded our bodies and our lives — it hits us in the places where we are most human: in close contact, in hugs, conversations, celebrations.	to enter a territory by force as a hostile army	the virus penetrating both the physical human body and the normal routines of daily existence	War
31 12 2020	battle against the virus	We have seen it in the employees of our health offices, who found themselves suddenly thrust into the centre of the battle against the virus .	a military engagement between opposing forces	the active organized effort to suppress and defeat the coronavirus	War
31 12 2020	thrust into the centre	We have seen it in the employees of our health offices, who found themselves suddenly thrust into the centre of the battle against the virus.	to push forcibly into the middle of something	health office workers suddenly placed at the heart of the public health response	Crisis
31 12 2020	once-in-a-century challenge	The coronavirus pandemic was and is a once-in-a-century political, social and economic challenge. It is a historic crisis that has demanded a great deal of all of us and too much of some of us.	a singular occurrence within a hundred-year span	an historically unprecedented crisis not seen in any living person's lifetime	Crisis
31 12 2020	mustering this historic effort	I know that mustering this historic effort has required tremendous trust and patience on your part, and continues to do so.	gathering troops or resources for military deployment	summoning and organizing collective social will and cooperation for the pandemic response	Resilience
17 11 2021	fourth wave is hitting our country with full force	The fourth wave is hitting our country with full force — the number of daily new corona infections is higher than ever before in the pandemic.	a large body of water breaking against a shore	a fourth surge of COVID-19 infections striking Germany with exceptional severity	Natural Force
17 11 2021	toothless tiger	the index that indicates the seriousness of the situation in hospitals – from which additional steps to contain the pandemic must be taken in a binding manner over and above the measures currently in place, depending on the regional infection situation. A hospitalization index without a threshold would remain a toothless tiger .	a large predatory feline that has lost its teeth	a hospitalization threshold without enforcement powers that would be ineffective	Control
17 11 2021	break the fourth wave	Israel is showing us how booster vaccinations can break the fourth wave .	to fracture or shatter a physical object	to use booster vaccinations to halt and reverse the current wave of infections	Control

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17 11 2021	way out of the pandemic	And if enough people get vaccinated, that's the way out of the pandemic .	a physical path or exit leading out of an enclosed space	vaccination as the mechanism by which the pandemic can be ended	Science, Other (journey)
17 11 2021	come to the brink or over the edge	We must also never forget that it has an immediate impact on other federal states if one federal state comes to the brink or over the edge of being overwhelmed	getting to the edge of a steep cliff or precipice, or falling off from it	intensive care units approaching the point at which they can no longer treat all patients, with all consequences	Crisis, Other (journey)
17 11 2021	hub of pandemic control on the ground	They have been and continue to be the hub of pandemic control on the ground .	the central part of a wheel from which spokes radiate	local health authorities as the operational center of pandemic management at the local level	Control

Jacinda Ardern, Prime Minister of New Zealand (25 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
21 03 2020	fight Covid-19	I'm speaking directly to all New Zealanders today to give you as much certainty and clarity as we can as we fight Covid-19 .	to engage in physical combat or battle	to actively combat and resist the spread of the coronavirus	War, Control
21 03 2020	tidal wave of cases	Slowing it down means not having one big tidal wave of cases, but instead, smaller waves — groups of cases that we can manage properly as they arise.	an abnormally large and destructive ocean wave	a sudden, overwhelming surge in COVID-19 infections overwhelming health systems	Natural Force
21 03 2020	get ahead of problems	Already in New Zealand we have warning systems to try and get ahead of problems and hazards.	to move physically in front of something	to anticipate and act before problems become unmanageable	Control
21 03 2020	stepping things up	Alert Level Three is where the disease is increasingly difficult to contain — this is where we restrict our contact by stepping things up again.	to physically climb steps upward	to increase the intensity and scope of measures to contain the virus	Resilience
21 03 2020	unite against COVID-19	Please be strong, be kind, and unite against COVID-19 .	to combine separate forces or groups into one	for all New Zealanders to act collectively and with shared purpose against the pandemic	Community
23 03 2020	window of opportunity (also used on 25 03)	Through decisive action, and through working together, we have a small window of opportunity to get ahead of it.	an opening in a wall that lets in light	a narrow and time-limited chance to act decisively before community transmission escalates	Crisis, Other (opportunity)
23 03 2020	overwhelmed their health system	So did Italy once — now the virus has overwhelmed their health system and hundreds of people are dying every day.	to defeat or overcome by superior force	Italy's hospital capacity exceeded by the volume of seriously ill COVID patients	Crisis
23 03 2020	break the chain of community transmission (also used on 25 03)	Right now we have a window of opportunity to break the chain of community transmission — to contain the virus — to stop it multiplying and to protect New Zealanders from the worst.	to sever a series of physically linked metal rings	to interrupt the sequence of person-to-person infections spreading through communities	Control
23 03 2020	going hard, and going early	This is because we are experiencing an unprecedented event — a global pandemic that in New Zealand, we have moved to fight by going hard, and going early .	physical descriptions of force and timing	to implement strict measures immediately, before case numbers become too large	Resilience, Other (journey)
23 03 2020	a fighting chance	Staying at home is essential — it denies the virus places to go, and will help give our healthcare system a fighting chance .	an opportunity to prevail in a physical contest	a genuine possibility for the healthcare system to survive the pandemic pressure	War
23 03 2020	stick together	We will get through this together, but only if we stick together . Be strong and be kind.	two or more objects physically adhering to each other	to maintain collective solidarity and shared commitment throughout the crisis	Community
25 03 2020	bunker down	From midnight tonight, we bunker down for four weeks to try and stop the virus in its tracks, to break the chain.	to take shelter in a fortified underground structure	to stay home and isolate as a nation in defensive preparation against the virus	War
25 03 2020	every weapon we have	but we have a limited window of opportunity and we must use every weapon we have.	instruments designed to inflict harm or damage in combat	all legislative powers and policy tools available to the government	War
25 03 2020	stop the virus in its tracks	From midnight tonight, we bunker down for four weeks to try and stop the virus in its tracks , to break the chain.	to halt something's physical movement along a path	to completely prevent the further transmission of COVID-19 in New Zealand	Control
25 03 2020	first line of defense	The vast ocean surrounding our islands have taken on an even greater significance in a time where our border controls are our first line of defense against a highly contagious global virus.	the foremost barrier or fortification in a military position	border controls as the primary mechanism protecting the country from imported infections	War
25 03 2020	gravely inundated countries	unlike so many other gravely inundated countries, we have a window of opportunity to stay home, break the chain of transmission, and save lives.	to be flooded by water or overwhelmed by a quantity	countries severely overwhelmed by COVID-19 infections and deaths	Suffering, Natural Force
25 03 2020	your job is to save lives	you may not be at work, but that doesn't mean you don't have a job. Your job is to	paid employment or a specific task assigned to a worker	the moral duty every citizen bears to stay home and prevent deaths	Care and Support

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
		save lives , and you can do that by staying home, and breaking the chain.			
17 08 2020	resurgence plan is in full swing	Our resurgence plan is in full swing — there are high levels of testing, rapid contact tracing, close contacts and self isolation in cases in quarantine.	to be at the height of a physical pendulum's arc	the government's plan for managing a new outbreak is operating at full capacity	Control
17 08 2020	COVID is the world's new normal	COVID is the world's new normal . Here in New Zealand. We are all working as hard as we can to make sure that our new normal disrupts our lives as little as possible.	conforming to a standard or usual pattern	the ongoing presence of COVID-19 as a permanent feature of contemporary life	Other (change), Resilience
17 08 2020	we are all in the same boat	I know the uncertainty COVID has created is incredibly difficult though, and for everyone, we are all in the same boat	people sharing the same waterborne vessel	all New Zealanders share the same uncertainty and challenges created by COVID-19	Community
24 09 2021	pandemic has been the ultimate disruptor	The pandemic has been the ultimate disruptor — it has changed our realities and given us cause to pause and reflect.	one who violently interrupts or breaks apart something	COVID-19 as a force that fundamentally overturned existing social, political and economic arrangements	Natural Force
24 09 2021	reset	In the disruption is an opportunity for us to reset , to adjust some of our fundamental settings to put us in a better position to respond to our shared challenges.	to set a mechanical device back to its initial position	to take the opportunity to fundamentally reconsider global systems and priorities	Listen and Learn
24 09 2021	hound down a better world	Like the drafters of the Charter, we owe future generations our commitment to hound down a better world , forged through cooperation.	to pursue prey relentlessly until captured	to relentlessly pursue and achieve a more just and cooperative global order	Resilience, Other (opportunity)
24 09 2021	fork in the road	Our forebears were once at this fork in the road , and they chose the path of trust — they founded the United Nations.	a place where a road or path divides into two directions	a pivotal historical moment requiring a choice between isolation and international cooperation	Listen and Learn, Other (journey)
24 09 2021	blueprint	Fortunately for us, we already have a blueprint for such a world in the Sustainable Development Goals and the 2030 Agenda.	a technical drawing or plan for construction	the Sustainable Development Goals as a detailed plan for a better world	Science

