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Politicians' use of emotional appeals in European democracies

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Chapter 1

Introduction

Emotions are at the core of politics, and have been central to the understanding of human behavior, including political behavior, in Western philosophy. In “Rhetoric”, Aristotle argues that appeals to emotions are an essential element of effective political discourse (Cope & Sandys, 2010). Similarly, David Hume, in his “Treaties on Human Nature”, discusses the connection between emotions and political behavior, asserting that our passions, rather than our reason, guide political actions (Norton & Norton, 2000). In contrast, political science has not always given emotions the attention they deserve. For instance, since the mid-20th century, the dominant approach in the study of political behavior has been *rational choice theory* (e.g. Black, 1958; Downs, 1957; Riker, 1962), which posits that individuals make decisions based on a rational assessment of their self-interest (Petracca, 1991; Simon, 1955). Following this tradition, much of the empirical research on the communication of political elites has, consequentially, been primarily focused on the “rational” issue content when studying legislative debates (Grimmer, 2013; Lauderdale & Herzog, 2016), election manifestos (Adams, 2012; Adams et al., 2011), or press releases (Brandenburg, 2002; Meyer et al., 2020; Van Der Velden et al., 2018).

Recent concerns about important societal developments, like growing affective polarization, have sparked a new interest in emotions in political rhetoric (Iyengar et al., 2019). This is partly fueled by a growing unease among academics, pundits, and journalists about the increasingly negative and emotional rhetoric in politics (Caryl, 2018; Gore, 2007; Lengauer et al., 2012; Soroka, 2014). This proclaimed trend is worrisome because it could have severe downstream consequences for the political system and society at large. Specifically, the negative and emotional political discourse could lead to lower trust in politics and its institutions (Mutz & Reeves, 2005), decreased political participation (Ansolabehere & Iyengar, 1995), and increased animosity between supporters of different parties (Iyengar et al., 2019). Given these concerns surrounding emotional politics, it is important to devote more attention to emotions in political scholarship.

In academic research, the 2000s witnessed an ‘affective turn’ that has significantly influenced several sub-fields of political science. For instance, in international relations,

emotions have been acknowledged as significant factors in shaping states' foreign policy, international relations, and global governance (e.g. Hall, 2011; Koschut, 2020; Koschut et al., 2017; Löwenheim & Heimann, 2008; Sasley, 2010). Additionally, the influence of emotions on decision-making within multilateral institutions has also been highlighted (Sanchez Salgado, 2022). Similarly, in the field of political communication, the research on negative campaigning, i.e. the practice of politicians and parties criticising their competitors rather than emphasizing their own policy proposals, has grown considerably over the past two decades (Geer, 2006; Haselmayer, 2019; Walter & Vliegthart, 2010). In political psychology, the interplay between emotions, cognition, and political attitudes or behavior has emerged as a key area of research (Bakker, Schumacher, & Rooduijn, 2020; Lodge & Taber, 2005; Marcus, 2000; Nabi, 2003).

In this dissertation, I study the the use of emotional appeals by politicians. I use the term emotional appeals to refer to statements made by politicians that use emotional language, i.e. language using emotion-laden words, to convey a message or stance on an issue or other politician (a more comprehensive explanation of this term follows in the second part of this chapter). When it comes to the emotional appeals used by politicians, there is a robust body of research on their effects on voters (e.g. Brader, 2005; Lecheler et al., 2015; Marcus, 2000; Nabi, 2003). In contrast, the motivations that drive politicians to make these appeals are not as well-studied. Scholars of political behavior often assume a strategic logic, suggesting that politicians make these appeals because it benefits them. For example, it has been suggested that politicians with a more extreme ideology may lean towards negative emotional appeals because they resonate well with their voters (Crabtree et al., 2020; Golder, 2016).

However, there are a multitude of competing theories that make an attempt to explain the ups and downs in the use of emotional appeals in politics. Some theories posit that language evolution plays a part (Brand et al., 2019; Iliev et al., 2016), others suggest a correlation with the economic business cycle, where more prosperous times are associated with more positive appeals (Crabtree et al., 2020; Rheault et al., 2016). Others argue that it is simply a function of time (Rhodes & Vayo, 2019), or propose that younger politicians are more prone to emotional expression (Renner, 2019). Despite different theories attempting to understand who uses emotional appeals in politics, when, and why, their respective expectations and predictions often lack clarity. This may lead to a stalemate in determining what truly explains the use of emotional appeals. It remains unclear which explanation is superior, or whether they all hold true to some extent. Consequently, it is important to adopt a more comprehensive approach in testing these theories across time and space, in order to advance our understanding of the factors influencing emotional appeals in politics.

This dissertation seeks to shed light on the underlying factors that determine which politicians are more likely to use positive or negative emotional appeals, and when. In

a departure from much of the existing literature, which primarily focuses on strategic considerations, this dissertation adopts a more holistic approach. I do this by delving into the strategic use of emotional appeals, their connection to personality traits, their contextual dependence, and their interplay with other rhetorical styles. The core of this dissertation is built upon four arguments.

