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Politicians' use of emotional appeals in European democracies

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Publication date

2024

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Citation for published version (APA):

Pipal, C. (2024). *Blueprints and fingerprints: Politicians' use of emotional appeals in European democracies*. [Thesis, fully internal, Universiteit van Amsterdam].

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Chapter 4

Revealing their true colors? The association between politicians' personality and their emotional appeals

Abstract

Why are some politicians making negative emotional appeals, while others consistently use positive appeals? While previous work in political science almost exclusively assumed that political language is flexible and reactive to the strategic environment, I follow a psychological literature that argues language is an innate characteristic of politicians themselves. Drawing on a growing body of literature investigating the relationship between personality traits and linguistic features, I study the association between politicians' HEXACO personality traits and their use of emotional appeals across platforms. Using a unique personality survey of Danish politicians administered during the 2015 Danish general election and topic-sensitive sentiment analysis of their parliamentary speeches and Twitter posts, I show in a preregistered analysis that personality traits are predictive of the emotional appeals made by politicians. While politicians scoring higher on emotionality and honesty-humility make more negative appeals, politicians scoring higher on agreeableness use more positive appeals. Overall, the associations between personality traits and emotional appeals are comparable in magnitude to previously studied factors such as government participation or cabinet experience. In parliament, politicians reveal their true colors when communicating to the electorate and fellow legislators. When it comes to emotions in politics, it does matter who we vote into office.

A manuscript based on a revised version of this chapter is currently under review at a journal.

Some politicians are known for their negative rhetoric, like Donald Trump with his angry and negative speeches, while others become well-known for spreading a positive message, such as Barack Obama, whose campaign is remembered for being overly positive. These emotional appeals, deliberate or spontaneous statements made by politicians that use emotive language to convey a message (Brader, 2006), can influence voters. For instance, enthusiastic messages can strengthen preexisting loyalties, while fear appeals facilitate persuasion (Albertson & Gadarian, 2015; Brader, 2005, 2006; Marcus & Mackuen, 1993; Valentino et al., 2008). But what explains the variation in emotional appeals we observe between politicians? Many have argued that politicians use emotional appeals strategically, for instance to claim credit for their policies (Crabtree et al., 2020) or to criticise the policies of other parties (Proksch et al., 2019). Existing work in political science looks at these emotional appeals predominantly through a strategic lens: politicians use them because they work. This line of research argues that language, and thus also the use of emotional appeals, is rather flexible and reactive to the strategic environment such as government status (Crabtree et al., 2020), party system polarization (Kosmidis et al., 2019), or the state of the economy (Rheault et al., 2016). However, a recent study found that with the exception of a government effect, there is no evidence for such systemic explanations when investigating these relationships across countries and time (Pipal, Bakker, et al., 2023).

But what then explains politicians' use of emotional appeals? Here I use a different view on language where language is understood as a rather stable property, reflecting the individual characteristics of a speaker (Pennebaker & King, 1999; Pennebaker et al., 2003). Consequentially, differences in the use of emotional appeals in politics could be the result of these innate characteristics – their personalities – of the individuals we vote into office. Personality psychology, which examines individual differences in patterns of behavior, cognition, and emotions that remain relatively stable over time and across contexts, provides a foundation for understanding these variations. One major focus within personality psychology has been the development of unified personality trait frameworks, such as the Big Five (also called the Five Factor Model) (McCrae & John, 1992) and HEXACO (Ashton & Lee, 2007) models of personality. The HEXACO model specifically comprises six traits: Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience. A growing body of research shows that these personality traits are reflected in our linguistic style, i.e., the words we choose when communicating both verbally and in written form (Tausczik & Pennebaker, 2010). While these linguistic patterns vary between individuals, they are remarkably stable over time and across contexts (Pennebaker & King, 1999; Pennebaker et al., 2003). Such consistent patterns have significant implications, as emerging evidence suggest that these differences influence the behavior of political leaders (Winter, 2005; Winter et al., 1991), legislators' behavior in parliament (Ramey et al., 2017), media visibility (Amsalem et al., 2020), and

political success (Joly et al., 2019), to name a few. To test for the associations between politicians' personality traits and their use of emotional appeals, I utilize a unique data set on the personality traits of candidates for the 2015 Danish parliamentary elections and their communication in parliament and on Twitter. Following this reasoning leads to an important question: Do the emotional appeals expressed in language vary between politicians with different personalities? And can we, therefore, explain variation in emotional appeals in politics with their innate individual differences?

My analysis finds that in parliamentary debates, there is a significant positive association between agreeableness and the use of more positive appeals. In contrast, emotionality and honesty-humility are significantly linked to more negative appeals. In short, I show that politicians' personality and communication are going hand in hand. These results highlight the importance of politicians' personalities when electing them into office, and show that individual psychological factors impact the dynamics of political representation substantially. Politicians should use language that reflects the style or linguistic preferences of their constituents. Their language use can reveal aspects of their personality, allowing voters to evaluate their character and suitability for office. As a result, the emotional appeals in their language can shape voter perceptions and influence vote choice, as it has been argued that voters often choose political candidates with personality traits that match their own (Caprara et al., 2002; Caprara & Zimbardo, 2004). Consequently, politicians' language use, reflecting their personalities, can attract like-minded constituents and secure electoral support. In addition, when voters assess politicians' personalities, they generally focus on two factors: extraversion and agreeableness (Caprara et al., 1997). Since politicians already tend to score significantly higher on extraversion than citizens (Caprara et al., 2003; Hanania, 2017; Nørgaard & Klemmensen, 2019), the role of agreeableness becomes even more critical. By using emotional appeals in their speeches and texts, politicians can influence their perceived agreeableness. This might help them to shape voters' opinions and increase their electoral success. These implications also point to the potential for personality-driven campaign strategies. For instance, individuals with lower levels of agreeableness respond more positively to angry leaders, while those with higher levels of agreeableness prefer more neutral leaders (Van Kleef et al., 2010). By adjusting their communication to specific personality traits, politicians could resonate with voters and build a more effective campaign. These findings highlight the importance of investigating the personality-psychological underpinnings of political communication.