Erna Solberg, Prime Minister of Norway (26 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
18 03 2020	stood shoulder to shoulder	In times of ups and downs, directors and industrial workers have stood shoulder to shoulder .	bodies positioned physically side by side in close contact	workers and leaders united in mutual support during past hardships	Community
18 03 2020	carry us through the crisis	It is this trust that will carry us through the crisis we are now in.	to physically transport someone across a difficult terrain	the trust between citizens and government enabling Norway to overcome the pandemic	Community, Other (journey)
18 03 2020	front line in the fight against the virus	Healthcare workers are on the front line in the fight against the virus .	the most forward position in a military deployment	healthcare workers directly confronting and treating COVID-19 patients	War
18 03 2020	hit us	When terror and accidents have hit us , we have gotten through it together.	to strike physically with force	when terror attacks or accidents struck Norway and affected its people	Natural Force, Resilience
18 03 2020	real heroes	It's hard to get closer to real heroes than this.	figures of exceptional courage and bravery in legends or stories	healthcare workers and essential service employees showing extraordinary dedication	Resilience
18 03 2020	this is not the time for "I" — this is the time for "we"	And remember that this is not the time for "I" — this is the time for "we" .	personal pronouns referring to an individual versus a collective	the need to prioritize collective welfare over individual interests during the crisis	Community
18 03 2020	step in when needed	Even though the world is changing, the Norwegian people's soul remains the same. We step in when needed, we cooperate and we help each other.	to physically move one's foot inside a space	Norwegians' habit of volunteering and assisting each other in times of difficulty	Care and Support, Empathy
19 05 2020	infection pressure (used 3 times in quick succession)	Agreement must be reached between the national infection control authorities on criteria for identifying regions where infection pressure is high.	a physical force applied to a surface	the intensity and prevalence of COVID-19 infections in a specific area	Science
19 05 2020	gradual, controlled lifting of travel restrictions	The changes we are making now are a first step towards a gradual, controlled lifting of travel restrictions in Europe.	physically raising something with force or machinery	a careful, step-by-step removal of the pandemic-related travel prohibitions	Control
19 05 2020	monitor the effects	The health authorities will monitor the effects of what we are now doing, with a view to keeping the level of infection in Norway low.	to watch over or observe closely, as a watchman	to continuously track and assess the public health impact of reopening	Science
26 09 2020	this race against time	I find hope in the way we have come together in this race against time — we are united against a common enemy.	a competitive athletic event against other runners	the urgent global effort to develop vaccines and treatments faster than the virus spreads	Resilience
26 09 2020	united against a common enemy	I find hope in the way we have come together in this race against time — we are united against a common enemy .	joining forces against an opposing military adversary	nations collectively organizing their efforts against the shared threat of COVID-19	War
26 09 2020	build back better (also 22 09 21)	We must ensure that human rights, democracy, the rule of law, and gender equality are at the core of our response and recovery efforts. Only then can we hope not only to soften the fall, but to build back better .	to physically reconstruct a damaged structure more durably	using the post-pandemic recovery as an opportunity to create a stronger, fairer economy and society	Crisis, Other (construction)
26 09 2020	bearing the brunt of the pandemic	Women are bearing the brunt of the pandemic in many societies — women are on the front line as health care workers.	to receive the heaviest blow or impact of a physical force	women disproportionately suffering the negative consequences of COVID-19	Inequality
26 09 2020	unwavering / standing firm	Norway continues our unwavering commitment to the UN and multilateral solutions ... We stand firm in our conviction that global problems need global solutions	to be stable, not moving, standing on one's feet	we do not change or weaken our belief; we remain resolute in thinking global problems need global solution	Community, Resilience
26 09 2020	leveling the playing field	We must invest in girls and women. In their education, in their health, and in their participation in the labour market. Increasing their opportunities and leveling the playing field pays great economic dividends.	to make a surface physically level or flat	eliminating structural gender inequalities so that women have equal opportunities	Inequality

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26 09 2020	soften the fall	Only then can we hope not only to soften the fall , but to build back better.	to reduce the physical impact of something dropping	to mitigate the worst social and economic consequences of the pandemic	Care and Support
	amplifying this negative trend	The pandemic is amplifying this negative trend — we have seen examples of the pandemic being used as a pretext to weaken democratic principles and human rights.	to increase the volume or strength of a signal	the pandemic making existing authoritarian and anti-rights tendencies worse and louder	Crisis, Inequality
01 01 2021	two waves of infection have hit Europe	Two waves of infection have hit Europe since March. In both instances, Norway has coped better than many other countries.	large rolling movements of water on the sea's surface	two successive surges of COVID-19 infections spreading across European countries	Natural Force
01 01 2021	better days are coming soon (6 times in speech)	The title of that work expresses the same hope I have for 2021: better days are coming soon .	24h time units which will be experienced as an improvement	a time when pandemic restrictions will be lifted and normal life will resume	Empathy, Other (change)
01 01 2021	triumph for science	The successful production of new vaccines in such a short time is a triumph for science and for international cooperation.	a decisive military victory or conquest	the spectacular achievement of developing COVID-19 vaccines in record time	Science, Resilience
01 01 2021	conspiracy theories spread like wildfire	That is worth reflecting on at a time when conspiracy theories spread like wildfire — a time when more people appear to be questioning the value of science and knowledge.	fire that moves rapidly and uncontrollably across a landscape	false information about COVID-19 and vaccines spreading rapidly through society	Natural Force, Listen and Learn
01 01 2021	sacrificed a lot	Our young people have sacrificed a lot to limit the spread of infection — we owe it to them to do everything we can to offer them a bright future.	to give up something of value for a religious offering	young people giving up social freedoms to protect older and more vulnerable citizens	Care and Support, Resilience
01 01 2021	overridden by the need to keep a safe distance	Our natural desire for closeness has been overridden by the need to keep a safe distance .	to take command of a system or mechanism and supersede it	the pandemic requirement for physical distancing superseding natural human impulses for closeness	Control, Empathy
22 09 2021	vaccine wins this race	The COVID-19 pandemic has shown us what we can achieve together — effective vaccines developed in record time, and we must ensure that the vaccine wins this race against the virus.	an athletic competition run along a track	the metaphorical contest between vaccination programs and the spread of the virus	Resilience
22 09 2021	global health architecture	We need to reform and strengthen the global health architecture to prevent, detect, and respond to future threats	building design and structure	Complex organizational/ governance system for global health, described as if it were a building or built complex	Other (construction), Control
22 09 2021	build back better	Domestic resource mobilisation is crucial to build back better	to physically reconstruct a damaged structure more durably	using the post-pandemic recovery as an opportunity to create a stronger, fairer economy and society	Resilience, Other (construction)

Nicola Sturgeon, First Minister of Scotland (24 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
17 03 2020	biggest peace time mission	Scotland today, like countries across the world, faces an unprecedented challenge — addressing it will involve the biggest peace time mission our nation has undertaken in our lifetimes.	a specific task or operation given to a person or group to carry out, especially in military or official contexts	the collective large-scale organizational effort required of Scotland to manage the COVID-19 crisis	War (opposite)
17 03 2020	on the cusp of a rapid escalation	The scientific advice that all four Governments in the UK have received shows that we are now on the cusp of a rapid escalation in the spread of Covid-19.	the pointed tip or edge of something	Scotland at the tipping point before a steep increase in COVID-19 spread	Crisis
17 03 2020	suppress the spread	That means that we must take far more stringent steps to suppress as far as we can the spread of the virus; protect and scale up the capacity of the NHS as best we can; and, by doing these things, save lives.	to physically restrain or hold down by force	to control and dramatically reduce the rate at which COVID-19 infects people	Control
17 03 2020	shield the most vulnerable	The third and final step is to shield the most vulnerable — by which I mean specifically people with compromised immune systems.	to protect with a physical armor or defensive barrier	to specifically protect immunocompromised people from exposure to the virus	Care and Support, Empathy
17 03 2020	shared national challenge	We face a shared national challenge — and we will need a collective national endeavour to meet it.	a task or test that invites competition or effort	the pandemic as a common difficulty confronting all Scottish people equally	Community
17 03 2020	collective national endeavour	We face a shared national challenge — and we will need a collective national endeavour to meet it.	a serious attempt or effort at a task	the united, shared effort required of all citizens to manage the pandemic	Community, Resilience
24 03 2020	Scotland is now in lockdown	Effectively, Scotland is now in lockdown .	to secure a building by locking all exits	an emergency state in which movement is legally restricted to essential purposes only	Control
24 03 2020	NHS becoming overwhelmed	These measures are essential to seek to avoid our NHS becoming overwhelmed so that it can instead continue to provide treatment to all those who will need it.	to defeat completely or submerge under a great quantity	the National Health Service unable to cope with the volume of COVID-19 patients	Crisis
24 03 2020	come out the other side	If we all comply with these measures, then many fewer of us will die of this virus than would otherwise be the case. That means many more of us will come out the other side of all of this - and perhaps more quickly than otherwise be able to resume the lifestyles that we have for so long cherished and taken for granted.	to enter from one side and then emerge from another side of an object	to survive and emerge from the pandemic with life and health intact	Resilience, Other (journey)
24 03 2020	crystal clear	Let's be clear, crystal clear , collectively as a Parliament, that staying at home has become the only way of slowing the spread of this virus.	a transparent mineral with no impurities	completely unambiguous and leaving no room for misunderstanding	Listen and Learn
07 10 2020	stem the increase in cases (used twice in speech)	We hope that the restrictions already in place and those announced today will stem the increase in cases and help bring the virus back under control.	to block or stop the flow of a liquid	to halt the rising number of new COVID-19 infections	Control
07 10 2020	spirit of love and solidarity	It's the best way to look out for each other, and now more than ever, we all need that spirit of love and solidarity that has served us so well	the non-material essence or animating force of human closeness	the collective emotional commitment to mutual care that has sustained communities	Empathy
07 10 2020	brighter days that do lie ahead	And hard through it is to believe it right now, all the hard sacrifices we are making will hasten the brighter days that do lie ahead . The pandemic will pass.	days with greater levels of illumination or sunlight	a future period when the pandemic will have ended and life will improve	Empathy, Resilience
07 10 2020	arrest a worrying increase	They are intended to be short, sharp action to arrest a worrying increase in infection.	to physically seize and detain someone	to immediately stop and reverse a dangerous upward trend in infection rates	Control

