

# How Presidents Persuade

Facts, Feelings, and the Language of Presidential Power

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## Abstract

Do presidents change minds with facts or mobilize supporters with emotional appeals? Scholars debate whether presidential speeches persuade Americans or raise issue salience, with a focus on which policies presidents promote. I argue that presidents do both, and their choice is conditioned by their coalition strength. Institutionally strong presidents mobilize their base through affective appeals; weak presidents expand their coalition through factual appeals. I collect all presidential statements spoken from January 1981 to June 2022 and use word embedding methods to create a measure of fact-versus-feeling language. Consistent with my theory, presidents with unified government, high approval ratings, and conditional party government use more affective language. I test this theory causally using regression discontinuity centered on President Obama's 2009 filibuster-proof Senate majority. This research presents a new way to think about going public, harmonizing conflicting findings by situating presidential appeals within a unified strategic framework of coalition strength.

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On January 11, 2022, President Biden delivered a speech about voting rights legislation stalled in the Senate. Yet during his thirty-minute remarks, the president hardly discussed the bill's contents, and he made few substantive arguments in support of the specific policy proposals. Instead, President Biden abandoned "calm persuasion" (Corasanti and Epstein 2022) for "soaring rhetoric" (Rubin 2022). He evoked the Civil Rights Movement, attacked Republicans, and framed the legislative fight as one of "democracy over autocracy, light over shadow, justice over injustice" (Biden 2022). For activists, this fiery speech was long overdue. For press critics, the approach was "unlikely to persuade the two Democratic holdouts" (Rubin 2022) in the Senate, and the "over-the-top language of the speech made [Biden] seem more emotional, less competent" (Noonan 2022). Senate Majority Leader Mitch McConnell went one step further, asserting that the president had abandoned "rational persuasion for pure—pure—demagoguery" (Congressional Record, January 12, 2022, S166). Presidential power is, famously, "the power to persuade" (Neustadt 1991, 11). But how do presidents deploy this power? Why do they sometimes favor "soaring rhetoric" over "calm persuasion," a choice seemingly at odds with their goals?

Presidents are institutionally weak (Neustadt 1991), and they need public (Kernell 1997) and congressional (e.g., Bond and Fleisher 1990) support to achieve their goals. To build coalitions, presidents expand their base with new members and mobilize their existing base to engage more deeply in the political process (Galvin 2009, 2020). Lacking formal authority to enact their agendas, words become a form of power presidents use to set the agenda, bolster public support, build congressional coalitions, and pass policy. They deploy this power by "going public," using the bully pulpit to persuade Americans to support them and their agenda (Kernell 1997). Yet they have little to show for it. Presidents speak more, and more often, but their effects on public opinion are limited (e.g., Cavari 2017; Rottinghaus 2010) or non-existent (Edwards 2003). Since presidents cannot persuade, others argue, their speeches are intended to raise the salience of popular issues,

spurring congressional action (Canes-Wrone 2006; Edwards 2009). Ultimately, “the view has moved from an expectation that presidential power is the power to persuade to a much firmer conclusion that it is definitely not” (Eshbaugh-Soha 2016, 5). Yet even as individual presidents use soaring language and evoke emotion, they also make fact-based, logical arguments about politics and policy. Indeed, the commenters quoted above seem to think that is how presidents *should* speak, and seem to admit that they often do. Why, then, do presidents sometimes focus on the facts, while at other times, they play to their followers’ feelings? Does the choice between fact and affect stem from the “mistaken belief that they can move the public” (Edwards 2003, 249)? Or is it evidence of a strategic logic, helping us understand when and how presidents persuade?