4.1 Emotional appeals in politics

Politicians routinely appeal to the emotions of citizens, and they are important features of their appearance on TV (Nelson & Boynton, 1997; Seibt et al., 2019) and social media

(Klinger et al., 2022). Following Brader (2006), I define emotional appeals by politicians as strategic or spontaneous utterances that use emotional language to convey a message (about a position on an issue, or the quality of the politician).¹ Thus, an important distinction here is that politicians who express emotional appeals are not necessarily feeling emotional themselves. We can interpret them as actors who perform emotional labour, who (aim to) use the appropriate emotions for the goal they seek to achieve (Hochschild, 1983). As individuals engage in a form of performance in social interactions, presenting an idealized version of themselves to the audience (Goffman, 1959), politicians may strategically use emotional appeals to shape their public image and evoke desired reactions from their audience. Sometimes politician's use of emotional appeals becomes generally associated with the politician. Think of Donald Trump, who constantly makes strong negative emotional appeals. On the other end of the spectrum think of Barack Obama, whose statements are typically packed with positive emotional appeals. While historically receiving less focus in political science, the scholarly interest in how emotional appeals are used by politicians and how they affect voters has been growing over the last decades (e.g. Bakker, Schumacher, & Rooduijn, 2020; Boussalis et al., 2021; Brader, 2005; Crabtree et al., 2020; Osnabrügge et al., 2021).

The emotional appeals politicians make are important for at least four reasons. First, emotional appeals have an effect on voters' behavior. They can persuade and mobilize (Brader, 2005, 2006), motivate information seeking (Marcus et al., 2000) and influence the evaluation of politicians (Boussalis et al., 2021; Gabriel & Masch, 2017). Second, they influence the media visibility of politicians. Emotions are an important contributor to news values, i.e. emotional stories are more likely to get picked up by journalists and news outlets (Brown et al., 2020). Third, emotional appeals drive engagement with politician's content on social media (Bil-Jaruzelska & Monzer, 2022), with more negative and emotional content receiving more interactions such as likes or comments (Bossetta & Schmøkel, 2022). Fourth, beyond the individual politician and her performance, emotional appeals can have downstream consequences for the political system. For instance, negative appeals can decrease trust in political institutions, decrease voter turnout, and lead to polarization (Mutz & Reeves, 2005). In sum, emotional appeals have important consequences for voters (Brader, 2005) and therefore it is crucial to analyze when and why they are used, and by whom.

In this study, I follow the core affect model (Russell, 1980) of emotions that states emotional appeals differ in *polarity* (positive or negative) and *arousal* (how emotional). It is important to note that terms such as sentiment, emotive rhetoric, and negativity have also been used to analyze the polarity of politicians' emotional appeals (e.g. Haselmayer et al., 2021; Osnabrügge et al., 2021; Valentim & Widmann, 2021) in political texts such as speeches, social media posts, or press releases. In what follows I use the term *polarity*

¹In International Relations Theory a very similar term is used, namely emotives (Koschut, 2020)

to refer to this dimension of emotional appeals.

Who uses these appeals? So far, the polarity of emotional appeals has predominantly been analyzed through a strategic lens: Politicians make certain emotional appeals, because it is beneficial to them. The most prominent (and arguably only consistent) finding from this line of research is that (politicians of) government parties use more positive emotional appeals than (politicians of) opposition parties (e.g. Crabtree et al., 2020; Müller, 2022; Rheault et al., 2016). In addition, party ideology (Crabtree et al., 2020), party system polarization (Kosmidis et al., 2019), economic business (Rheault et al., 2016) and electoral (Schwalbach, 2021) cycles, or the expectation of gendered stereotypes (Hargrave & Blumenau, 2022), have been related to politicians' use of emotional appeals. The common denominator of this line of research is that it views (political) language as a flexible tool that can be adjusted to fit the strategic environment.

Below, I extend these strategic explanations by arguing that politicians' personality traits are related their use of emotional appeals. This follows a different literature that views language as a relatively stable reflection of the innate characteristics of an individual. While language is often understood this way in the psychology and linguistics literature, political science research that treats language as stable is just emerging (e.g. Ramey et al., 2017, 2019).

4.2 Politicians' personality traits and emotional appeals

Over the past decade, an increasing number of studies investigated the relationship between personality and political behavior (for an overview see Bakker (2022)). Personality is a long-term, more stable, aspect of individuals (Bleidorn et al., 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). Quantifying these personality traits into a unified framework has been the focus of a large body of work in the psychology literature, resulting in the development of the, among others, Big Five (McCrae & John, 1992) and HEXACO (Ashton & Lee, 2007) trait models of personality.

To date, most work on politicians' personality traits is based on the (older) Big Five model, while only recently it has been shown that across languages and cultures a six-factor structure (with one additional trait) emerges in the lexical factor analyses underlying these models (Ashton & Lee, 2007). Overall, the traits in the HEXACO model of personality structure can be related to the traits of the Big Five model. Specifically, three dimensions (Extroversion, Conscientiousness, and Openness to Experience) are very

similar to their Big Five counterparts. Furthermore, the HEXACO Emotionality dimension is a rotated variant of the Big Five trait Emotional stability, while the HEXACO Agreeableness dimension is somewhat reminiscent of Big Five Agreeableness excluding sentimentality and includes (lack of) anger (Ashton & Lee, 2007).

Compared to studies investigating how voter personality traits affect their political behavior (e.g. Bakker, Schumacher, & Rooduijn, 2021; Mondak, 2010; Schoen & Schumann, 2007), studies about political elites are relatively rare. This is because personality estimates of elites are much harder to obtain. While researchers interested in the personality of elites often relied on expert judgements of high-profile politicians (e.g. Rubenzer & Faschingbauer, 2004; Winter et al., 1991), a growing number of studies demonstrates that politicians can fruitfully be studied with personality self-assessment questionnaires (e.g. Best, 2011; Caprara et al., 2003; Dietrich et al., 2012; Hanania, 2017; Joly et al., 2018; Nørgaard & Klemmensen, 2019; Schumacher & Zettler, 2019).