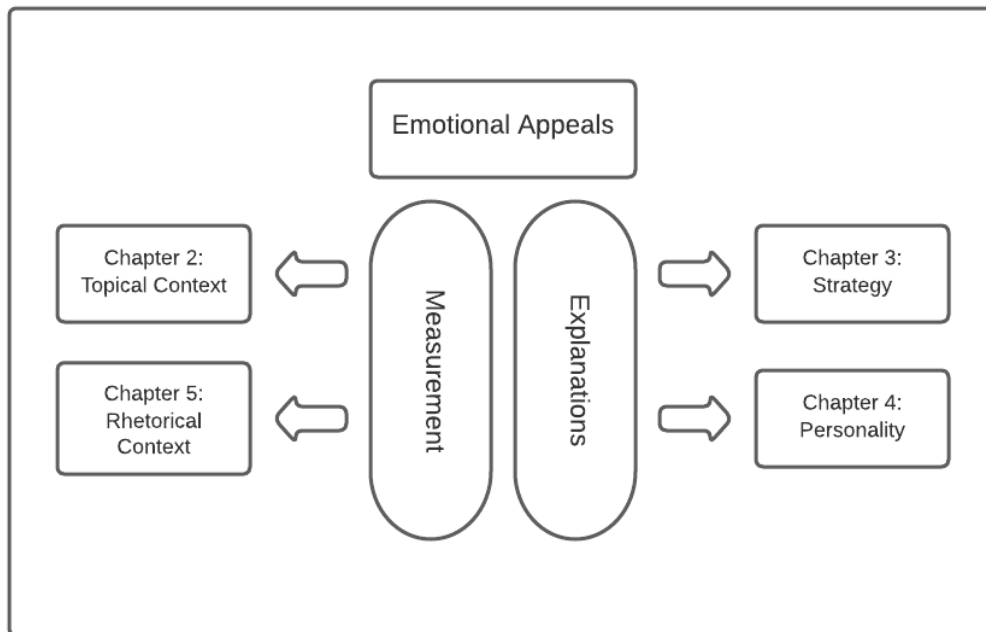


Figure 1.1. Overview of dissertation chapters

First, when measuring emotional appeals in political text, it is essential to incorporate the topical context into the assessment of these emotional appeals. Second, I challenge the notion of a universal trend towards more negativity or emotionality in politics, and argue that single strategic explanations do not hold true when investigating the determinants of emotional appeals across various contexts and time periods. Third, I show that there is an intrinsic connection between politicians' personality traits and their use of emotional appeals, suggesting that political language can indeed expose one's true colors. Fourth, to fully analyze the role of emotions in political rhetoric, emotional appeals should be studied in conjunction with other rhetorical styles. Analyzing political rhetoric as a network can provide a more nuanced understanding of politicians use the power of words. The four methodological and substantive chapters in this dissertation are the foundation of these arguments.

Overall, I put forward two broad explanations and test them empirically. First, similarly to other studies in political behavior, I examine the strategic use of emotional appeals. Second, following psychological literature, I argue that emotional appeals are a

stable “fingerprint” of an individual’s language use – a reflection of one’s remarkably consistent psychometric property. The first line of inquiry suggests that language is dynamic and reactive to our environment, the second posits that language is a stable reflection of our individual differences. I will explain my theoretical framework based on these two broad strands of literature in the following section in this chapter. Beyond these explanations, I also propose that the study of emotional appeals should incorporate a broader range of rhetorical styles. This is based on the understanding that many theories of political communication, implicitly or explicitly, entail a blend of rhetorical styles and emotional appeals.

Already in contrast with the aforementioned accounts of a trend towards more negative and emotional political language, my analysis of parliamentary speeches in European parliaments in this dissertation paints a different picture. As shown in figure 1.2, the emotional appeals in the parliaments studied in this dissertation fluctuate over time and between countries. Specifically, “polarity” refers to the degree to which the appeals are positive or negative, while “arousal” denotes the level of emotional intensity or activation they convey. These emotional appeals are measured with a topic-sensitive sentiment analysis of debate contributions in these parliaments which I explain in detail in Chapter 2 of this dissertation. Overall, there is no consistent trends towards increased negativity or emotionality in Europe. Only in one country, Spain, has parliamentary language become more negative, as indicated by the downwards slope in polarity. All other countries show stability, or increasing positivity. The analysis of the United Kingdom replicates the finding from Rheault et al. (2016), who found that language in the UK parliament became more positive over the last decades. Regarding arousal, three European parliaments (Denmark, Spain, Sweden) display a trend toward more emotional language, as indicated by the upwards slope in arousal. In contrast, the United Kingdom shows a trend towards reduced arousal. Although other parliaments (Austria, Germany, Netherlands) experience fluctuations in arousal levels throughout the study period, they ultimately return to a level consistent with their starting point. Taken together, these patterns deviate from trends observed in the U.S., where political language has become more emotional (Gennaro & Ash, 2022) and negative (Rhodes & Vayo, 2019). In summary, European parliaments show a heterogeneous picture regarding trends in the use of emotional appeals.

Moreover, this dissertation makes a distinctive contribution to the study of emotions in politics by strictly following transparent research practices. For a literature where there is both a lack of robust theory and a limited tradition of replicating findings across different contexts and specifications, preregistration and open data practices are essential for the advancement of the field. In the remainder of this introductory chapter, I present my theoretical framework and discuss the data and methods used. I then describe the open science approach that I follow in this dissertation, and outline the individual chapters.