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
07 10 2020	sacrifices we made over the summer	We are benefiting from the sacrifices we made over the summer — by driving the virus to very low levels then, we have helped to ensure that even after several weeks of increases, the estimated total number of cases is currently just 13% of the peak level back in March.	to offer something of value to a deity	the personal freedoms and normal activities given up during the earlier pandemic period	Community, Empathy
07 10 2020	virus has to jump from household to household	For all of these reasons, significantly restricting licensed premises for sixteen days temporarily removes one of the key opportunities the virus has to jump from household to household .	to spring off the ground and move through the air from one place to another	the mechanism by which COVID-19 spreads between different family units or groups of people	Natural Force
07 10 2020	bearing a lot of the strain	Test and Protect is now bearing a lot of the strain of controlling the virus.	carrying a heavy physical load or weight	Test and Protect teams absorbing the burden of contact tracing to control infection	Care and Support
04 01 2021	game changers	In the past few weeks, there have been two significant game changers in our fight against this virus — one, the approval of vaccines is hugely positive, but the other, the new, faster-spreading variant of the virus is a massive blow.	factors that alter the conditions and / or outcome of a game	the new variant and vaccine approval as developments that fundamentally alter the situation	Crisis
04 01 2021	race	the most simple way of explaining the challenge we face right now is to compare it to a race . In one lane, we have vaccines and our job is to make sure they can run as fast as possible ... But in the other lane is the virus, which as a result of this new variant has just learned to run much faster and has most definitely picked up pace in the past couple of weeks. To ensure that the vaccine wins this race , it is essential to speed up vaccination as far as possible, but to give it the time it needs to get ahead, we must also slow the virus down.	a physical race between two opponents with an attempt to create more favourable conditions for one of the two	the various coordinated efforts by the health care system to reduce the infectiousness of the new virus while vaccinating the population as quickly as possible	Resilience, Other (journey)
04 01 2021	learned to run much faster	In the other lane is the virus, which as a result of this new variant has just learned to run much faster and has most definitely picked up pace in the past couple of weeks.	to acquire knowledge or skill through study / to physically run and accelerate	the new variant is significantly more transmissible than previous strains	Natural Force, Crisis
04 01 2021	offer us the way out of this pandemic	The approval of vaccines is hugely positive and it does offer us the way out of this pandemic — but the other, the new, faster-spreading variant of the virus is a massive blow.	a physical path or route leading out of an enclosed space	vaccines provide the mechanism through which the pandemic can finally be ended	Science, Other (journey)
04 01 2021	fragile	Already in some areas, the position is fragile and it is getting more challenging.	easily broken or shattered when subjected to force	the NHS's ability to cope is precarious and could break down under further pressure	Crisis
04 01 2021	massive blow	The new, faster-spreading variant of the virus is a massive blow , and possibly the most simple way of explaining the challenge we face right now is to compare it to a race.	a powerful physical impact struck by a hand or instrument	the new, faster-spreading variant is a serious setback for pandemic management	Suffering
08 07 2021	live with the virus	We increasingly hear talk just now of learning to live with the virus , which we all want to be able to do.	to cohabit permanently with another being in one's home	the long-term adaptation to COVID-19 as an ongoing presence in society	Listen and Learn, Crisis
08 07 2021	young people are not guinea pigs	So it would be wrong and irresponsible — because our young people are not guinea pigs — to have no concern at all about young people being infected with this virus.	A small rodent kept as a pet or used as a laboratory animal	the moral obligation to protect young people from the harms of the virus, and not use them as experimental test subjects	Care and Support, Empathy

Tsai Ing-wen, President of Taiwan (30 metaphors selected)

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
19 03 2020	ward off the first wave of imported infections	Despite the lack of transparency regarding the outbreak abroad, we were able to ward off the first wave of imported infections , and our efforts received international praise.	to repel or defend against an attacking force	Taiwan's successful prevention of the initial influx of COVID-19 cases from overseas	War
19 03 2020	front lines day and night	We should also thank all of our epidemic prevention and medical professionals for working on the front lines day and night to keep Taiwan safe.	at the most forward and dangerous position in a military battle	healthcare workers directly and continuously confronting the virus at the point of care	War
19 03 2020	line of defense	We should thank all citizens who are cooperating with home quarantine and health management measures, cooperating with CECC requirements, and establishing a line of defense for the health of all people.	a fortified barrier erected to hold back an attacking force	citizens in quarantine serving as a protective barrier against the spread of the virus	War
19 03 2020	defeat this virus	At this time, we are all part of a collective entity, and we can only defeat this virus if we come together.	to win a victory over an adversary in battle	the collective goal of overcoming and eliminating the COVID-19 pandemic	War
19 03 2020	resilience of the Taiwanese people under pressure	Their contribution exemplifies the resilience of the Taiwanese people under pressure .	the physical property of a material to recover its shape after deformation	the capacity of Taiwan's citizens to sustain effort and performance in the face of crisis	Resilience
19 03 2020	win this battle	Full international cooperation is the only way to ensure that the international community can win this battle .	to emerge victorious from a military engagement	for the global community to collectively overcome the COVID-19 pandemic	War
19 03 2020	drastic measures	The CECC has implemented drastic measures , including comprehensively tightened border controls and greatly enhanced testing and containment measures.	measures that are extreme and forceful in their immediate effects	severe emergency public health interventions to prevent further spread of the virus	Crisis
01 04 2020	global campaign	Now, we must take part in a global campaign and work together with other countries to set up a zone defense and comprehensively prevent the spread of this virus.	a coordinated military operation across a wide territory	an internationally coordinated effort to combat the pandemic through shared resources and cooperation	War
01 04 2020	set up a zone defense	Now, we must take part in a global campaign and work together with other countries to set up a zone defense and comprehensively prevent the spread of this virus.	a sports defensive formation in which players guard areas of the field	an internationally coordinated strategy in which countries cover specific areas of global pandemic response	Resilience
01 04 2020	Taiwan cannot stand by	Out of humanitarian concern, Taiwan cannot stand by while countries are in dire need of assistance to stop the spread of this virus.	to remain passive and inactive while nearby	Taiwan's moral obligation to actively contribute to the global pandemic response	Care and Support, Empathy
01 04 2020	Taiwan can help (also 19 03 20 and 10 10 21)	We want everyone to not only see that " Taiwan can help ," but that "Taiwan is helping."	to assist someone by giving aid or support	Taiwan's capability and willingness to contribute to the international pandemic response	Care and Support, Resilience
01 04 2020	join hands	Taiwan is willing to exert its influence in this battle, and join hands with the international community so that we can overcome this challenge together.	to physically clasp hands with another person	to cooperate closely and in partnership with other countries against the pandemic	Community
01 04 2020	countries around the globe must unite	In times of crisis, countries around the globe must unite , show solidarity, provide mutual assistance, and work together to fight the coronavirus.	to join or combine into a single entity	the necessity of international solidarity and joint action to overcome the pandemic	Community
20 05 2020	weather difficult times	No matter the difficulties we face, we can always count on our democracy, our solidarity, and our sense of responsibility towards each other to help us overcome challenges and weather difficult times and stand steadfast in the world	to endure harsh meteorological conditions without shelter	to survive and persevere through periods of hardship and uncertainty	Resilience, Natural Force