Overall, these efforts to study the personality of political elites can be grouped into two distinct categories: on the one side are studies mainly interested in comparing the personality of elites to citizens, and, on the other side, studies that relate politicians' personality to their ideology and political behavior. Among the latter, these studies relate politicians' personality traits to legislative behavior such as proposing bills in parliament (Ramey et al., 2017), media presence (Amsalem et al., 2020), political success (Joly et al., 2019), and constituency work (Dietrich et al., 2012)). This study contributes to the latter literature using a survey measure of politicians' personality. Theoretically, my focus is on a behavioral variable that has not been studied in the context of elite personality but is considered highly consequential in the communication of politicians: their use of emotional appeals.

Some argue that politicians differ in their use of emotional appeals in political texts due to variations in negativity bias - the tendency to respond more strongly to negative stimuli compared to positive ones. It has been suggested that conservatives possess a stronger negativity bias than liberals (Hibbing et al., 2014; Tritt et al., 2016), which is reflected in the more negative language used by conservatives in political texts compared to liberals (Sylwester & Purver, 2015; Turetsky & Riddle, 2018; Wojcik et al., 2015). However, a growing body of research critically examines the alleged ideological asymmetry between conservatives and liberals. For example, Fournier et al. (2020) find no support for the connection between negativity biases and political ideology in a series of cross-country psycho-physiological experiments, Pipal, Bakker, et al. (2023) do not observe a significant association between ideology and emotional appeals expressed in parliament, and Bakker, Schumacher, Gothreau, et al. (2020) fail to identify evidence for physiological correlates of ideology. The claim of ideological asymmetry is based on the assumption that there is a personality difference between liberals and conservatives. But while personality is closely connected to linguistic habits, ideology does not account for all personality variations. As

a result, personality traits may have a more complex relationship with emotional appeals than ideology alone can explain.

In the remainder of this section I lay out my empirical expectations regarding the association between HEXACO traits and the use of emotional appeals. Importantly, my argument builds on the idea that the language we use reflects who we are (Tausczik & Pennebaker, 2010). Patterns of the words we use (e.g. use of pronouns, six-letter-words, words indicating vagueness) are relatively stable over time across a variety of contexts (Pennebaker & King, 1999; Pennebaker et al., 2003). These linguistic patterns significantly differ among individuals with distinct personalities, and personality traits systematically correspond with language use patterns observed in both controlled experiments and real-life situations. (Fast & Funder, 2008; Hirsh & Peterson, 2009; Mehl et al., 2006; Pennebaker & King, 1999). Such associations have also been found between personality and usage of words related to positive and negative emotion categories (Hirsh & Peterson, 2009; Lee et al., 2007; Pennebaker & King, 1999; Yarkoni, 2010). But do these associations also hold in the context of politics? There are two reasons to expect this. First, although politicians' language may not always reflect their genuine emotions, they cannot entirely conceal their true nature. As individuals with feelings, their emotions will, to some extent, be exposed through their language use, even when attempting to portray a specific public image (e.g. a strong leader). Second, differences in language use might merely be attributed to distinct linguistic habits. Politicians may not necessarily experience the emotions connected to the emotional appeals they employ but are inclined to use words and phrases associated with these appeals. Consequently, personality differences could manifest in varying linguistic habits, with certain personalities being more prone to use positive (or negative) appeals than others (and vice versa).

Out of the six HEXACO traits I expect four to be associated with the use of emotional appeals: Emotionality, Extraversion, Agreeableness, and Conscientiousness. Because the HEXACO model of personality is very similar to the Big Five model, these expectations are largely derived from the literature using the Big Five model. In what follows I describe each HEXACO trait and lay out my expectations how they are correlated with the the use of emotional appeals

First, a person scoring high on Emotionality experiences fear of danger, anxiety, feel a need for emotional support, and feel empathy and sentiment attachment. In contrast, a person scoring low on this scale has little need to share their concern with others, feel emotionally detached to others, and worry little even in stressful situations (John & Srivastava, 1999).

A consistent finding of research using the Big Five model is that neuroticism (the absence of emotional stability) is linked to negative emotion experience (Costa & McCrae, 1980; Larsen & Ketelaar, 1991). This association is quite straightforward since the conceptual definition of neuroticism (Big Five) and emotionality (HEXACO) refers

to the tendency to feel negative emotions. Put simply, if respondents say they often feel negative emotions, they score high on this trait. Differential susceptibility theory posits that individuals' varying behavioral inhibition system strength influences their response to punishment signals (Gray, 1987; Strelau, 1987), and neurotic individuals (or those scoring high on emotionality within the HEXACO framework) are assumed to be more reactive to this system. But does this feeling of negative emotions get expressed in the language of politicians? Because politicians are also performers, not all of their experienced emotions will be conveyed in the language they use. Nevertheless, I expect that some of their negative feelings will be reflected in their language.

H1: The higher a politician scores on emotionality, the more negative the emotional appeals are.

Second, those scoring high on the Extraversion scale experience positive feelings of enthusiasm, feel positively about themselves, feel confident, enjoy leading groups of people, and enjoy social gatherings. The inverse of this trait are introverts who consider themselves unpopular, feel awkward in the center of attention, and feel less lively and optimistic than others (John & Srivastava, 1999).

Regarding extraversion, there is a large body of research showing that extraversion correlates positively with positive emotions (Costa & McCrae, 1980; Pavot et al., 1990; Wilson, 1967). Extraversion represents sensitivity to rewards and the tendency to experience pleasant feelings (Lucas & Diener, 2001). Overall, the positive association between extraversion and positive emotions has been consistently replicated across occasions and measurement strategies (Lucas & Fujita, 2000).

H2: The higher a politician scores on extraversion, the more positive the emotional appeals are.

Third, persons with high scores on Agreeableness are lenient in judging others, are willing to compromise and cooperate, forgive the wrongs of others, and can control their temper. Conversely, persons high on this scale are critical of others' shortcomings, stubborn in defending their point of view, hold grudges against others, and feel anger in response to perceived mistreatment (John & Srivastava, 1999).