I argue that presidents strategically choose between changing opinion and raising issue salience, and that these choices can be seen in the language they use in their public speeches: presidents persuade with facts and mobilize with feelings. Factual language—which is quantitative and evokes causal processes and knowledge (Blumenau and Lauderdale 2022; Lim 2008)—can cause individuals to change their minds, even about salient partisan issues (Broockman and Kalla 2022). As such, presidents who want to expand their base of support will speak in the language of facts. By contrast, emotional (Hawley 2021; Valentino et al. 2011; Webster 2020), moral (Jung 2020), and identity-oriented appeals (Goodman and Bagg 2022; Huddy, Mason and Aarøe 2015) spur political mobilization (van Zomeren 2016), often at the cost of conversion. Presidents who want to mobilize their supporters will raise the salience of issues through affective appeals. How do presidents choose between these goals? I hypothesize that they condition this strategic choice on their existing coalition strength. Institutionally strong presidents (i.e., those who serve with unified government, high approval ratings, or conditional party government) will focus on mobilizing allies rather than converting opponents. By contrast, weak presidents (i.e., divided government, low approval, lack of conditional party government) will focus on expanding their core support through persuasive appeals.

I collect all spoken presidential statements delivered between January 1981 and June 2021—a corpus of over 18,000 speeches from presidents Reagan through Biden. To test my theory about presidential coalition strength and language use, first, I compile dictionaries incorporating the core aspects of factual and affective speech. Then, using word embedding methods ([Garten et al. 2018](#); [Pennington, Socher and Manning 2014](#)), I develop a continuous, scalable measure of the relative use of fact and affect in each paragraph. I identify substantial variation in how presidents appeal to intellect and emotion throughout their tenure in office and across time. In line with my theory of coalition strength and language use, I show that presidents use more affective language when government is fully unified, when their approval ratings are higher, and when congress is polarized under unified government (CPG). I test my theory causally using a regression discontinuity in time, centered on Democrat’s 2009 filibuster-proof Senate majority. When Scott Brown (R) wins a surprising special election victory and Senate Democrats lose their 60-seat super-majority, President Obama’s healthcare language becomes more factual as he tries to bring Republicans into his coalition.

These results demonstrate that presidents strategically emphasize facts or feelings in their speeches, conditional on their coalition strength. This research develops a new way to think about presidential leadership and going public ([Bond and Fleisher 1990](#); [Canes-Wrone 2006](#); [Kernell 1997](#); [Neustadt 1991](#); [Tulis 1987](#)) by harmonizing conflicting theories of presidential appeals within a unified, strategic framework. Presidents pursue both opinion change and issue salience, as evidenced by the specific rhetorical choices they make. By thinking about these two outcomes as strategic goals driven by coalition dynamics, we can better understand when, why, and how presidents go public in an era of nationalization and polarization. Methodologically, this paper answers the call to apply cutting-edge text tools to the study of the executive branch ([Kaufman 2020](#)) and contributes to a lively debate in normative ([Goodman and Bagg 2022](#); [Hawley 2021](#)) and positive ([Blumenau and Lauderdale 2022](#); [Broockman and Kalla 2022](#); [Druckman 2022](#))

theory about political persuasion more broadly.

## Reviving Presidential Persuasion

Presidents are strategic actors, motivated by reelection, policy preferences, and historical legacy—outcomes tied to the successful implementation of their agendas (Edwards 2003; Lebo and O’Geen 2011; Light 1999; Howell and Moe 2016). Yet presidents cannot enact their agendas alone, and the “necessity of congressional support forces the president to build coalitions in the first place.” (Edwards 2003, 9).<sup>1</sup> How do presidents build coalitions? By persuading non-members to join or mobilizing existing supporters to get more involved (Galvin 2020; Kriner and Reeves 2015). To some extent, this process plays out behind closed doors, where presidents bargain with, and persuade, lawmakers (Beckmann, Chaturvedi and Garcia 2017; Rottinghaus and Johnson 2021; Neustadt 1991) and party functionaries (Galvin 2009). However, political and societal changes in the 1960s and 1970s—the decentralization of Congress, the growth of mass media and television, weakening party control over presidential primaries—altered the distribution of power and prompted presidents to pursue an indirect congressional coalition-building strategy: going public (Kernell 1997). Rather than engage with lawmakers directly, presidents appeal to Americans through public speechmaking. Members of Congress care about their constituents’ opinions, which can incentivize them to support the president (Arnold 1990; Bond and Fleisher 1990; Canes-Wrone 2006; Gronke, Koch and Wilson 2003).