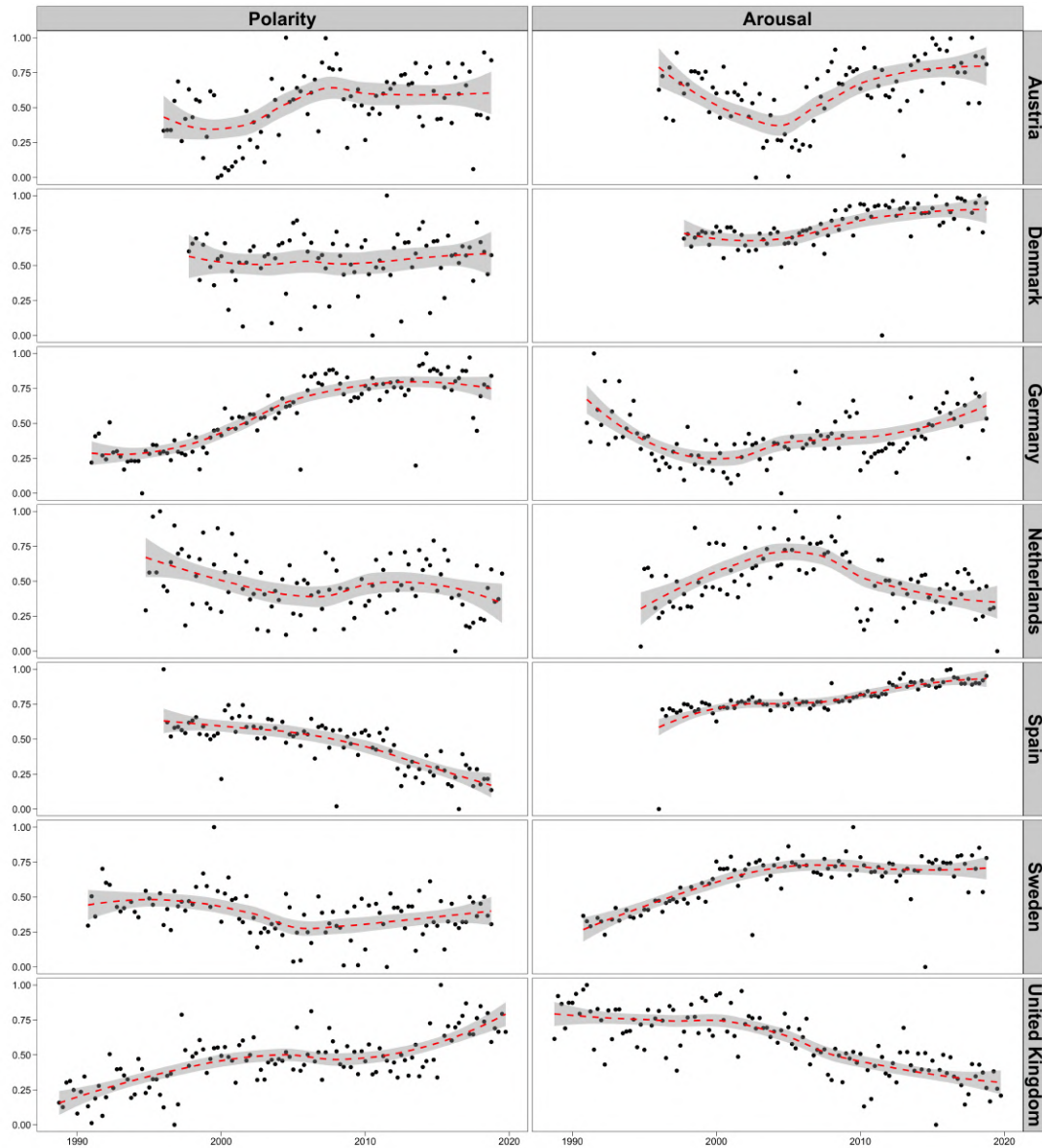


Figure 1.2. Speech polarity and arousal in European parliaments over time

Note: The y-axis displays average polarity (degree to which the appeals are positive or negative) and arousal (level of emotional intensity or activation) scores per quarter in each studied legislature (normalized by country). The red dashed line is a fitted regression line with 95% confidence intervals. Overall, the development of polarity and arousal over time differs between countries. Parliamentary debates became more positive in Austria, Germany, and the United Kingdom, but more negative in the Netherlands, and Spain. They also became more emotional in Denmark, Spain, and Sweden, but less emotional in the Netherlands and the United Kingdom

1.1 Theoretical framework

Political parties aim to gain votes, receive office spoils, and/or implement policy (Müller & Strøm, 1999). To achieve these goals, political elites attempt to influence public opinion, mobilize their supporters, and persuade undecided voters (Jacobs & Shapiro, 2000; Riker,

1986, 1996; Zaller, 1992). By framing a policy issue in their favor, elites can influence citizens' perceptions what an issue is about and influence subsequent political behavior (Baumgartner & Jones, 2013; Lakoff, 2006). The influence of these framing strategies and its limitations have been demonstrated in various contexts (Chong & Druckman, 2007; de Vreese, 2005; Druckman & Nelson, 2003; Lecheler et al., 2009; Lecheler & De Vreese, 2011; Nelson & Kinder, 1996).

While scholars studying framing effects traditionally focused on the defining and simplifying selection of message content (Koch, 1998), recent scholarship highlights the important role of the emotional non-policy dimension of framing (Lecheler et al., 2015; Nabi, 2003; Rebasso & Schumacher, 2023). This work puts attention to the effect of emotional appeals on persuasion and mobilization (Brader, 2005, 2006) and the evaluation of political leaders (Gabriel & Masch, 2017; Masters & Sullivan, 1989; Sullivan, 1996). In short, because emotional appeals are effective it is important to analyze when and why they are used, and by whom.