While politics is a domain characterized by competition between parties and individual politicians, working together is also an important necessity in politics. Agreeableness, a trait characterized by a social orientation and tendency to avoid conflict with others (Graziano et al., 1996), should therefore be associated with seeking compromise over confrontation (Gerber et al., 2012), resulting in using more positive appeals. In a similar vein, politicians with low agreeableness are more likely to use negative appeals, since individuals with low agreeableness tend to be more confrontational, competitive, and critical of others (Graziano & Tobin, 2009). They also tend to react aggressively and

seek retribution when they perceive unfair treatment from others (Lee & Ashton, 2012), anticipate less politeness from others, and have a lower sensitivity to improper behavior (Graziano et al., 1996).

H3: The higher a politician scores on agreeableness, the more positive the emotional appeals are.

Fourth, individuals scoring high on the Conscientiousness scale are goal-oriented, self-disciplined, organized, and deliberate carefully before making decisions weighing the potential outcomes of their actions. In contrast, those low on this scale prefer not to make plans, are more easygoing, are unconcerned with schedules, and tend to make impulsive decisions (John & Srivastava, 1999).

Regarding conscientiousness, some research finds that this trait is associated with the expression of less negative emotions (Yarkoni, 2010). In addition, some recent research on political advertising finds that positive messages are beneficial for a politician (Seibt et al., 2019). Consequentially, conscientious politicians, who usually make careful and strategic decisions, might see an advantage in spreading a positive message and thus use more positive appeals. In addition, conscientiousness is related to a sense of duty (Weinschenk & Dawes, 2018). While some level of negative appeals are necessary for a functioning political debate, overly negative messages can decrease voters' trust in the political system (Mutz & Reeves, 2005). Assuming that politicians generally care about the state of the political system, they might be concerned with the negative consequences of too much negativity. Consequentially, conscientious politicians might counter this development with using more positive appeals

H4: The higher a politician scores on conscientiousness, the more positive the emotional appeals are..

Fifth, people scoring high on the Openness to Experience scale are open to experience feelings, interested in art and nature, are curious about various domains of knowledge, use their imagination freely, and are interested in different ideas and people. People scoring low on this scale are, in contrast, rather unimpressed by works of art, feel little intellectual curiosity, avoid created endeavors, and are not attracted by unconventional or radical ideas (see Ashton & Lee, 2007; Lee et al., 2007; Lee & Ashton, 2008). It is unclear how this trait would be related to the use of emotional appeals, and I thus refrain from formulating a hypothesis (John & Srivastava, 1999).

Finally, individuals scoring high on the Honesty-Humility scale do not manipulate others for personal gains and are not interested in luxuries or special entitlement. On the contrary, persons scoring low on this scale try to flatter others to get what they want, break rules for personal gains, and feel a strong sense of self-importance (Ashton & Lee, 2007). While one could imagine that more honest politicians speak more truthfully, thus

using more negative emotional appeals, there is no strong theory relating this trait to the use of emotional appeals. I thus refrain from formulating an hypothesis and treat the investigation of this trait as exploratory.

What role does the specific setting of giving a parliamentary speech play when investigating the link between personality and emotional appeals? Researchers interested in personality tend to agree that more spontaneous communication such as interview responses provide the best resource to study these questions (Schoonvelde, Schumacher, et al., 2019). This is because in these more spontaneous settings, the language used is more natural than in other, more prepared or scripted settings, and therefore ideal for capturing personality and style (Slatcher et al., 2007; Winter et al., 1991). In addition, there is some concern that speech writers influence these speeches, so that a speech does not reflect the true language of the politician any longer. There is, however, not much evidence that this is a big problem, as speech writer usually try to match the style of the politician they work for (Collins, 2012; Noonan, 2010). Nevertheless, based on the spontaneity argument I expect that the association between personality and the use of emotional appeals is more pronounced in more instinctive, spontaneous speeches.

H5: The association between personality traits and emotional appeals is stronger for spontaneous speeches compared to prepared speeches.

4.3 Data and methods

In this section, I first describe the methodology for measuring politicians' personality traits using the HEXACO model. The data for the personality trait measures come from (Schumacher & Zettler, 2019). I then explain the measurement of their emotional appeals through automated text analysis. I then move on to introduce the two text datasets used for this study: parliamentary speeches (Rauh & Schwalbach, 2020) and Twitter posts (original collection). Parliamentary speeches offer insights into formal interactions, while Twitter represents a more direct and informal communication channel. By analyzing both datasets, I can assess the influence of personality traits on emotional appeals across various contexts. All analyses and data sources are preregistered on the OSF project site at <https://osf.io/tb5qv/>.

Independent variables

My main independent variables are politicians' HEXACO personality trait scores. An elite survey of candidates running for the 2015 Danish general election was conducted by the Comparative Candidates Survey (CSS) project. Directly after the election, all candidates ($n = 798$) were invited to participate in a survey that asks about the candidates' political preferences, career, campaign activities, and several background questions. With

a response rate of 33,3%, a total of 239 surveys was completed. This is a relatively high response rate compared to previous efforts surveying political elites (e.g. Caprara et al. (2003): 4%, Dietrich et al. (2012): 21%). The response rates across political parties, however, varied significantly, with the Christian Democrats having the highest response rate at 77.8%, and the Conservative People’s Party having the lowest at 20.4%. A chi-square test revealed that, excluding the Christian Democrats, the sample was representative of party affiliations (Schumacher & Zettler, 2019). In this sample, 46 respondents were elected, while 193 were not. A chi-square test indicated that the ratio of elected to non-elected politicians in this sample does not significantly differ from the population ratio (Schumacher & Zettler, 2019).

In the candidate survey, the Brief HEXACO Inventory (BHI) consisting of 24 questions (4 per HEXACO dimension), was included (de Vries, 2013). The BHI provides a time-efficient and reliable way to measure these traits, making it suitable for situations where a full-length assessment may be impractical. All 24 questions can be found in Appendix 7.3. Confirmatory structural equation models revealed that all variables loaded on the relevant factors, except for the question ‘I have to cry during sad or romantic movies’, which unexpectedly had a negative (instead of a positive) loading on Emotionality. This item was thus omitted when calculating the emotionality score. In all cases except emotionality (3 items) the 4 items of the BHI are used to calculate the factor scores, which are re-scaled to range from 0 to 1 to allow comparisons between traits (see Schumacher and Zettler (2019)).