In practice, a president’s power to change public opinion is limited (Cavari 2017; Rottinghaus 2010) or non-existent (Edwards 2003, 2009; Franco, Grimmer and Lim N.d.). In response, some have argued that, rather than go public to change opinion, presidents

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<sup>1</sup>Presidents can achieve some policy goals unilaterally, but they are constrained by other institutional actors (Bolton and Thrower 2021; Christenson and Kriner 2017) and public opinion (Christenson and Kriner 2020; Howell and Wolton 2018; Noble 2021; Reeves and Rogowski 2022). Further, unilateral acts are weaker than legislation (Dickinson and Gubb 2016; Thrower 2017), making them questionable tools for legacy-building.

strategically raise the salience of issues because public attention can influence legislators' policy preferences, moving them toward the president's position (Canes-Wrone 2006).<sup>2</sup> By this theory, presidents should go public on issues where the public's preferences are closer to the president's than the status quo. Ultimately, the literature has largely rejected the theory that presidents persuade at all (Eshbaugh-Soha 2016). I argue that this revision to our understanding of presidential power, while warranted, is partially a consequence of how persuasion is defined and measured. Instead, we can think about the dual goals of "opinion change" and "issue salience" as different types of persuasion, which presidents strategically choose between depending on institutional factors.

What does it mean for a president to "persuade?" In the existing literature, the concept is defined and measured in terms of opinion or attitudinal change. If the public "moves in the president's direction" following a speech (Edwards 2003, 25), the president is successful. The debate, then, revolves around questions of whether such opinion change occurs, and if so, for whom (e.g., Cavari 2017; Rottinghaus 2010). Opinion change, although an important dimension of political persuasion, is just that—one dimension. Behavioral scholars define the concept broadly: persuasion includes all communication designed to influence "another's mental state" (O'Keefe 2016 quoted in Druckman 2022, 66) or "electorally relevant factual beliefs, attitudes, or actions" (Suhay, Grofman and Trechsel 2020, 2). Indeed, Mutz, Sniderman and Brody (1996, 1) argue that persuasion is not only "ubiquitous in the political process," but is "the central aim of political interaction." In particular, Druckman (2022) highlights other targets of persuasion including behavior, emotions, and identity (see also Goodman and Bagg 2022; cf. Hawley 2021). And presidents seemingly pursue these objectives through speechmaking. They frequently appeal to emotion and identity in their speeches, and they encourage listeners to take political action, like calling representatives, supporting candidates, or voting. This more expansive

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<sup>2</sup>Other rationales for going public include reputational effects (Druckman and Holmes 2004; Howell, Porter and Wood 2020; Tedin, Rottinghaus and Rodgers 2011), influencing elites (Cohen 2019; Edwards and Wood 1999; Eshbaugh-Soha 2006; Eshbaugh-Soha and Peake 2011; Lee 2009) or responding to existing opinion (Wood 2009).

conceptual definition also aligns with Neustadt's (1991, 40) understanding of presidential persuasion, which succeeds when others "believe that what [the president] wants of them is what their own appraisal of their own responsibilities requires them to do in their interest, not his."

These behavioral targets are distinct, and not necessarily downstream, from opinions or attitudes (Druckman 2022, 76), a fact that has two implications for the study of presidential persuasion. First, many Americans *already* support the president and his policy positions. In the current framework, these individuals cannot be persuaded by definition. As they already support the policy, they cannot move in the president's direction and thus there is no evidence of opinion *change*. Nonetheless, presidents speak to supportive audiences because their followers require further motivation to take action (Hawley 2021; Fishbein and Ajzen 2010). This argument is related to raising issue salience (Canes-Wrone 2006), but it goes one step further. Presidents lobby allies (see also Awad 2020; Jacobson 2015; Schnakenberg 2017) who they hope will take action on those important issues, such as persuading others, calling lawmakers, voting, etc. By defining persuasion as opinion change, we miss the possibility of behavioral presidential persuasion. Second, persuasion is typically modeled as a process by which one's opinions change, which then (can) cause changes in behavior (e.g., O'Keefe 2016). However, there are instances where affective persuasion can circumvent attitudes and cause targets to engage in non-congruent behavior (Groenendyk 2019). That is to say, some individuals can be persuaded to take action (e.g., vote for a candidate) without changing their opinion first.