Emotional appeals in politics

Emotional appeals refer to deliberate or spontaneous statements made by politicians that use emotional language to convey a message, such as a stance on an issue or the character of the politician (Brader, 2006). It is important to note that emotional appeals do not necessarily mean that the politicians making them are feeling emotional themselves, as emotional appeals can be intentionally crafted by political actors to manipulate the emotions of the audience. They can be seen as actors who perform emotional labour, and (aim to) use the appropriate emotions for the goal they seek to achieve (Hochschild, 1983). Examples of emotional appeals in politics include using fear to sway public opinion, such as warning of the dangers of a particular policy or the character of an opposition politician, evoking empathy by telling a personal story to create a connection with voters, or fueling anger or outrage to criticize opponents or their policies.

The emotional appeals politicians make create emotional responses in individuals that influence how they think and act in relation to politics (Brader, 2005; Marcus et al., 2019; Valentino et al., 2011). Following Keltner and Gross (1999, p. 468), emotions are "episodic, relatively short-term, biologically based patterns of perception, experience, physiology, action, and communication that occur in response to specific physical or social challenges and opportunities". These processes are induced when the brain detects the presence of an emotionally relevant stimulus. The response to this stimulus is automatic (Damasio, 2004) and happens prior to cognitive evaluations (Lodge & Taber, 2005). Overall, the emotional reactions can lead the body to be prepared for carrying out varied actions or complex behaviors. In line with this, emotions have been described as changes in "action readiness" (Frijda & Kuipers, 1989). The actions prepared for are

often targeted at survival or, more generally, well-being. For instance, experiencing the emotion of fear can prepare the body for a specific action (e.g. flight) which is targeted at achieving a specific goal (survival). Similarly, the emotion of anger might prepare the body for a different action like an attack that aims at removing an object that caused the emotion in the first place. While there is a consensus that basic, very fast, and unconscious evaluations (or appraisals) of situations initiate a process of either positive or negative affective responses automatically (Damasio, 2004), theoretical differences persist when it comes to the role of more complex appraisals, their causes, as well as the dimensionality of the subsequent emotions.

In addition to a plurality of different understandings of what emotions are, there are two main approaches to measuring emotions. They are also based on two different theoretical models of emotions. The first one, often referred to as the *valence approach* or *circumplex model of emotions*, perceives emotions as a valence assessment (Russell, 1980). Situations are either perceived as good or bad, as punishing or rewarding. Studies relying on this approach presume that all positive emotions, on the one hand, and all negative emotions, on the other, each lead to similar consequences on judgement and decision-making. These studies are therefore only interested in the valence of emotions, not in distinct emotions specifically (e.g. Bower, 1981; Schwarz & Clore, 1983). Research on “hot cognition” and “motivated reasoning” often follows a similar theoretical understanding of affect (Bakker, Schumacher, & Rooduijn, 2020; Brand, 1985; Lodge & Taber, 2005), as information is either tagged with positive/rewarding or negative/punishing affect.

The valence approach has several strengths that make it a valuable framework for understanding emotional experiences. First, it offers a parsimonious and easily operationalized model for categorizing emotions, which has been shown to have practical applications in a variety of research contexts. For instance, studies have shown that valence can influence cognitive processing and decision-making, with positive emotions enhancing creative problem solving and negative emotions leading to more cautious decision-making (Isen, 1987; Schwarz & Clore, 1983). Second, the valence approach has been used in research on emotion regulation, suggesting that it may have important practical implications for interventions aimed at managing negative emotions. For example, studies have found that cognitive reappraisal, a technique that involves altering the valence of emotional experiences through cognitive restructuring, can be an effective strategy for reducing negative emotions and associated physiological responses (Gross, 1998; Gross & John, 2003). Finally, the valence approach has been supported by research in neuroscience, which has identified brain regions and circuits that are involved in processing positive and negative valence stimuli (Delgado, 2007).

A different approach is known for distinctions between different discrete emotions. The focus of this approach lies on *cognitive appraisals*. These appraisals, or evaluations, estimate the importance and other characteristics of a specific situation for one’s own

goals (Lazarus, 1991; Smith & Ellsworth, 1985). Based on the appraisals of a specific situation, distinct emotions are triggered subsequently. Appraisals can occur fast and preconsciously, as well as slow and consciously (Scherer et al., 2001). Theories among this approach try to identify specific appraisal patterns which lead to discrete emotions. For instance, Smith and Ellsworth (1985) base their theory on six appraisal dimensions which can lead to fifteen different emotions, depending on the activated appraisals. Examples of appraisal dimensions according to Smith and Ellsworth (1985) are pleasantness, responsibility, or situational control. Other cognitive appraisal theorists make further distinctions between primary and secondary appraisals.