	N	Mean	Median	SD	Min	Max
Parliament:						
Honesty-Humility	70	0.82	0.81	0.14	0.44	1.00
Emotionality	70	0.41	0.44	0.17	0.06	0.81
Extraversion	70	0.88	0.94	0.13	0.44	1.00
Agreeableness	70	0.60	0.56	0.14	0.31	0.94
Conscientiousness	70	0.72	0.75	0.17	0.31	1.00
Openness	70	0.70	0.69	0.16	0.38	1.00
Twitter:						
Honesty-Humility	95	0.78	0.81	0.15	0.38	1.00
Emotionality	95	0.40	0.41	0.17	0.00	0.88
Extraversion	95	0.87	0.94	0.14	0.38	1.00
Agreeableness	95	0.60	0.56	0.13	0.25	0.94
Conscientiousness	95	0.68	0.69	0.17	0.19	1.00
Openness	95	0.75	0.75	0.16	0.25	1.00

Table 4.1. Descriptive statistics of politicians’ personality traits.

Table 4.1 shows descriptive statistics of the independent variables for those politicians who spoke in parliament or posted on Twitter. The politicians in this sample score very

high on extraversion, resulting in a possible ceiling effect when analyzing the relationship between extraversion and emotional appeals. The descriptive statistics for all variables across all politicians can be found in appendix 7.3.

To test hypothesis 5, which states that the association between personality traits and the use of emotional appeals is stronger for spontaneous speeches, I need a measure for speech spontaneity. Because there is no obvious and direct measure of spontaneity, I make use of the fact that opening contributions during a debate are usually prepared in advance. As a proxy capturing this spontaneity, I create a dichotomous variable that is 0 for the first speech given by an MP within a debate (all speeches on a given day on the same agenda), and 1 for all subsequent speeches by the same MP within the same debate.

Measuring emotional appeals in text

I use the polarity dimension (negative vs. positive) of the Circumplex Model of Emotions (Russell, 1980) to operationalize how negative or positive the emotional appeals in an individual speech contribution given in the Danish parliament are. A speech is each individual contribution by a speaker within a debate in parliament (all speeches on a given day on the same agenda). A speaker can therefore deliver several speeches within a debate, e.g. if she speaks three times during a debate, the politician enters the dataset three times with three distinct speeches. To measure the polarity in the transcripts of parliamentary speeches I use a semi-supervised joint sentiment-topic model (JST) (Lin & He, 2009; Pipal, Schoonvelde, et al., 2023). Compared to a plain application of sentiment dictionaries, this procedure improves the accuracy of sentiment measures because it takes into account the context of a topic in which a word is used (Pipal, Schoonvelde, et al., 2023). This is also important because norms about what emotions to display differ per topic (Sanchez Salgado, 2023). JST models take an emotion dictionary as input, and combine it with an unsupervised Latent Dirichlet Allocation (LDA) model (Blei et al., 2003) that estimates the occurrence of topics in a text. To estimate the joint sentiment-topic model I use the *sentitopics* package for R. For the supervised input I use the Danish version of the Lexicoder Sentiment Dictionary (Proksch et al., 2019; Young & Soroka, 2012) which has been validated on speeches in parliament (Proksch et al., 2019). After feeding JST with this dictionary, it estimates topic-specific sentiment and combines it into one overall document-level sentiment probability. For each speech the model returns probabilities that the speech is positive, negative, or neutral: If the model finds many words associated with positive topic-sentiment, the probability of the positive label increases. Vice versa, the probability of the negative label increases if the model finds many words associated with negative topic-sentiment. To arrive at a sentiment measure for each speech, I follow the formula by Proksch et al. (2019) and calculate

sentiment as the logged ratio of probabilities of positive and negative sentiment labels:

$$polarity = \log \frac{Pr(positive) + 0.5}{Pr(negative) + 0.5} \quad (4.1)$$

Figure 4.1 shows the distribution of the dependent variable by party. Similar to the measurement of emotional appeals in parliamentary speeches, I use a JST model and the Danish version of the Lexicoder dictionary (Proksch et al., 2019) to measure the polarity of emotional appeals in tweets. Before employing the JST model, I aggregate all tweets sent on a given day by the politician. This is a common procedure to deal with the shortness of Tweets when using LDA-type models (e.g. Barberá et al., 2019) that improves model performance (Hong & Davison, 2010).

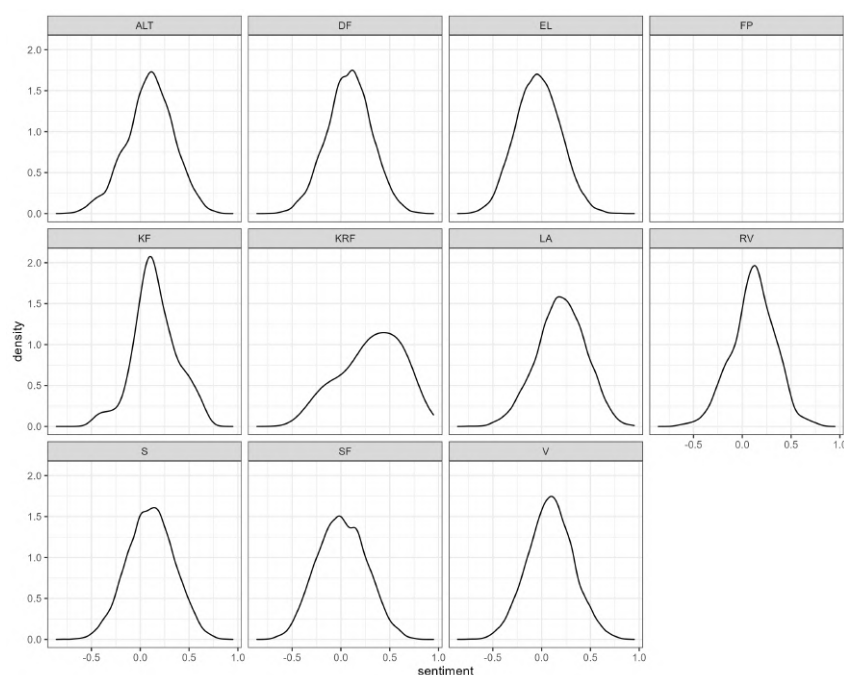


Figure 4.1. Distribution of speech sentiment by party. No display of distribution possible for the FP because only two speeches in the dataset were given by MPs from the FP.