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
20 05 2020	Taiwan has done more than just weather the storm	Despite massive changes in the international economy, Taiwan has done more than just weather the storm — our economic growth has once again topped the Four Asian Tigers.	to survive a violent tempest without being destroyed	Taiwan not merely surviving but achieving positive results despite the pandemic's economic disruptions	Natural Force, Resilience
20 05 2020	turn the wheels of history	Taiwan has overcome countless challenges over the past 70 years, relying on not just one or two heroes, but thanks to countless heroes such as yourselves, working together to turn the wheels of history .	to operate mechanical wheels that drive a machine's motion	to drive forward the course of Taiwan's historical development and democratic progress	Resilience
20 05 2020	stand steadfast in the world	No matter the difficulties we face, we can always count on our democracy, our solidarity, and our sense of responsibility towards each other to help us overcome challenges, weather difficult times, and stand steadfast in the world .	to stand upright and at full height	to maintain a confident, principled position in the international community despite pressure	Resilience
20 05 2020	community in which we share a common destiny	Today, everyone living in Taiwan is a part of this community in which we share a common destiny — together, we have passed one test after another.	a group of people living together in the same place	the Taiwanese people as an interconnected collective whose futures are inextricably linked	Community
20 05 2020	seizing opportunity amid changes	We will do so in the spirit of "achieving growth through stability, and seizing opportunity amid changes ," in order to secure Taiwan's economic development over the coming decades.	to grasp or take hold of something by physical force	turning the disruptions caused by the pandemic and global shifts into opportunities for growth	Control, Other (opportunity)
31 12 2020	endured	Through the concerted efforts of the Taiwanese people, we have endured . Last year, Taiwan's economy performed well compared to neighboring countries.	to suffer or experience hardship over a prolonged period	Taiwan's sustained perseverance through economic and geopolitical pressures	Resilience
31 12 2020	face of China's pressure	In the face of China's pressure , I advocated the "four musts" last year — calling on China to face the reality of the Republic of China's existence.	confronting a physical obstacle or opposing force	Taiwan's stance of resilience in response to Beijing's political and military coercion	Resilience
31 12 2020	sow division	We must be aware that China is infiltrating all facets of Taiwanese society to sow division . We must establish democratic defense mechanisms to prevent infiltration.	to plant seeds in agricultural soil	China's deliberate efforts to create discord and discord within Taiwanese society	War
31 12 2020	continue pressing forward	We are going to unite the Taiwanese people, and continue pressing forward to ensure more people are cared for, keep improving our economy, and make our democracy, freedom, and sovereignty stronger.	to push physically against resistance and advance	Taiwan's determination to persist in its development and democratic consolidation despite obstacles	Resilience, Other (journey)
10 10 2021	Island of Resilience	Taiwan today is no longer seen as the orphan of Asia, but as an Island of Resilience that can face challenges with courage.	a piece of land surrounded by water	Taiwan as a nation that withstands political, military and epidemiological pressures through strength	Resilience
10 10 2021	orphan of Asia	Taiwan today is no longer seen as the orphan of Asia , but as an Island of Resilience that can face challenges with courage.	a child whose parents have died and who has no family to care for them	Taiwan's former status as a country isolated from international recognition and support	Suffering, Family
10 10 2021	virtuous cycle	The face masks we sent out across the world last year showed that Taiwan can help, and the vaccines they sent us this year are vaccines of friendship — this is a virtuous cycle , and I can assure the international community that Taiwan will continue to contribute.	a series of events that reinforce each other in a positive spiral	a self-reinforcing pattern of mutual aid between Taiwan and friendly nations	Community, Resilience
10 10 2021	democracy's first line of defense	Free and democratic countries around the world have been alerted to the expansion of authoritarianism, with	the foremost military barrier protecting a position from attack	Taiwan's position on the front line of resistance to authoritarian expansion in the Indo-Pacific	War

Speech Date	Lexical Unit	Phrase in Context	Basic Meaning	Contextual / Metaphorical Meaning	Semantic Frame
		Taiwan standing on democracy's first line of defense .			
10 10 2021	vaccines of friendship	The face masks we sent out across the world last year showed that Taiwan can help, and the vaccines they sent us this year are vaccines of friendship .	a biological preparation that provides immunity against disease	the vaccines donated by allied nations as an expression of diplomatic solidarity and goodwill	Care and Support
10 10 2021	passed one test after another	Today, everyone living in Taiwan is a part of this community in which we share a common destiny. Together, we have passed one test after another	to succeed in a series of examinations or assessments	Taiwan's repeated successful navigation of crises including COVID-19, political pressure, and economic challenges	Crisis, Resilience
10 10 2021	unity that protected our country	At this difficult time, it was our unity that protected our country , and our collective dedication to democracy that protected our beloved homeland.	the physical joining or fastening together of separate parts	the collective solidarity of the Taiwanese people as the primary shield against pandemic and external threats	Community, Care and Support

Appendix IV: Statistical significance tables

Statistical significance tables (calculated by Perplexity Pro; Two-Proportion Z-Test, P-Value)

Nouns

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Nouns							
Nouns	Áñez	F	25.300	25.400	-0.759	0.4477	No
Nouns	Arderñ	F	25.500	25.400	-0.512	0.6085	No
Nouns	Frederiksen	F	22.500	25.400	-8.582	<.0001	Yes
Nouns	Hasina	F	30.860	25.400	10.698	<.0001	Yes
Nouns	Ing-wen	F	28.500	25.400	6.654	<.0001	Yes
Nouns	Marin	F	31.100	25.400	10.443	<.0001	Yes
Nouns	Merkel	F	24.200	25.400	-3.401	0.0007	Yes
Nouns	Solberg	F	25.700	25.400	-0.088	0.9301	No
Nouns	Sturgeon	F	21.590	25.400	-11.750	<.0001	Yes
Nouns	Wilmès	F	23.800	25.400	-3.715	0.0002	Yes
Nouns	Bolsonaro	M	27.900	25.400	3.607	0.0003	Yes
Nouns	Johnson	M	21.300	25.400	-8.322	<.0001	Yes
Nouns	Kurz	M	23.500	25.400	-4.277	<.0001	Yes
Nouns	Löfven	M	29.200	25.400	8.874	<.0001	Yes
Nouns	Macron	M	24.000	25.400	-5.753	<.0001	Yes
Nouns	Modi	M	27.400	25.400	3.504	0.0005	Yes
Nouns	Morrison	M	22.800	25.400	-6.725	<.0001	Yes
Nouns	Ramaphosa	M	26.900	25.400	2.945	0.0032	Yes
Nouns	Sánchez	M	25.100	25.400	-2.220	0.0264	Yes
Nouns	Trudeau	M	23.000	25.400	-4.859	<.0001	Yes

Verbs

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Verbs							
Verbs	Áñez	F	17.150	17.300	-0.303	0.7622	No
Verbs	Arderñ	F	18.200	17.300	2.195	0.0281	Yes
Verbs	Frederiksen	F	17.400	17.300	0.313	0.7546	No
Verbs	Hasina	F	15.800	17.300	-3.617	0.0003	Yes
Verbs	Ing-wen	F	16.000	17.300	-3.624	0.0003	Yes
Verbs	Marin	F	17.200	17.300	-0.220	0.8257	No
Verbs	Merkel	F	17.050	17.300	-0.644	0.5196	No
Verbs	Solberg	F	18.400	17.300	2.662	0.0078	Yes
Verbs	Sturgeon	F	18.000	17.300	2.298	0.0215	Yes
Verbs	Wilmès	F	15.000	17.300	-5.076	<.0001	Yes
Verbs	Bolsonaro	M	14.930	17.300	-4.603	<.0001	Yes
Verbs	Johnson	M	17.500	17.300	0.423	0.6720	No
Verbs	Kurz	M	17.250	17.300	-0.106	0.9154	No
Verbs	Löfven	M	18.700	17.300	4.166	<.0001	Yes
Verbs	Macron	M	16.950	17.300	-1.320	0.1868	No
Verbs	Modi	M	16.200	17.300	-2.697	0.0070	Yes
Verbs	Morrison	M	19.640	17.300	6.195	<.0001	Yes
Verbs	Ramaphosa	M	17.350	17.300	0.154	0.8773	No
Verbs	Sánchez	M	15.600	17.300	-6.805	<.0001	Yes
Verbs	Trudeau	M	21.020	17.300	7.607	<.0001	Yes

Adjectives

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Adjectives							
Adjectives	Áñez	F	7.060	8.410	-3.595	0.0003	Yes
Adjectives	Ardern	F	8.500	8.410	0.292	0.7701	No
Adjectives	Frederiksen	F	8.600	8.410	0.782	0.4345	No
Adjectives	Hasina	F	8.900	8.410	1.605	0.1085	No
Adjectives	Ing-wen	F	10.300	8.410	7.176	<.0001	Yes
Adjectives	Marin	F	8.800	8.410	1.190	0.2340	No
Adjectives	Merkel	F	9.000	8.410	2.029	0.0424	Yes
Adjectives	Solberg	F	8.200	8.410	-0.699	0.4847	No
Adjectives	Sturgeon	F	8.300	8.410	-0.488	0.6254	No
Adjectives	Wilmès	F	8.450	8.410	0.134	0.8930	No
Adjectives	Bolsonaro	M	7.850	8.410	-1.501	0.1334	No
Adjectives	Johnson	M	7.600	8.410	-2.385	0.0171	Yes
Adjectives	Kurz	M	8.150	8.410	-0.770	0.4410	No
Adjectives	Löfven	M	9.850	8.410	5.795	<.0001	Yes
Adjectives	Macron	M	7.550	8.410	-4.500	<.0001	Yes
Adjectives	Modi	M	7.350	8.410	-3.550	0.0004	Yes
Adjectives	Morrison	M	7.950	8.410	-1.674	0.0941	No
Adjectives	Ramaphosa	M	8.050	8.410	-1.452	0.1464	No
Adjectives	Sánchez	M	9.200	8.410	4.302	<.0001	Yes
Adjectives	Trudeau	M	6.630	8.410	-4.951	<.0001	Yes