In summary, when scholars argue that presidents cannot persuade, they do so by focusing on the issues presidents talk about and whether opinions change after speeches. However, the definition and measurement of the concept could obscure instances of successful persuasion. For example, presidents might persuade Americans to take action without first changing minds—whether by mobilizing current supporters or by directly targeting behavior through emotional appeals. This form of persuasion would raise issue

salience, and further, mobilize listeners to take actions to advance the president's agenda. Alternatively, we might see that presidents can change minds when they make reasoned arguments by focusing on the facts. In the next section, I discuss how measuring the intellectual and emotional valence of a speech, rather than topics, can help us identify who and what presidents target for persuasion.

## Presidential Persuasion as Coalition Building

When exercising the power of persuasion, I argue presidents might try to change listeners' opinions or their behaviors, and the language they use to do so will differ. Presidents will try to change opinion by appealing to facts and motivate action by appealing to feelings. Theoretically, these two goals map onto existing theories of presidential coalition building, which focus on base expansion and base mobilization ([Galvin 2009, 2020](#); [Kriner and Reeves 2015](#); [Rottinghaus and Johnson 2021](#)). Presidents focused on expansion must reach out to Americans who do not already support them or their policy goals and convince them to change their opinion. Setting aside questions of whether presidents succeed in these efforts, the behavioral literature suggests that were presidents to succeed, they would do so by making factual arguments. For example, [Blumenau and Lauderdale \(2022\)](#) conducts a novel experiment in which respondents rate the persuasiveness of political arguments that employ various rhetorical elements, including cost-benefit analysis, appeals to populism, and ad-hominem attacks.<sup>3</sup> The authors further demonstrate that elements rated as persuasive do cause opinion change. They conclude that people find "references to expertise...and factual argument...more convincing than statements that employ striking language but are thinner in terms of substantive policy relevant content" ([Blumenau and Lauderdale 2022, 9](#)). Relatedly, [Broockman and Kalla \(2022\)](#) shows that

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<sup>3</sup>Other rhetorical elements in their study included appeals to expertise, fairness, history, and nationalism, common sense, country comparisons, crisis language, metaphor, morality, public opinion data, and the use of side-effects.



specific, factual content about the 2020 presidential candidates causes opinion change, especially when respondents had little prior information about the topic. I expect that presidents targeting base expansion will evoke factual language in their speeches.

Presidents focused on base mobilization, by contrast, will appeal to existing supporters, encouraging them to take action. Although factual arguments can raise the salience of issues, it will do little to engage those who already agree with the president as “Altering behaviors may depend less on attitudes than on motivations and emotions” (Druckman 2022, 76; see also Hawley 2021). In a review of the literature on political mobilization, van Zomeren (2016) identifies four core motivations—identity, efficacy, emotion (especially anger), and morality—motivations that have robust support in the political science literature. For example, salient partisan (e.g., Huddy, Mason and Aarøe 2015; Mason 2015) or racial (e.g., Dawson 1995; Jang 2009) identities promote political participation. Emotions, especially anger (Groenendyk and Banks 2014; Valentino et al. 2011; Webster 2020), and morality (Jung 2020) can increase partisan loyalty, political participation, and turnout. Here, I categorize these core motivations under the banner of feeling-based, or affective, speech. I expect presidents to appeal to feeling-based speech when targeting base mobilization and behavioral outcomes.