Parliamentary speeches and Twitter data

I use the Danish ParlSpeech v2 dataset (Rauh & Schwalbach, 2020) to test the associations between personality and emotional appeals in parliamentary speeches. These speeches are important because they provide a link between politicians and voters. In total, 70 of the politicians speaking in the Danish parliament at any time between 1997 and 2018 also filled out the personality survey in 2015. Because very short speeches result in less accurate sentiment measures, speeches with less than 50 words are excluded from the analysis. The final dataset consists of 53,062 speeches by 70 speakers.

The tweets of the politicians were collected using Twitter’s REST API and the `rtweet` R-package. 140 of the politicians who filled out the personality survey in 2015 ($n=239$) have a public Twitter account in 2022. Out of these 140 politicians, 49 politicians were elected into parliament, and thus also appear in the parliamentary speech dataset. To reduce the noise introduced by politicians who only tweet once or twice, I include only politicians who tweeted at least 10 times in total in the analyses. The final dataset consists of 156,772 tweets by 95 politicians.

Statistical models and power

I test my hypotheses with linear regression models with robust standard errors clustered by MP. They include commonly used legislative behavior indicators as control variables. At the individual MP level, I include the number of terms in parliament an MP has served, their gender, age, and if they ever held a position in a government cabinet. I also include measures of self-reported economic left-right and conservative-progressive ideology. The data for these variables come from the 2015 candidate survey and MPs’ Wikipedia pages. At the party level, I consider whether it was part of the government or opposition using the ParlGov dataset (Döring et al., 2022). In my analysis, I standardize all continuous variables except age and experience using the z-score. Because of the directional hypotheses, I use one-sided t-tests and an alpha level of 0.05 to determine the significance of the statistical tests. Power analyses reveal a statistical power of 99% to find a true effect given an anticipated small effect of $\rho = 0.05$ and the respective sample sizes (parliament: 53,062 observations, 70 individuals; Twitter: 96,472 - 156,772 observations, 42 - 95 individuals).

4.4 Results

Figure 4.2 presents the results of the linear regression models. Model 1 (left panel) tests the association between personality and emotional appeals including aforementioned control variables. Since all continuous measures have been standardized, the beta coefficients represent the standard deviation change in polarity when politicians score one standard deviation higher (or lower) on a specific personality trait. While interpreting effect sizes, it is important to keep in mind that even minor alterations in textual emotion measures may signify a meaningful difference in the emotional appeal of a speech or text (Crabtree et al., 2020).

As expected, the higher politicians score on emotionality the more negative their appeals ($b = -0.10, se = 0.05, p = 0.03$) in their parliamentary speeches (H1). This means that a one standard deviation increase in emotionality is associated with a -0.10 standard deviation change in polarity. Also in line with my expectations, agreeableness

shows a statistically significant positive association ($b = -0.09, se = 0.03, p < 0.01$) with emotional appeals: the higher MPs score on agreeableness, the more positive their speeches are (H3). Regarding H2, the results do not show an association between extraversion and emotional appeals ($b = -0.02, se = 0.04, p = 0.29$). The absence of such a relationship might be explained with the absence of introverts in parliament. With most politicians in the dataset scoring very high on extraversion, there is not enough variation in the data to find any meaningful association. Regarding H4, I also do not find a significant correlation between conscientiousness and the use of emotional appeals ($b = -0.01, se = 0.04, p = 0.38$). In addition, the results also show a significant negative association between honesty-humility and the polarity of emotional appeals, i.e. people scoring high on honesty-humility speak more negatively ($b = -0.07, se = 0.04, p = 0.03$).

Turning to my control variables, politicians from government parties use significantly more positive appeals than politicians from the opposition ($b = 0.13, se = 0.05, p < 0.01$). On the individual level, female politicians ($b = 0.20, se = 0.09, p = 0.02$) and politicians with cabinet experience ($b = 0.12, se = 0.07, p = 0.05$) use significantly more positive appeals than their male counterparts. These results are consistent with prior research and demonstrate the validity of the findings. Regarding ideology, economically conservative politicians also use more positive appeals ($b = 0.07, se = 0.01, p < 0.01$). Unexpectedly, the effect of speech spontaneity is very large and negative ($b = -0.43, se = 0.03, p < 0.01$), with a four times bigger magnitude than all personality or government effects. This could be due to the fact that one of the primary motivations behind deciding to deliver a spontaneous speech is to criticize a previous speaker or argument.