Personal Pronouns

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Personal Pronouns							
Personal Pronouns	Áñez	F	8.350	7.060	3.761	0.0002	Yes
Personal Pronouns	Arderi	F	7.200	7.060	0.496	0.6202	No
Personal Pronouns	Frederiksen	F	7.300	7.060	1.074	0.2826	No
Personal Pronouns	Hasina	F	6.000	7.060	-3.773	0.0002	Yes
Personal Pronouns	Ing-wen	F	7.000	7.060	-0.236	0.8135	No
Personal Pronouns	Marin	F	4.130	7.060	-9.747	<.0001	Yes
Personal Pronouns	Merkel	F	7.960	7.060	3.370	0.0008	Yes
Personal Pronouns	Solberg	F	6.500	7.060	-1.990	0.0466	Yes
Personal Pronouns	Sturgeon	F	7.150	7.060	0.435	0.6638	No
Personal Pronouns	Wilmès	F	6.800	7.060	-0.857	0.3914	No
Personal Pronouns	Bolsonaro	M	6.060	7.060	-2.842	0.0045	Yes
Personal Pronouns	Johnson	M	8.560	7.060	4.802	<.0001	Yes
Personal Pronouns	Kurz	M	6.850	7.060	-0.689	0.4905	No
Personal Pronouns	Löfven	M	5.380	7.060	-7.337	<.0001	Yes
Personal Pronouns	Macron	M	7.550	7.060	2.764	0.0057	Yes
Personal Pronouns	Modi	M	6.550	7.060	-1.821	0.0685	No
Personal Pronouns	Morrison	M	8.260	7.060	4.703	<.0001	Yes
Personal Pronouns	Ramaphosa	M	6.300	7.060	-3.302	0.0010	Yes
Personal Pronouns	Sánchez	M	6.130	7.060	-5.492	<.0001	Yes
Personal Pronouns	Trudeau	M	10.600	7.060	10.702	<.0001	Yes

1st Person Singular

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
1st Person Singular							
1st Person Singular	Áñez	F	1.600	1.040	4.146	<.0001	Yes
1st Person Singular	Arderñ	F	1.050	1.040	0.075	0.9400	No
1st Person Singular	Frederiksen	F	0.750	1.040	-3.287	0.0010	Yes
1st Person Singular	Hasina	F	0.950	1.040	-0.815	0.4151	No
1st Person Singular	Ing-wen	F	0.950	1.040	-0.970	0.3319	No
1st Person Singular	Marin	F	0.200	1.040	-7.059	<.0001	Yes
1st Person Singular	Merkel	F	1.700	1.040	6.248	<.0001	Yes
1st Person Singular	Solberg	F	0.700	1.040	-3.065	0.0022	Yes
1st Person Singular	Sturgeon	F	1.500	1.040	5.605	<.0001	Yes
1st Person Singular	Wilmès	F	0.950	1.040	-0.749	0.4538	No
1st Person Singular	Bolsonaro	M	0.950	1.040	-0.606	0.5443	No
1st Person Singular	Johnson	M	1.100	1.040	0.457	0.6477	No
1st Person Singular	Kurz	M	1.600	1.040	4.660	<.0001	Yes
1st Person Singular	Löfven	M	0.400	1.040	-7.094	<.0001	Yes
1st Person Singular	Macron	M	1.000	1.040	-0.542	0.5881	No
1st Person Singular	Modi	M	0.950	1.040	-0.808	0.4193	No
1st Person Singular	Morrison	M	1.350	1.040	3.022	0.0025	Yes
1st Person Singular	Ramaphosa	M	0.400	1.040	-7.034	<.0001	Yes
1st Person Singular	Sánchez	M	0.950	1.040	-1.339	0.1806	No
1st Person Singular	Trudeau	M	1.050	1.040	0.100	0.9200	No

1st Person Plural

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
1st Person Plural							
1st Person Plural	Áñez	F	3.700	3.580	0.489	0.6250	No
1st Person Plural	Arderñ	F	4.000	3.580	2.096	0.0361	Yes
1st Person Plural	Frederiksen	F	3.950	3.580	2.320	0.0204	Yes
1st Person Plural	Hasina	F	3.150	3.580	-2.110	0.0348	Yes
1st Person Plural	Ing-wen	F	4.620	3.580	5.936	<.0001	Yes
1st Person Plural	Marin	F	2.400	3.580	-5.409	<.0001	Yes
1st Person Plural	Merkel	F	3.600	3.580	0.127	0.8987	No
1st Person Plural	Solberg	F	3.500	3.580	-0.390	0.6969	No
1st Person Plural	Sturgeon	F	3.100	3.580	-3.202	0.0014	Yes
1st Person Plural	Wilmès	F	3.550	3.580	-0.149	0.8812	No
1st Person Plural	Bolsonaro	M	3.450	3.580	-0.535	0.5928	No
1st Person Plural	Johnson	M	4.200	3.580	2.749	0.0060	Yes
1st Person Plural	Kurz	M	3.200	3.580	-1.704	0.0885	No
1st Person Plural	Löfven	M	2.500	3.580	-6.512	<.0001	Yes
1st Person Plural	Macron	M	3.850	3.580	2.113	0.0346	Yes
1st Person Plural	Modi	M	2.100	3.580	-7.369	<.0001	Yes
1st Person Plural	Morrison	M	3.650	3.580	0.395	0.6929	No
1st Person Plural	Ramaphosa	M	4.100	3.580	3.124	0.0018	Yes
1st Person Plural	Sánchez	M	3.100	3.580	-3.898	<.0001	Yes
1st Person Plural	Trudeau	M	5.320	3.580	7.240	<.0001	Yes

2nd Person

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
2nd Person							
2nd Person	Áñez	F	0.650	0.678	-0.216	0.8291	No
2nd Person	Arderñ	F	0.750	0.678	0.878	0.3800	No
2nd Person	Frederiksen	F	0.690	0.678	0.138	0.8905	No
2nd Person	Hasina	F	0.550	0.678	-1.427	0.1536	No
2nd Person	Ing-wen	F	0.320	0.678	-4.585	<.0001	Yes
2nd Person	Marin	F	0.120	0.678	-5.855	<.0001	Yes
2nd Person	Merkel	F	0.710	0.678	0.419	0.6754	No
2nd Person	Solberg	F	0.380	0.678	-3.375	0.0007	Yes
2nd Person	Sturgeon	F	0.580	0.678	-1.520	0.1286	No
2nd Person	Wilmès	F	0.620	0.678	-0.561	0.5750	No
2nd Person	Bolsonaro	M	0.140	0.678	-4.861	<.0001	Yes
2nd Person	Johnson	M	1.120	0.678	4.331	<.0001	Yes
2nd Person	Kurz	M	0.880	0.678	2.032	0.0422	Yes
2nd Person	Löfven	M	0.950	0.678	3.700	0.0002	Yes
2nd Person	Modi	M	1.300	0.678	7.073	<.0001	Yes
2nd Person	Morrison	M	0.730	0.678	0.586	0.5581	No
2nd Person	Ramaphosa	M	0.350	0.678	-4.382	<.0001	Yes
2nd Person	Sánchez	M	0.420	0.678	-4.777	<.0001	Yes
2nd Person	Trudeau	M	1.590	0.678	8.574	<.0001	Yes

3rd Person Plural

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
3rd Person Plural							
3rd Person Plural	Áñez	F	0.970	0.714	2.271	0.0232	Yes
3rd Person Plural	Arderñ	F	0.680	0.714	-0.345	0.7303	No
3rd Person Plural	Frederiksen	F	0.450	0.714	-3.655	0.0003	Yes
3rd Person Plural	Hasina	F	0.470	0.714	-2.596	0.0094	Yes
3rd Person Plural	Ing-wen	F	0.600	0.714	-1.474	0.1405	No
3rd Person Plural	Marin	F	0.420	0.714	-3.036	0.0024	Yes
3rd Person Plural	Merkel	F	0.650	0.714	-0.780	0.4353	No
3rd Person Plural	Solberg	F	0.650	0.714	-0.697	0.4855	No
3rd Person Plural	Sturgeon	F	0.650	0.714	-0.976	0.3290	No
3rd Person Plural	Wilmès	F	0.650	0.714	-0.610	0.5419	No
3rd Person Plural	Bolsonaro	M	0.440	0.714	-2.387	0.0170	Yes
3rd Person Plural	Johnson	M	0.820	0.714	1.018	0.3089	No
3rd Person Plural	Kurz	M	0.460	0.714	-2.506	0.0122	Yes
3rd Person Plural	Löfven	M	0.680	0.714	-0.484	0.6287	No
3rd Person Plural	Macron	M	0.750	0.714	0.576	0.5643	No
3rd Person Plural	Modi	M	1.110	0.714	4.352	<.0001	Yes
3rd Person Plural	Morrison	M	1.440	0.714	8.638	<.0001	Yes
3rd Person Plural	Ramaphosa	M	0.720	0.714	0.033	0.9735	No
3rd Person Plural	Sánchez	M	0.520	0.714	-3.463	0.0005	Yes
3rd Person Plural	Trudeau	M	0.780	0.714	0.578	0.5631	No