This dissertation adopts a theoretical framework that conceptualizes emotional appeals as primarily consisting of a valence and arousal dimension (Russell, 1980). Accordingly, I differentiate emotions based on their positive or negative valence, as well as their high or low intensity. The decision to employ this approach is based on three factors. First, prior research on emotional appeals in political contexts has largely followed this understanding of emotions (e.g. Crabtree et al., 2020; Haselmayer & Jenny, 2017; Kosmidis et al., 2019; Müller, 2022; Rheault et al., 2016; Schwalbach, 2021). Thus, to build on existing scholarship, it is necessary to adopt a similar conceptualization of emotions. Second, in the current state of research on the determinants of emotional appeals in politics, there is no explicit theory of which distinct emotions would be used by politicians when and where. It is also not clear whether appraisals in the political domain work the same as in the general domain for which they were developed (Rebasso et al., 2023). Third, a significant challenge lies in the poor differentiation that theories and measurements often make between discrete emotions of the same valence, such as anger and anxiety. Although recent work using German language texts suggests that these distinctions may be valid (Widmann & Wich, 2022), their reliability is still a matter of debate.

In addition to questions on how to measure emotions, the relationship between language and an individual's psychological traits, such as their moral values or personality, is also a topic of much debate in political psychology. The extent to which language is a response to the political context is also a point of contention. When examining language, researchers in this field typically understand it as either a psychometric property or a response to the strategic context of the speaker (Schoonvelde et al., 2022). Those who view language as an expression of the speaker's characteristics, such as their personality traits, social or political values, or demographics, aim to explain language differences between speakers. Word choice is seen to possess 'psychometric properties' that are stable across time and contexts. Some researchers suggest that people's word choice is sufficiently stable to use language as an individual difference measure (Pennebaker et al., 2003). Conversely, other researchers view word use as a response to the (strategic) context of the speaker, where different language is used depending on the audience or occasion.

These researchers focus on explaining language variation over time and contexts within the same set of speakers. When speakers consistently change their language use across contexts, this is evidence for their varied (strategic) use of language (Schoonvelde et al., 2022). The latter approach is concerned with explaining language differences within speakers. The debate between these perspectives raises questions regarding the extent to which language is a reflection of individual characteristics or a response to situational contexts.

The strategic use of emotional appeals

Scholars of political science have explored the use of emotional appeals in political language largely from a strategic perspective, examining how politicians and political parties use such appeals to frame their messages and mobilize support. Above everything else, studies consistently report that (politicians of) government parties use more positive emotional appeals than (politicians of) opposition party (Crabtree et al., 2020; Haselmayer & Jenny, 2017; Kosmidis et al., 2019; Rheault et al., 2016; Schwalbach, 2021) to frame their own track record positively. This is in line with models of retrospective voting (Fiorina, 1978), that assume that individuals base their vote choice on the state of the world at election time, which is usually attributed to incumbent performance in office. The state of the world is often understood in economic terms, and people vote for the incumbent when economic performance is above some threshold but switch to the opposition when this is not the case (Lewis-Beck, 1986).

In addition, studies have shown that political parties closer to the center of the political spectrum tend to utilize more positive emotional appeals, while parties situated further from the center often employ more negative emotional appeals (Crabtree et al., 2020). The disparity in the usage of emotional appeals is attributed to the differential opportunity structures that mainstream and extreme parties face. Radical parties seek to not only alter policies but to replace established norms and the political system itself (Golder, 2016; Mudde, 2007). As such, they resort to negative emotional appeals in order to mobilize their support base and achieve their objectives.

Further, studies have suggested political parties might also adapt their use of positive emotional appeals according to the distance to competing parties and uncertainties about public preferences (Kosmidis et al., 2019), the economic situation (Crabtree et al., 2020; Rheault et al., 2016), the temporal direction of their campaign messages (Müller, 2022), and the timing of the electoral cycle (Schwalbach, 2021).

In conclusion, the use of emotional appeals in politics has been explored mainly from a strategic perspective by political scientists. Political parties adapt their use of emotional rhetoric according to the political context, economic situation, and temporal direction of their political messages. Politicians' incentives for reelection and their need to be

responsive to changing citizen demands also shape their use of emotional appeals. Finally, the public mood, which varies between countries and over time, may also influence the emotional appeals made by politicians. This strategic focus in the study of language use by politicians and parties is not limited to the analysis of emotional appeals. For instance, textual complexity (Bischof & Senninger, 2018) has been analyzed through a strategic lens. Beyond the content of politicians' speeches, the act of giving a parliamentary speech itself has also been studied primarily in the context of strategic considerations (Bäck et al., 2019; Bäck & Debus, 2018; Proksch & Slapin, 2014; Slapin & Proksch, 2010).

Emotional appeals as individual differences

While researchers of political behavior often want to explain within-speaker variation in language use, i.e. how language changes in reaction to the (strategic) environment, researchers in psychology are more often concerned with explaining differences between speakers. In this sense, the language an individual uses is an imprint of their personal characteristics. As Pennebaker et al. (2003, p.556) write, "existing studies on the psychometrics of word use suggest that people's word choice is sufficiently stable over time and consistent across topic or context to use language as an individual difference measure. This is true for both grammatical categories as well as more psychologically based language dimensions". From that perspective, language use is a reflection of stable differences between individuals because people's linguistic choices are shaped by their individual characteristics such as personality traits, cognitive abilities, and social identity. These stable differences influence how individuals use language to express their thoughts and communicate with others, and are observable across time and contexts.