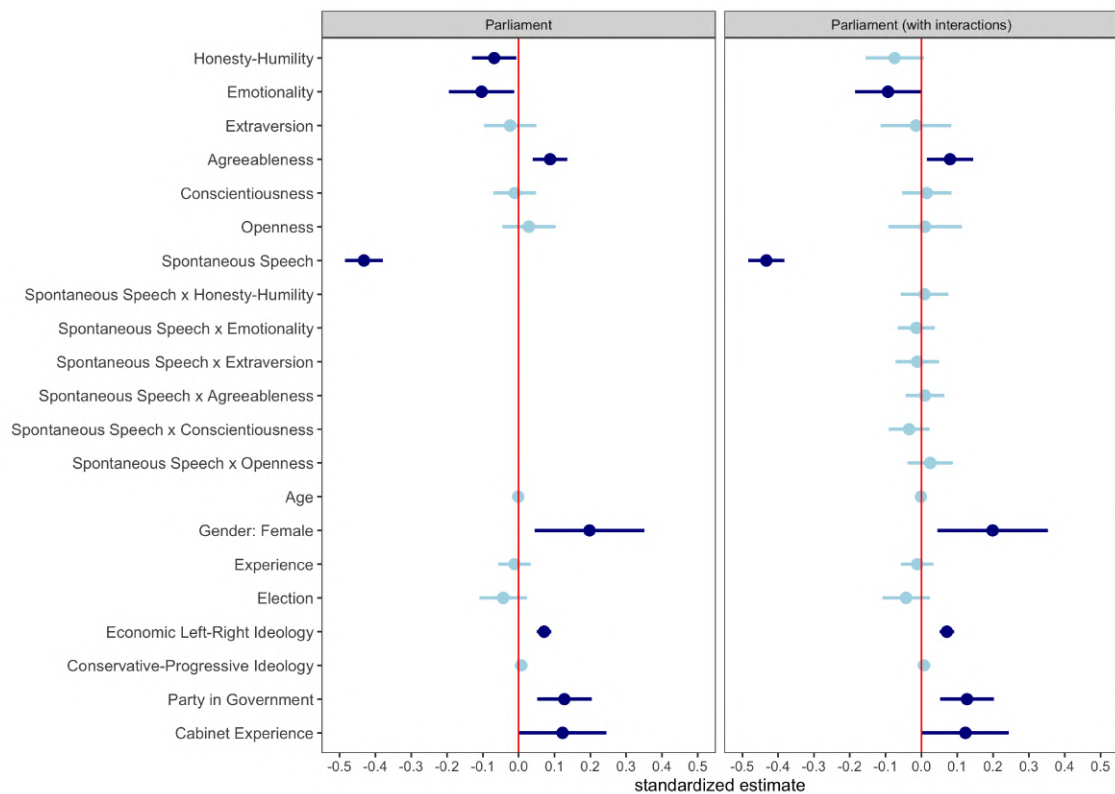


Figure 4.2. Results of OLS models regressing the polarity of emotional appeals in parliamentary speeches on politicians’ personality traits. Standard errors are clustered at the level of the individual politician ($n = 70$). All continuous variables (except age and experience) have been standardized. Dots are the point estimate of the beta coefficients, bars denote 95% confidence intervals.

In the second model (right panel) I test hypothesis 5 which states that the associations between personality traits and emotional appeals are stronger for spontaneous speeches. I don’t observe any difference in the impact of personality traits on emotional appeals based on speech spontaneity across traits. Personality traits are associated with higher or lower polarity almost identically in both prepared and spontaneous speeches. The effect of personality is thus not stronger in spontaneous speeches.

Before turning to the empirical results using the Twitter data, it is important to highlight some differences between the parliamentary speeches and Twitter dataset. First, on Twitter I have records of candidates in 2015 who were not elected into parliament, making the dataset broader. Second, not all MPs are on Twitter (46 out of 70 MPs had a Twitter account in 2022). Overall, MPs on Twitter are younger ($\mu_{diff} = -7.91, t = 2.52$) and self-report lower levels in Honesty-Humility ($\mu_{diff} = -0.09, t = 2.55$). Mean comparisons for all traits are reported in Appendix 7.3. Further, a simple logistic regression model (see Appendix 7.3) indicates that Openness to experience has a positive and significant association with Twitter usage ($b = 4.78, z = 2.30$).

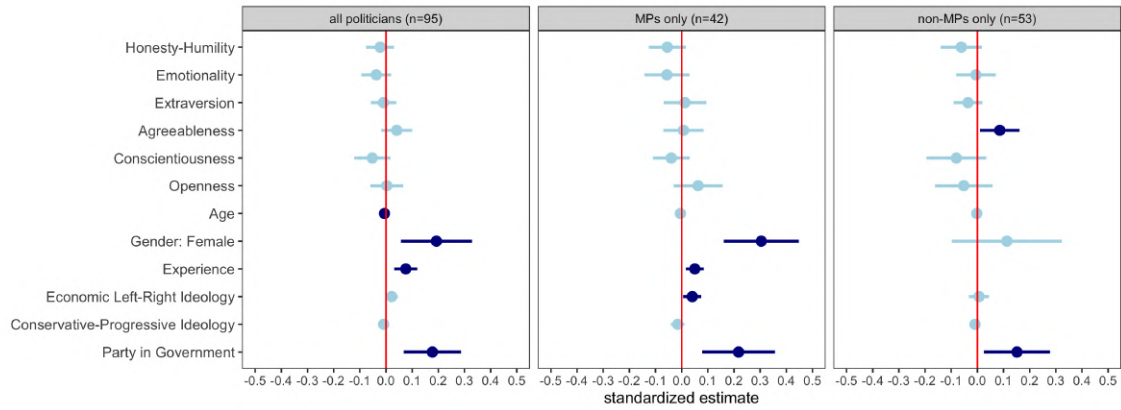


Figure 4.3. Results of OLS models regressing the polarity of emotional appeals in Twitter posts on politicians’ personality traits. Standard errors are clustered at the level of the individual politician. All continuous variables (except age and experience) have been standardized. Dots are the point estimate of the beta coefficients, bars denote 95% confidence intervals of one-sided t-tests (directional hypotheses).

Figure 4.3 presents the results of the linear regression models using Twitter data. Regarding the direction of the associations between personality traits and appeals, the results largely reflect the findings from the models using parliamentary speeches. These effects are however, almost exclusively, not statistically significant. On Twitter, only among unelected politicians, i.e. those who did not serve as members of the national parliament, agreeableness is significantly associated with using more positive emotional appeals. The magnitude of this correlation is also comparable to the analysis of parliamentary speeches. In contrast, all other personality traits (and none among members of parliament) is statistically significantly correlated with using more positive or more negative emotional appeals. How much are these null-findings among MPs possibly driven by the reduced sample size? In appendix 7.3 I compare these results to a parliament analysis that only includes MPs with a Twitter account (n=47). The results mirror the Twitter analysis: While the direction and magnitude of personality effects are comparable to the analysis using the full MP sample, the effects are not statistically significant anymore. This indicates that the number of MPs with a Twitter account in this sample is just too small to reliably detect the expected effects. In appendix 7.3 I also examine whether the associations between personality traits and emotional appeals differ between MPs and non-MPs on Twitter using an interaction model. The results do not support the conclusion that the effects differ between MPs and non-MPs.