Modal Verbs

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Modal Verbs							
Modal Verbs	Áñez	F	2.420	2.440	-0.137	0.8907	No
Modal Verbs	Arderñ	F	2.850	2.440	2.479	0.0132	Yes
Modal Verbs	Frederiksen	F	2.700	2.440	1.976	0.0482	Yes
Modal Verbs	Hasina	F	1.130	2.440	-7.787	<.0001	Yes
Modal Verbs	Ing-wen	F	2.380	2.440	-0.428	0.6689	No
Modal Verbs	Marin	F	2.500	2.440	0.330	0.7414	No
Modal Verbs	Merkel	F	2.550	2.440	0.683	0.4946	No
Modal Verbs	Solberg	F	2.300	2.440	-0.830	0.4063	No
Modal Verbs	Sturgeon	F	2.750	2.440	2.457	0.0140	Yes
Modal Verbs	Wilmès	F	2.320	2.440	-0.681	0.4960	No
Modal Verbs	Bolsonaro	M	1.000	2.440	-6.866	<.0001	Yes
Modal Verbs	Johnson	M	2.800	2.440	1.892	0.0585	No
Modal Verbs	Kurz	M	2.480	2.440	0.245	0.8068	No
Modal Verbs	Löfven	M	3.400	2.440	6.960	<.0001	Yes
Modal Verbs	Macron	M	2.950	2.440	4.766	<.0001	Yes
Modal Verbs	Modi	M	1.750	2.440	-4.167	<.0001	Yes
Modal Verbs	Morrison	M	1.880	2.440	-3.602	0.0003	Yes
Modal Verbs	Ramaphosa	M	2.300	2.440	-1.028	0.3038	No
Modal Verbs	Sánchez	M	2.000	2.440	-4.330	<.0001	Yes
Modal Verbs	Trudeau	M	2.350	2.440	-0.455	0.6488	No

Conjunctive Adverbs

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Conjunctive Adverbs							
Conjunctive Adverbs	Áñez	F	0.680	0.931	-1.991	0.0465	Yes
Conjunctive Adverbs	Arderi	F	0.700	0.931	-2.271	0.0232	Yes
Conjunctive Adverbs	Frederiksen	F	1.050	0.931	1.411	0.1581	No
Conjunctive Adverbs	Hasina	F	0.680	0.931	-2.433	0.0150	Yes
Conjunctive Adverbs	Ing-wen	F	1.030	0.931	1.121	0.2625	No
Conjunctive Adverbs	Marin	F	1.200	0.931	2.389	0.0169	Yes
Conjunctive Adverbs	Merkel	F	1.550	0.931	6.226	<.0001	Yes
Conjunctive Adverbs	Solberg	F	0.620	0.931	-2.908	0.0036	Yes
Conjunctive Adverbs	Sturgeon	F	1.320	0.931	4.978	<.0001	Yes
Conjunctive Adverbs	Wilmès	F	1.150	0.931	1.971	0.0487	Yes
Conjunctive Adverbs	Bolsonaro	M	0.700	0.931	-1.701	0.0889	No
Conjunctive Adverbs	Johnson	M	0.910	0.931	-0.162	0.8715	No
Conjunctive Adverbs	Kurz	M	1.640	0.931	6.137	<.0001	Yes
Conjunctive Adverbs	Löfven	M	0.620	0.931	-3.643	0.0003	Yes
Conjunctive Adverbs	Macron	M	0.680	0.931	-3.789	0.0002	Yes
Conjunctive Adverbs	Modi	M	0.950	0.931	0.204	0.8385	No
Conjunctive Adverbs	Morrison	M	0.620	0.931	-3.223	0.0013	Yes
Conjunctive Adverbs	Ramaphosa	M	0.550	0.931	-4.368	<.0001	Yes
Conjunctive Adverbs	Sánchez	M	1.220	0.931	4.545	<.0001	Yes
Conjunctive Adverbs	Trudeau	M	0.700	0.931	-1.790	0.0735	No

War frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
War Frame							
War Frame	Áñez	F	0.820	0.411	4.767	<.0001	Yes
War Frame	Arderñ	F	0.430	0.411	0.225	0.8219	No
War Frame	Frederiksen	F	0.220	0.411	-3.382	0.0007	Yes
War Frame	Hasina	F	0.370	0.411	-0.518	0.6048	No
War Frame	Ing-wen	F	0.760	0.411	5.722	<.0001	Yes
War Frame	Marin	F	0.240	0.411	-2.242	0.0249	Yes
War Frame	Merkel	F	0.270	0.411	-2.092	0.0364	Yes
War Frame	Solberg	F	0.350	0.411	-0.874	0.3819	No
War Frame	Sturgeon	F	0.100	0.411	-6.047	<.0001	Yes
War Frame	Wilmès	F	0.350	0.411	-0.720	0.4712	No
War Frame	Bolsonaro	M	0.480	0.411	0.768	0.4427	No
War Frame	Johnson	M	0.390	0.411	-0.319	0.7500	No
War Frame	Kurz	M	0.240	0.411	-2.257	0.0240	Yes
War Frame	Löfven	M	0.420	0.411	0.218	0.8272	No
War Frame	Macron	M	0.530	0.411	2.691	0.0071	Yes
War Frame	Modi	M	0.600	0.411	2.699	0.0070	Yes
War Frame	Morrison	M	0.280	0.411	-1.984	0.0472	Yes
War Frame	Ramaphosa	M	0.370	0.411	-0.692	0.4890	No
War Frame	Sánchez	M	0.390	0.411	-0.501	0.6161	No
War Frame	Trudeau	M	0.450	0.411	0.457	0.6476	No

Family frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Family Frame							
Family Frame	Áñez	F	1.480	0.473	10.861	<.0001	Yes
Family Frame	Arderñ	F	0.520	0.473	0.699	0.4846	No
Family Frame	Frederiksen	F	0.490	0.473	0.260	0.7951	No
Family Frame	Hasina	F	0.760	0.473	3.861	0.0001	Yes
Family Frame	Ing-wen	F	0.480	0.473	0.162	0.8709	No
Family Frame	Marin	F	0.450	0.473	-0.192	0.8478	No
Family Frame	Merkel	F	0.420	0.473	-0.747	0.4551	No
Family Frame	Solberg	F	0.330	0.473	-1.966	0.0493	Yes
Family Frame	Sturgeon	F	0.420	0.473	-0.903	0.3663	No
Family Frame	Wilmès	F	0.160	0.473	-3.770	0.0002	Yes
Family Frame	Bolsonaro	M	0.400	0.473	-0.757	0.4491	No
Family Frame	Johnson	M	0.650	0.473	2.105	0.0353	Yes
Family Frame	Kurz	M	0.460	0.473	-0.136	0.8915	No
Family Frame	Löfven	M	0.400	0.473	-1.214	0.2247	No
Family Frame	Macron	M	0.310	0.473	-3.475	0.0005	Yes
Family Frame	Modi	M	0.870	0.473	5.312	<.0001	Yes
Family Frame	Morrison	M	0.270	0.473	-2.899	0.0037	Yes
Family Frame	Ramaphosa	M	0.320	0.473	-2.476	0.0133	Yes
Family Frame	Sánchez	M	0.300	0.473	-3.760	0.0002	Yes
Family Frame	Trudeau	M	0.700	0.473	2.654	0.0079	Yes

Suffering frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Suffering Frame							
Suffering Frame	Áñez	F	0.250	0.298	-0.753	0.4516	No
Suffering Frame	Arderñ	F	0.320	0.298	0.317	0.7514	No
Suffering Frame	Frederiksen	F	0.220	0.298	-1.577	0.1149	No
Suffering Frame	Hasina	F	0.330	0.298	0.446	0.6559	No
Suffering Frame	Ing-wen	F	0.160	0.298	-2.661	0.0078	Yes
Suffering Frame	Marin	F	0.220	0.298	-1.314	0.1888	No
Suffering Frame	Merkel	F	0.440	0.298	2.531	0.0114	Yes
Suffering Frame	Solberg	F	0.240	0.298	-1.020	0.3078	No
Suffering Frame	Sturgeon	F	0.440	0.298	3.137	0.0017	Yes
Suffering Frame	Wilmès	F	0.250	0.298	-0.707	0.4794	No
Suffering Frame	Bolsonaro	M	0.310	0.298	0.104	0.9175	No
Suffering Frame	Johnson	M	0.270	0.298	-0.535	0.5924	No
Suffering Frame	Kurz	M	0.450	0.298	2.265	0.0235	Yes
Suffering Frame	Löfven	M	0.370	0.298	1.531	0.1258	No
Suffering Frame	Macron	M	0.280	0.298	-0.458	0.6472	No
Suffering Frame	Modi	M	0.290	0.298	-0.093	0.9257	No
Suffering Frame	Morrison	M	0.090	0.298	-3.732	0.0002	Yes
Suffering Frame	Ramaphosa	M	0.460	0.298	3.241	0.0012	Yes
Suffering Frame	Sánchez	M	0.340	0.298	1.192	0.2334	No
Suffering Frame	Trudeau	M	0.270	0.298	-0.312	0.7553	No