Research on function words provides evidence of how individual differences are reflected in language use (Ireland & Mehl, 2014; Pennebaker, 2011). Function words are a category of words that lack substantial lexical meaning, and include words such as pronouns, prepositions, articles, determiners, and auxiliary verbs. These words play a crucial role in constructing the structure and framework of a sentence. For instance, the use of function words can reflect a person's cognitive style, or the way they process and organize information, and individuals with a more analytic thinking style tend to use more articles and prepositions, while those with a more holistic thinking style tend to use more pronouns and adverbs (Mehl et al., 2010; Newman et al., 2008). This difference may reflect the way analytic thinkers tend to focus on discrete details, while holistic thinkers tend to focus on the big picture. Individual's use of function words can also reflect their emotional state, such as their level of anxiety or depression. Research has found that individuals with high levels of anxiety tend to use more first-person singular pronouns (e.g., "I," "me"), while those with low levels of anxiety tend to use more first-person plural pronouns (e.g., "we," "us") (Pennebaker et al., 2003; Tackman et al., 2019). Sim-

ilarly, individuals with depression tend to use more more first-person singular pronouns (Rude et al., 2004). Individuals' use of function words can also reveal information about their social behavior and interpersonal relationships. For example, individuals who are more socially dominant tend to use more second-person pronouns, while those who are less dominant tend to use more first-person plural pronouns (Pennebaker et al., 2003; Tackman et al., 2020).

This linguistic fingerprint is not limited to function words: introverted speakers tend to prefer a rich vocabulary (Dewaele & Furnham, 1999; Oberlander & Gill, 2006), use more negations (Mehl et al., 2006; Pennebaker & King, 1999), and use fewer expressions and connectives compared to extraverted speakers (Oberlander & Gill, 2006). Further, language use can also reflect stable social identity differences between individuals. For instance, research has shown that individuals from different cultural backgrounds have distinct linguistic patterns, such as the use of different words, idioms, and expressions (Gudykunst et al., 1988). Similarly, studies have found that gender differences in language use, such as the use of more personal pronouns by women and more assertive language by men, can be attributed to stable social identity differences (Mulac et al., 2001).

An important aspect for the study of emotional appeals concerns the relationship between personality and language use. Personality is a long-term, more stable, aspect of individuals (Bleidorn et al., 2022) that comprises an individual's stable patterns of thinking, feeling, and behavior (Bakker, 2022). Similarly, Mondak (2010, p. 8) defines personality as "a multifaceted and enduring internal, or psychological, structure" usually consisting of multiple traits. Traits are "broad internal dimensions that account for consistencies in behavior, thought, and feeling across situations and time" (McAdams & Olson, 2010, p. 519). Two widely used taxonomies of personality traits are the Big Five Inventory (McCrae & John, 1992), which consists of five broad dimensions of personality traits: extraversion, emotional stability, agreeableness, conscientiousness, and openness to experience, and the HEXACO model of personality (Ashton & Lee, 2007), which adds a honesty-humility dimension. These dimensions of personality are usually measured using questionnaires (Bakker & Lelkes, 2018; Caprara et al., 1993; de Vries, 2013; Nørgaard & Klemmensen, 2019; Schumacher & Zettler, 2019) or observer ratings (Nai, 2019; Rubenzer & Faschingbauer, 2004; Winter, 2005), and they are all reflected in an individual's linguistic style.

Research consistently reports correlations between specific linguistic markers, including words associated with emotions, and personality traits. For instance, research found that neuroticism was positively correlated with the use of negative emotion words and negatively correlated with positive emotion words (Pennebaker & King, 1999). In contrast, extraversion was correlated with the use of positive emotion words and total social references (Chen et al., 2020; Pennebaker & King, 1999), while agreeableness was positively correlated with positive emotions and negatively correlated with negative emotions

(Pennebaker & King, 1999; Yarkoni, 2010). While many of these studies use free form writing task to establish these findings, similar patterns between personality traits and various types of negative emotion words also emerge in less restrictive settings like blog posts (Yarkoni, 2010). Linguistic markers of personality traits have also been found beyond the general models of personalities like the Big Five or HEXACO. For example, research found that individuals high in psychopathy use more words related to anger and hostility, and fewer words related to social processes and emotionality (Hancock et al., 2013). Similarly, online trolls scoring high on measures of the Dark Triad (Machiavellianism, narcissism, and psychopathy) use more words related to negative emotion and less words related to positive emotion (Buckels et al., 2014).

Overall, the psychology literature suggests that language use serves as a mirror to one’s personality traits, cognitive abilities, and social identities, reflecting stable differences between individuals. The extent to which politicians also exhibit these stable differences in their language remains unclear. This is largely due to the constraints imposed on politicians by institutional norms and settings, such as parliamentary speaking rules or the intervening role of a moderator in a TV discussion, as well as strategic incentives to tailor their language to suit the audience and strategic environment.

1.2 Measuring emotional appeals in political texts

Given these diverging theories about the way politicians speak, the tools we use to study their language are of great importance. Text analysis has been used in political science for some time, and the availability of automated tools has made analyzing large text corpora more efficient and cost-effective. Automated text analysis tools, such as dictionaries or machine learning classifiers, have provided a cheap and efficient way of analyzing large text corpora. These tools have proven useful for various tasks, including discovering latent concepts in text, analyzing policy positions of political parties, and measuring the emotions of political debates.