In what additional ways might politicians’ personality traits be connected to their language use in parliament? Next to the preregistered hypotheses, I explore whether politicians with specific personality traits are discouraged (or get encouraged) by the prevailing emotional appeals expressed within a parliamentary debate. Specifically, I explore whether agreeable politicians speak less in a debate if it is predominately negative.

Similarly, I test if emotional politicians speak more in these situations. To this end, I created a dataset where, for each speech given, the personality traits (agreeableness, emotionality) of the speaker are matched with the preceding polarity of emotional appeals within the debate. If, for instance, agreeable politicians opt-out from negative debates I would expect that the more negative emotional appeals have been used to this point within a debate, the lower the agreeableness score of the following speaker is. To test for this dynamic, I estimate simple OLS models where the scores for agreeableness and emotionality are regressed on the preceding polarity of emotional appeals within the debate. The left panel of figure 4.4 plots the mean predicted values of emotionality depending on the preceding level of emotional appeals within a debate. The right panel plots the same relationship for Agreeableness (where I expect the opposite relationship). Overall, the slope of the curves is in line with my expectations. As the preceding polarity within a debate decreases, the average emotionality of the following speaker increases. This pattern is reversed for agreeableness, where the average agreeableness score of a speaker gets lower the more negative a debate has been up to their turn. However, these relationships are not statistically significant at an alpha level of 0.05 and a one-sided test.

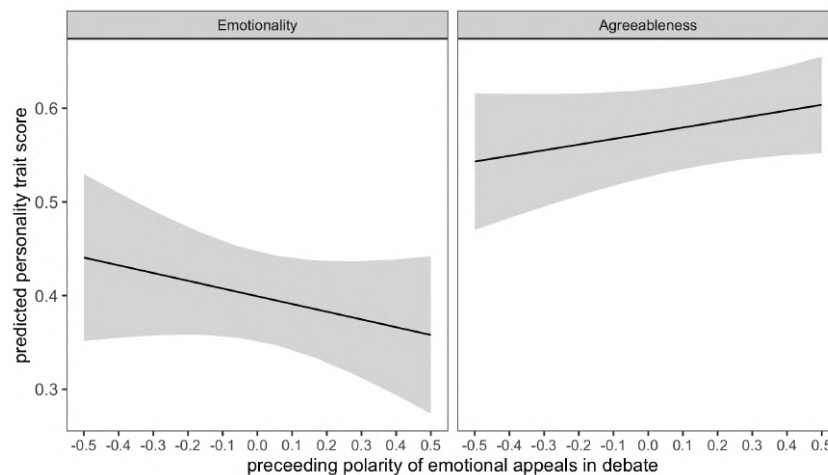


Figure 4.4. Mean predicted emotionality and agreeableness scores of a speaker by preceding polarity of emotional appeals. Results of OLS models regressing the polarity of a speaker’s emotionality and agreeableness scores on the preceding emotional appeals within a debate. Standard errors are clustered at the level of the individual politician. The shaded are denotes the 95% confidence intervals.

4.5 Discussion

This study finds that politicians’ personality traits and their emotional appeals are related across two communication platforms. Adding to previous findings on the strategic determinants of emotional appeals in politics (Crabtree et al., 2020; Kosmidis et al., 2019; Osnabrügge et al., 2021; Pipal, Bakker, et al., 2023; Rheault et al., 2016; Valentim

& Widmann, 2021), my analysis of Danish politicians' parliamentary speeches and Twitter posts uncovers a relationship between their personalities and the emotional appeals they employ. In parliament, politicians scoring high on emotionality make more negative appeals, while more agreeable politicians use more positive appeals. Surprisingly, my analysis also finds that more honest and humble politicians make more negative appeals. Previous work using citizen produced texts such as blogs or student writings shows that a writer's personality influences her use of emotional language. The results of this study suggest that, even in a highly formalized communication environment like parliamentary debates, politicians can't escape their personalities and reveal their true colors. I also discover similar associations in their Twitter communication, showing the same direction of effects and comparable magnitudes. These effects do not vary between MPs and non-MPs, however, they are not statistically significant in the Twitter sample. Future research could benefit from qualitatively examining the content of politicians' tweets.

Overall, the results of this study highlight an important role for politicians' personality in political communication. Even in a highly strategic environment, politicians cannot run away from their personalities – they reveal their true colors. Importantly, their personalities are sometimes as influential for the emotional appeals made in politics as being a government or opposition politician.

This study is not without limitations. First, studying a small group of politicians in a single country with vastly varying numbers of speeches given or tweets posted comes with problems. Future work should therefore aim to expand this research to other countries, and join forces with a research team that surveyed politicians' personalities in other contexts. Regarding social media platforms, not all politicians are on Twitter. More commonly used platforms like Facebook could thus be included in future analyses.

Another concern might be that self-reported personality traits are a biased measurement. Especially Honesty-Humility is a trait with clear social desirability, which could motivate politicians to rate themselves in line with these expectations. While politicians may present themselves with more socially desirable traits, the data doesn't provide evidence for strong bias. Intercorrelations between HEXACO factors, alignment with previous research, and varying self-reports across different politicians suggest that the biases might not be very pronounced (Schumacher & Zettler, 2019). Politicians may have similar personalities due to selection procedures at the national level.

The finding that personality traits influence how politicians use emotional appeals in their communication has significant implications for our understanding of political communication and democratic representation. It suggests that individual psychological factors play a crucial role in shaping the way politicians deliver their message and engage with their constituents. This adds to the existing knowledge that emphasizes strategic and ideological factors. As politicians with different personality traits communicate with varying emotional appeals, their language might resonate with voters who share similar

personality traits. This could ultimately lead to a more personalized form of representation.

Overall, this study highlights the importance of individual psychological factors like personality traits for the study of political communication and democratic representation. Future research should explore the interplay between personality, emotional appeals, and the strategic dynamics that interact with personality in various contexts, such as economic downturns or electoral uncertainty. Recognizing personality as an essential feature of politicians will benefit our theories of elite behavior and improve our understanding of democratic representation.