Science frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Science Frame							
Science Frame	Áñez	F	0.770	1.227	-3.103	0.0019	Yes
Science Frame	Ardern	F	1.080	1.227	-1.191	0.2336	No
Science Frame	Frederiksen	F	0.760	1.227	-4.904	<.0001	Yes
Science Frame	Hasina	F	1.520	1.227	2.472	0.0134	Yes
Science Frame	Ing-wen	F	1.180	1.227	-0.412	0.6804	No
Science Frame	Marin	F	1.960	1.227	5.651	<.0001	Yes
Science Frame	Merkel	F	1.980	1.227	6.604	<.0001	Yes
Science Frame	Solberg	F	1.260	1.227	0.294	0.7689	No
Science Frame	Sturgeon	F	1.680	1.227	5.127	<.0001	Yes
Science Frame	Wilmès	F	0.850	1.227	-2.895	0.0038	Yes
Science Frame	Bolsonaro	M	1.100	1.227	-0.909	0.3632	No
Science Frame	Johnson	M	1.580	1.227	2.595	0.0095	Yes
Science Frame	Kurz	M	1.220	1.227	-0.051	0.9597	No
Science Frame	Löfven	M	0.670	1.227	-5.677	<.0001	Yes
Science Frame	Macron	M	0.920	1.227	-4.062	<.0001	Yes
Science Frame	Modi	M	1.120	1.227	-0.876	0.3808	No
Science Frame	Morrison	M	0.900	1.227	-2.922	0.0035	Yes
Science Frame	Ramaphosa	M	2.190	1.227	9.742	<.0001	Yes
Science Frame	Sánchez	M	0.880	1.227	-4.806	<.0001	Yes
Science Frame	Trudeau	M	1.120	1.227	-0.732	0.4644	No

Listen & Learn frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Listen & Learn Frame							
Listen & Learn Frame	Áñez	F	0.880	0.498	4.006	<.0001	Yes
Listen & Learn Frame	Arderi	F	0.620	0.498	1.624	0.1044	No
Listen & Learn Frame	Frederiksen	F	0.410	0.498	-1.483	0.1380	No
Listen & Learn Frame	Hasina	F	0.220	0.498	-3.546	0.0004	Yes
Listen & Learn Frame	Ing-wen	F	0.360	0.498	-2.076	0.0379	Yes
Listen & Learn Frame	Marin	F	0.530	0.498	0.366	0.7146	No
Listen & Learn Frame	Merkel	F	0.760	0.498	3.563	0.0004	Yes
Listen & Learn Frame	Solberg	F	0.380	0.498	-1.600	0.1096	No
Listen & Learn Frame	Sturgeon	F	0.620	0.498	2.133	0.0329	Yes
Listen & Learn Frame	Wilmès	F	0.640	0.498	1.657	0.0976	No
Listen & Learn Frame	Bolsonaro	M	0.380	0.498	-1.205	0.2284	No
Listen & Learn Frame	Johnson	M	0.490	0.498	-0.045	0.9644	No
Listen & Learn Frame	Kurz	M	0.490	0.498	-0.085	0.9319	No
Listen & Learn Frame	Löfven	M	0.450	0.498	-0.783	0.4335	No
Listen & Learn Frame	Macron	M	0.460	0.498	-0.757	0.4490	No
Listen & Learn Frame	Modi	M	0.480	0.498	-0.294	0.7686	No
Listen & Learn Frame	Morrison	M	0.460	0.498	-0.500	0.6174	No
Listen & Learn Frame	Ramaphosa	M	0.450	0.498	-0.776	0.4375	No
Listen & Learn Frame	Sánchez	M	0.450	0.498	-1.070	0.2844	No
Listen & Learn Frame	Trudeau	M	0.520	0.498	0.218	0.8275	No

Resilience frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Resilience Frame							
Resilience Frame	Áñez	F	0.860	0.388	5.629	<.0001	Yes
Resilience Frame	Arderñ	F	0.410	0.388	0.395	0.6926	No
Resilience Frame	Frederiksen	F	0.350	0.388	-0.671	0.5025	No
Resilience Frame	Hasina	F	0.200	0.388	-2.763	0.0057	Yes
Resilience Frame	Ing-wen	F	0.370	0.388	-0.316	0.7518	No
Resilience Frame	Marin	F	0.330	0.388	-0.816	0.4148	No
Resilience Frame	Merkel	F	0.260	0.388	-1.970	0.0488	Yes
Resilience Frame	Solberg	F	0.340	0.388	-0.743	0.4575	No
Resilience Frame	Sturgeon	F	0.110	0.388	-5.483	<.0001	Yes
Resilience Frame	Wilmès	F	0.480	0.388	1.165	0.2439	No
Resilience Frame	Bolsonaro	M	0.380	0.388	-0.064	0.9489	No
Resilience Frame	Johnson	M	0.400	0.388	0.181	0.8567	No
Resilience Frame	Kurz	M	0.200	0.388	-2.611	0.0090	Yes
Resilience Frame	Löfven	M	0.580	0.388	3.393	0.0007	Yes
Resilience Frame	Macron	M	0.500	0.388	2.569	0.0102	Yes
Resilience Frame	Modi	M	0.710	0.388	4.757	<.0001	Yes
Resilience Frame	Morrison	M	0.180	0.388	-3.362	0.0008	Yes
Resilience Frame	Ramaphosa	M	0.240	0.388	-2.610	0.0090	Yes
Resilience Frame	Sánchez	M	0.360	0.388	-0.664	0.5068	No
Resilience Frame	Trudeau	M	0.420	0.388	0.329	0.7419	No

Community frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Community Frame							
Community Frame	Áñez	F	0.340	0.360	-0.288	0.7737	No
Community Frame	Ardern	F	0.380	0.360	0.283	0.7770	No
Community Frame	Frederiksen	F	0.400	0.360	0.778	0.4368	No
Community Frame	Hasina	F	0.320	0.360	-0.530	0.5962	No
Community Frame	Ing-wen	F	0.730	0.360	6.525	<.0001	Yes
Community Frame	Marin	F	0.310	0.360	-0.647	0.5178	No
Community Frame	Merkel	F	0.350	0.360	-0.135	0.8926	No
Community Frame	Solberg	F	0.300	0.360	-0.911	0.3622	No
Community Frame	Sturgeon	F	0.170	0.360	-3.943	<.0001	Yes
Community Frame	Wilmès	F	0.320	0.360	-0.465	0.6419	No
Community Frame	Bolsonaro	M	0.330	0.360	-0.422	0.6729	No
Community Frame	Johnson	M	0.390	0.360	0.364	0.7161	No
Community Frame	Kurz	M	0.330	0.360	-0.450	0.6527	No
Community Frame	Löfven	M	0.310	0.360	-0.864	0.3874	No
Community Frame	Macron	M	0.460	0.360	2.456	0.0141	Yes
Community Frame	Modi	M	0.760	0.360	6.132	<.0001	Yes
Community Frame	Morrison	M	0.220	0.360	-2.315	0.0206	Yes
Community Frame	Ramaphosa	M	0.370	0.360	0.216	0.8292	No
Community Frame	Sánchez	M	0.330	0.360	-0.712	0.4762	No
Community Frame	Trudeau	M	0.530	0.360	2.268	0.0233	Yes

Natural Force frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Natural Force Frame							
Natural Force Frame	Áñez	F	0.060	0.079	-0.602	0.5475	No
Natural Force Frame	Arderñ	F	0.070	0.079	-0.187	0.8515	No
Natural Force Frame	Frederiksen	F	0.060	0.079	-0.941	0.3467	No
Natural Force Frame	Hasina	F	0.060	0.079	-0.532	0.5947	No
Natural Force Frame	Ing-wen	F	0.180	0.079	3.807	0.0001	Yes
Natural Force Frame	Marin	F	0.050	0.079	-0.659	0.5099	No
Natural Force Frame	Merkel	F	0.070	0.079	-0.372	0.7100	No
Natural Force Frame	Solberg	F	0.060	0.079	-0.532	0.5947	No
Natural Force Frame	Sturgeon	F	0.050	0.079	-1.303	0.1925	No
Natural Force Frame	Wilmès	F	0.060	0.079	-0.581	0.5615	No
Natural Force Frame	Bolsonaro	M	0.170	0.079	2.437	0.0148	Yes
Natural Force Frame	Johnson	M	0.170	0.079	2.657	0.0079	Yes
Natural Force Frame	Kurz	M	0.070	0.079	-0.132	0.8951	No
Natural Force Frame	Löfven	M	0.070	0.079	-0.441	0.6589	No
Natural Force Frame	Macron	M	0.090	0.079	0.583	0.5600	No
Natural Force Frame	Modi	M	0.070	0.079	-0.185	0.8529	No
Natural Force Frame	Morrison	M	0.080	0.079	0.191	0.8487	No
Natural Force Frame	Ramaphosa	M	0.190	0.079	4.394	<.0001	Yes
Natural Force Frame	Sánchez	M	0.060	0.079	-1.097	0.2725	No
Natural Force Frame	Trudeau	M	0.190	0.079	3.059	0.0022	Yes