Automated classification of emotional appeals

My approach to measuring arousal and polarity in political texts is described in detail in chapter 2, where I introduce and validate the measurement of emotional appeals by combining dictionary based sentiment analysis with topic modelling. It utilizes a semi-supervised sentiment-topic model (Lin & He, 2009; Lin et al., 2012), which differs from the commonly used method of using emotion dictionaries to determine the positivity or negativity of a text. While emotion dictionaries are easy to use and scalable, they can be inaccurate because they do not take the context in which a word is used into account. For example, a word like "war" may have different connotations depending on the topic being

discussed. To improve the accuracy of sentiment classification, I use a joint sentiment-topic model that estimates sentiment and topics in a text simultaneously. The model can place words into different emotional categories based on the context in which they are used. As I show in chapter 2, this approach improves the accuracy of polarity measures of political texts substantially.

My measurement model is semi-supervised, meaning that it takes an emotion dictionary as supervised input and combines it with an unsupervised latent Dirichlet allocation (LDA) (Blei et al., 2003) model to estimate the occurrence of topics in a text. The unsupervised LDA is a tool for discovering hidden themes in a large group of documents (e.g. news articles, speeches, or tweets). It does this by assuming that each document is made up of a mix of different themes, and each theme is made up of certain words. LDA looks for patterns across all the documents to figure out which words tend to appear together, and which themes they might belong to. For the supervised input, I use the language specific edition of the Lexicoder emotion dictionary. Originally developed for political news coverage in English by Young and Soroka (2012), I use a translated version (available for all EU languages) provided by Proksch et al. (2019) that has also been validated on parliamentary speeches. To estimate a polarity and arousal score for the speeches, I developed and use the joint sentiment-topic model estimation implemented in the `sentitopics` package for R. For each text fed to the model, it returns a positive, negative, and neutral score, from which I calculate emotional polarity and the level of arousal.

One major advantage of the JST model is that it improves the accuracy of emotion measures within a bag of words framework (for a general language validation see Lin and He (2009) and Lin et al. (2012), for a validation in the political context see Chapter 2 in this dissertation). In this, arguably simple, representation of texts as counts of words, classifiers can easily be interpreted by humans, and work with a small amount of computational resources. While recent advances in machine learning and natural language processing (e.g. word embeddings, neural networks) outperform bag of words approaches (Rudkowsky et al., 2018; Widmann & Wich, 2022), the increase in accuracy comes with a hefty price tag, both in terms of computing power and computational literacy and sophistication.

Data

The main data source for the analysis of emotional appeals made by politicians in this dissertation are their speeches in national parliaments. Specifically, I use the `ParlSpeech V2` dataset (Rauh & Schwalbach, 2020) for chapters two, three, and four of this dissertation. For chapter five I use a `Hansard` dataset of UK House of Commons speeches made available by Hargrave and Blumenau (2022). While there are many different communi-

cation channels where politicians can use emotional appeals (i.e. interviews, TV debates, etc.), parliamentary debates come with one major advantage: all floor speeches are documented as text and archived. This gives me the opportunity to analyze emotional appeals in politics at a granular level, and allows for comparisons across countries and time.

From a political science perspective, parliamentary speeches are also an important link between politicians and voters (Bäck et al., 2021). Following the idea of a chain of delegation (Strøm, 2000; Strøm et al., 2003), the public nature of legislative debates allows the electorate to examine if their legislators stick to their proposed policies and if governments follow their agreed coalition plans. Further, these speeches serve several communicative functions for both parties and individual legislators. First, floor speeches allow individual MPs to claim credit for their policies and attract media attention (Grimmer, 2013; Proksch & Slapin, 2014). Second, they give parties the opportunity to use floor speeches to sell and justify their policy compromises to their voters in coalition governments (Martin & Vanberg, 2008). Third, they use these speeches to express their opinion when their preferences are divergent from the party they represent (Herzog & Benoit, 2015; Proksch & Slapin, 2014; Umit & Auel, 2019). Fourth, parliamentary speeches are a central tool for creating a party brand (Proksch & Slapin, 2014), an important element for electoral competition in parliamentary (party-) democracies (Müller, 2000; Stokes, 1992; Strøm et al., 2003). In addition, studying parliamentary debates is beneficial from an analytical perspective as they provide a valuable source of information to understand representation and party politics. Specifically, these debates offer an effective means to determine the official positions of parties in the inter-election periods (Diermeier et al., 2012; Laver, 2021).

Next to parliamentary speeches, chapter 4 also uses politicians' tweets as a data source. Compared to other social media platforms, Twitter followed a relatively open data access policy, and allowed researchers broad access via an API. The Twitter data collected in chapter 4 has been collected via the official Twitter API and the `rtweets` R-package (Kearney, 2019).

In addition to these textual data sources, a broad range of other data were used to measure independent variables, control variables, or to provide for robustness checks. Table 1.1 gives an overview of all data sources used in this dissertation. More detailed descriptions can be found in the respective dissertation chapters.

1.3 A note on transparent research practices

In recent years, the social sciences have increasingly adopted open science practices such as preregistration and pre-analysis plans as a response to the credibility crisis (Bowman & Keene, 2018; Dienlin et al., 2021). The popularity of these practices can be traced back to concerns about low reproducibility rates of foundational studies and the prevalence of

Chapter	Dependent variable(s)	Independent variable(s)	Additional data
Chapter 2	ParlSpeech V2 (Rauh & Schwalbach, 2020)	-	EUSpeech V2 (Schumacher et al., 2020)
Chapter 3	ParlSpeech V2 (Rauh & Schwalbach, 2020)	Comparative Manifesto Project (Volkens et al., 2019) ParlGov (Volkens et al., 2019) OpenSubtitles Corpus (Lison & Tiedemann, 2016) Eurobarometer (Eurobarometer, 2023) OECD Statistics (OECD, 2019) Comparative Legislators Database (Göbel & Munzert, 2022) original collection of MP metadata	EUSpeech V2 (Schumacher et al., 2020) Comparative Manifesto Project (Volkens et al., 2019)
Chapter 4	ParlSpeech V2 (Rauh & Schwalbach, 2020) original Twitter collection	Comparative Candidate Survey (Lutz et al., 2019) Comparative Manifesto Project (Volkens et al., 2019)	-
Chapter 5	Hansard collection (Hargrave & Blumenau, 2022)	Comparative Manifesto Project (Volkens et al., 2019) Hansard collection (Hargrave & Blumenau, 2022)	-

Table 1.1. Overview of data sources used in dissertation chapters

questionable research practices in various social science domains (Bakker, Jaidka, et al., 2021; John et al., 2012; Matthes et al., 2015; Open Science Collaboration, 2015). Pre-registration is now a recommended practice that seeks to enhance research transparency and credibility by limiting researchers' degree of freedom (Simmons et al., 2011) and arbitrary choices during data collection, pre-processing, and analysis (Humphreys et al., 2013; Markowitz et al., 2021). Especially for observational studies like those included in this dissertation, preregistration is crucial to maintain clarity of objectives, minimize biases, and ensure that conclusions are drawn based on pre-defined criteria rather than post-hoc observations. This dissertation follows these practices to ensure a high degree of research transparency and reproducibility.

All hypotheses tested in this dissertation have been preregistered before the data were accessed, variables have been measured, or models have been run. All pre-analysis plans as well as replication data and code are available on the respective OSF project sites of each chapter. Chapter 2 is a methodological contribution, the validation data set has been created by student research assistants. Coder instructions, the validation data set, and replication code are available on the OSF project site at <https://osf.io/e56tu/>. Chapter 3 tests empirical propositions, and is preregistered on the OSF project site at <https://osf.io/ur5xg/>. Replication code and data are also available there. Chapter 4 tests empirical propositions, and is preregistered on the OSF project site at <https://osf.io/tb5qv/>. Replication code and data are also available there. Chapter 5 is explicitly exploratory, and does not test predefined hypotheses. Replication code and data are available on the OSF project site at <https://osf.io/qugk8/>.

1.4 Outline of dissertation chapters

The dissertation is comprised of four articles, which include two methodological papers and two substantive studies. These studies explore various factors that could determine the use of emotional appeals in politics.

The first article, titled "Taking Context Seriously: Joint Estimation of Sentiment and Topics in Textual Data", is presented in Chapter 2 and lays out a new method for topic-sensitive sentiment analysis within a bag-of-words framework. Social scientists regularly use sentiment dictionaries to measure the emotional appeals in (political) texts. One shortcoming of using dictionaries is that they are not sensitive to the topic a text is about. In this chapter, I introduce the joint sentiment-topic model for the analysis of political texts. In extensive validation exercises using parliamentary debates, I show how the model outperforms regularly used off-the-shelf dictionaries substantially, while being easy to use, computationally efficient, and - compared to supervised approaches - not bearing any costs related to human annotation.

The second article, presented in Chapter 3 and titled "Emotional Appeals in Politics Are Not Systematically Related to Macro Trends, Ideology, or Experience" tests multiple theories on why politicians make emotional appeals. Many explanations, often founded in strategic political behavior, have been brought forward to explain the ups and downs positive and negative emotional appeals in politics. While many disciplines brought forward big explanations (it's the right! it's the economy!), empirical works so far only tested single explanations in isolation, with small samples, and unique operationalizations. This chapter tests these explanations in a comprehensive multiverse analysis of parliamentary debates across 30 years and 7 European countries. My analysis finds that the emotional appeals in parliamentary debates are, besides an effect of being in government, not systematically related to previously claimed factors.

Chapter 4 presents the third article, titled "Revealing their true colors? The association between politicians' personality and their emotional appeals". It tests the association between personality traits and emotional appeals in politics. While political science usually views language as reactive to the strategic environment, this chapter tests the claim that language is a stable characteristic of a politician's personality. Using self-reported HEXACO personality trait scores of a sample of Danish politicians and their parliamentary speeches and Twitter posts, I show that personality traits are predictive of the emotional appeals made by politicians in both arenas. Even in a highly formalized setting like parliament, the associations between personality traits and emotional appeals are comparable in magnitude to the single consistent strategic finding from Chapter 3 (government participation).

The fourth article, titled "Analyzing Political Rhetoric as Networks of Rhetorical Styles", is presented in Chapter 5 and asks the question of how we can study the connections between several rhetorical styles in political rhetoric. While many theories of political communication implicitly concern the interplay of several discrete rhetorical styles (e.g. narration, emotionality, or repetition), analyses often look at each (often not more than one) style in isolation. This chapter introduces a novel way to model political rhetoric as a network of discrete rhetorical styles. Using unimodal and bimodal networks, I showcase how the network approach can be used to analyze the impact of MPs' characteristics on their individual rhetorical footprint, to identify rhetorical clusters over time, and to analyze politicians' rhetorical distinctiveness.

The final chapter of this dissertation, Chapter 6, offers concluding remarks and highlights the central findings of the articles presented in Chapters 2 to 5. Along with addressing the limitations of these studies, it also suggests potential avenues for future research.