Crisis frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Crisis Frame							
Crisis Frame	Áñez	F	0.300	0.286	0.182	0.8557	No
Crisis Frame	Arderñ	F	0.320	0.286	0.538	0.5907	No
Crisis Frame	Frederiksen	F	0.170	0.286	-2.555	0.0106	Yes
Crisis Frame	Hasina	F	0.480	0.286	3.232	0.0012	Yes
Crisis Frame	Ing-wen	F	0.110	0.286	-3.410	0.0007	Yes
Crisis Frame	Marin	F	0.650	0.286	5.922	<.0001	Yes
Crisis Frame	Merkel	F	0.350	0.286	1.175	0.2398	No
Crisis Frame	Solberg	F	0.230	0.286	-1.044	0.2966	No
Crisis Frame	Sturgeon	F	0.020	0.286	-6.140	<.0001	Yes
Crisis Frame	Wilmès	F	0.250	0.286	-0.529	0.5969	No
Crisis Frame	Bolsonaro	M	0.280	0.286	0.013	0.9897	No
Crisis Frame	Johnson	M	0.110	0.286	-2.725	0.0064	Yes
Crisis Frame	Kurz	M	0.640	0.286	5.529	<.0001	Yes
Crisis Frame	Löfven	M	0.470	0.286	3.779	0.0002	Yes
Crisis Frame	Macron	M	0.220	0.286	-1.855	0.0636	No
Crisis Frame	Modi	M	0.260	0.286	-0.515	0.6065	No
Crisis Frame	Morrison	M	0.110	0.286	-3.383	0.0007	Yes
Crisis Frame	Ramaphosa	M	0.370	0.286	1.773	0.0762	No
Crisis Frame	Sánchez	M	0.300	0.286	0.462	0.6444	No
Crisis Frame	Trudeau	M	0.250	0.286	-0.639	0.5227	No

Control frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Control Frame							
Control Frame	Áñez	F	0.360	0.624	-2.532	0.0113	Yes
Control Frame	Arderñ	F	0.760	0.624	1.551	0.1210	No
Control Frame	Frederiksen	F	0.670	0.624	0.703	0.4821	No
Control Frame	Hasina	F	0.400	0.624	-2.599	0.0093	Yes
Control Frame	Ing-wen	F	0.610	0.624	-0.239	0.8111	No
Control Frame	Marin	F	1.490	0.624	9.323	<.0001	Yes
Control Frame	Merkel	F	0.650	0.624	0.267	0.7896	No
Control Frame	Solberg	F	0.680	0.624	0.590	0.5550	No
Control Frame	Sturgeon	F	0.820	0.624	3.030	0.0024	Yes
Control Frame	Wilmès	F	0.630	0.624	-0.010	0.9919	No
Control Frame	Bolsonaro	M	0.380	0.624	-2.247	0.0246	Yes
Control Frame	Johnson	M	0.410	0.624	-2.149	0.0316	Yes
Control Frame	Kurz	M	0.560	0.624	-0.620	0.5351	No
Control Frame	Löfven	M	0.590	0.624	-0.440	0.6602	No
Control Frame	Macron	M	0.570	0.624	-1.038	0.2994	No
Control Frame	Modi	M	0.550	0.624	-0.880	0.3789	No
Control Frame	Morrison	M	0.400	0.624	-2.844	0.0045	Yes
Control Frame	Ramaphosa	M	0.970	0.624	4.835	<.0001	Yes
Control Frame	Sánchez	M	0.460	0.624	-3.188	0.0014	Yes
Control Frame	Trudeau	M	0.530	0.624	-0.869	0.3848	No

Empathy frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Empathy Frame							
Empathy Frame	Áñez	F	0.390	0.382	0.129	0.8975	No
Empathy Frame	Arderñ	F	0.440	0.382	0.857	0.3913	No
Empathy Frame	Frederiksen	F	0.340	0.382	-0.860	0.3898	No
Empathy Frame	Hasina	F	0.400	0.382	0.268	0.7885	No
Empathy Frame	Ing-wen	F	0.430	0.382	0.761	0.4468	No
Empathy Frame	Marin	F	0.580	0.382	2.816	0.0049	Yes
Empathy Frame	Merkel	F	0.410	0.382	0.407	0.6842	No
Empathy Frame	Solberg	F	0.320	0.382	-0.842	0.3995	No
Empathy Frame	Sturgeon	F	0.420	0.382	0.816	0.4146	No
Empathy Frame	Wilmès	F	0.310	0.382	-0.953	0.3408	No
Empathy Frame	Bolsonaro	M	0.500	0.382	1.373	0.1698	No
Empathy Frame	Johnson	M	0.360	0.382	-0.351	0.7256	No
Empathy Frame	Kurz	M	0.350	0.382	-0.334	0.7384	No
Empathy Frame	Löfven	M	0.710	0.382	5.997	<.0001	Yes
Empathy Frame	Macron	M	0.260	0.382	-2.858	0.0043	Yes
Empathy Frame	Modi	M	0.320	0.382	-0.968	0.3328	No
Empathy Frame	Morrison	M	0.290	0.382	-1.412	0.1579	No
Empathy Frame	Ramaphosa	M	0.340	0.382	-0.811	0.4175	No
Empathy Frame	Sánchez	M	0.240	0.382	-3.510	0.0004	Yes
Empathy Frame	Trudeau	M	0.530	0.382	1.924	0.0544	No

Inequality frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Inequality Frame							
Inequality Frame	Áñez	F	0.130	0.140	-0.175	0.8613	No
Inequality Frame	Arderñ	F	0.150	0.140	0.165	0.8686	No
Inequality Frame	Frederiksen	F	0.120	0.140	-0.609	0.5428	No
Inequality Frame	Hasina	F	0.190	0.140	1.170	0.2420	No
Inequality Frame	Ing-wen	F	0.038	0.140	-2.879	0.0040	Yes
Inequality Frame	Marin	F	0.000	0.140	-3.187	0.0014	Yes
Inequality Frame	Merkel	F	0.130	0.140	-0.386	0.6993	No
Inequality Frame	Solberg	F	0.120	0.140	-0.359	0.7198	No
Inequality Frame	Sturgeon	F	0.060	0.140	-2.528	0.0115	Yes
Inequality Frame	Wilmès	F	0.120	0.140	-0.469	0.6389	No
Inequality Frame	Bolsonaro	M	0.170	0.140	0.638	0.5233	No
Inequality Frame	Johnson	M	0.015	0.140	-2.721	0.0065	Yes
Inequality Frame	Kurz	M	0.000	0.140	-3.120	0.0018	Yes
Inequality Frame	Löfven	M	0.290	0.140	4.456	<.0001	Yes
Inequality Frame	Macron	M	0.110	0.140	-1.094	0.2739	No
Inequality Frame	Modi	M	0.160	0.140	0.470	0.6381	No
Inequality Frame	Morrison	M	0.070	0.140	-1.766	0.0774	No
Inequality Frame	Ramaphosa	M	0.035	0.140	-3.123	0.0018	Yes
Inequality Frame	Sánchez	M	0.430	0.140	11.736	<.0001	Yes
Inequality Frame	Trudeau	M	0.140	0.140	-0.030	0.9757	No

Care & Support frame

Category	Leader	Gender	Leader Rate (%)	Corpus Rate (%)	z-score	p-value	Significant (p<.05)
Care & Support Frame							
Care & Support Frame	Áñez	F	0.700	0.728	-0.314	0.7536	No
Care & Support Frame	Ardern	F	0.560	0.728	-1.815	0.0695	No
Care & Support Frame	Frederiksen	F	0.550	0.728	-2.389	0.0169	Yes
Care & Support Frame	Hasina	F	0.660	0.728	-0.701	0.4835	No
Care & Support Frame	Ing-wen	F	0.970	0.728	2.966	0.0030	Yes
Care & Support Frame	Marin	F	0.770	0.728	0.438	0.6610	No
Care & Support Frame	Merkel	F	0.820	0.728	0.998	0.3181	No
Care & Support Frame	Solberg	F	0.620	0.728	-1.104	0.2697	No
Care & Support Frame	Sturgeon	F	0.800	0.728	1.094	0.2740	No
Care & Support Frame	Wilmès	F	0.640	0.728	-0.882	0.3778	No
Care & Support Frame	Bolsonaro	M	0.660	0.728	-0.666	0.5054	No
Care & Support Frame	Johnson	M	0.750	0.728	0.284	0.7762	No
Care & Support Frame	Kurz	M	0.720	0.728	-0.131	0.8961	No
Care & Support Frame	Löfven	M	1.190	0.728	6.050	<.0001	Yes
Care & Support Frame	Macron	M	0.620	0.728	-1.821	0.0686	No
Care & Support Frame	Modi	M	0.380	0.728	-3.802	0.0001	Yes
Care & Support Frame	Morrison	M	0.670	0.728	-0.635	0.5253	No
Care & Support Frame	Ramaphosa	M	0.670	0.728	-0.706	0.4803	No
Care & Support Frame	Sánchez	M	0.520	0.728	-3.670	0.0002	Yes
Care & Support Frame	Trudeau	M	1.760	0.728	9.400	<.0001	Yes