How would we know who and what presidents are targeting for persuasion? The relative merits of base expansion versus base mobilization—and the associated rhetorical strategy—should vary with political and institutional conditions. For example, Galvin (2009, 25, emphasis original) argues “the president’s party-building incentive will be *strongest* when he perceives his party’s overall competitive standing to be *weakest*, and it will be *weakest* when he perceives his party’s overall competitive standing to be *strongest*.” Similarly, I argue that presidents will pursue base mobilization, and therefore use a more feeling-based rhetorical style, when coalitionally strong. When coalitionally weak, presidents will pursue base expansion and evoke factual arguments. I outline three factors contributing to presidential strength which I use to test my broader theory of strength

and affective language use.

**Unified Government:** Few factors affect a president's coalitional strength and the prospects for legislative success more than party control of Congress (e.g., [Bond and Fleisher 1990](#); [Levinson and Pildes 2006](#)). In unified government, the majority party and the president share ideological interests and lawmakers have strategic incentives to support "their" president ([Bond and Fleisher 1990](#); [Kriner and Reeves 2015](#); [Lebo and O'Geen 2011](#); [Lee 2009, 2016](#); [Light 1999](#); [Smith 2007](#)). Yet presidents must first activate these considerations by sending signals about their priorities ([Canes-Wrone 2006](#); [Cohen 2019](#); [Eshbaugh-Soha 2006](#)). Given the natural base of support in Congress, presidents might prime party unity ([Rottinghaus and Johnson 2021](#)) and focus on mobilizing allies over converting opponents. When government is divided, presidents face a dilemma. Voters hold the president accountable for policy ([Bond and Fleisher 1990](#)), but the out-party has little incentive to support the president and offer the other party credit-claiming opportunities ([Groseclose and McCarty 2001](#); [Kriner and Schickler 2016](#); [Lee 2009](#)). As such, the president will still work to pass policy, perhaps by finding issue areas that split the out-party ([Ballard and Curry 2021](#)) or by framing policies as bipartisan ([Rottinghaus and Johnson 2021](#)). In these efforts, though, presidents will need to bring outsiders into their coalition.

**Unified Government Hypothesis:** Presidents use more feeling language (relative to factual language) under fully unified government (relative to divided government).

**Presidential Approval:** Popular presidents are more successful at setting the agenda ([Lovett, Bevan and Baumgartner 2015](#)) and passing policy (e.g., [Barrett and Eshbaugh-Soha 2007](#); [Canes-Wrone and de Marchi 2002](#); [Rivers and Rose 1985](#)). Lawmakers are sensitive to constituency opinion (e.g., [Arnold 1990](#)), especially so when it comes to presidential priorities, which constituents use as a voting cue (e.g., [Gronke, Koch and Wilson 2003](#)). When presidents are popular, their implied coalition is larger than when they are

unpopular, and they can focus on mobilization of that coalition. These forces put pressure on lawmakers to support the president (Cohen and Rottinghaus 2018).

**Approval Hypothesis:** Presidents use more feeling language (relative to factual language) when presidential approval increases.

**Conditional Party Government:** Majority party power in Congress varies as a function of ideological homogeneity within parties and ideological heterogeneity between parties (Aldritch, Berger and Rohde 2002). This theory of conditional party government (CPG) argues that when a party shares similar preferences, which diverge greatly from the other party's preferences, individual members will relinquish power to leaders to solve collection action problems (Rohde 1991). Although this theory originally applied to intra-congressional politics, Lebo and O'Geen (2011) argues that there is no more powerful party leader than the president (see also Jacobson 2019; Lee 2009). As such congressional "leaders will use the power delegated to them in order to help (or hurt) a president from their (the opposition) party" (Lebo and O'Geen 2011, 723) when the conditions of CPG are met. This delegation of power should be strongest when the president's party is in the congressional majority (i.e., government is unified) and when ideological polarization between the parties is large.

**Conditional Party Government Hypothesis:** Presidents use more feeling language (relative to factual language) when government is unified and parties are ideologically distant.

## Measuring Facts and Feelings in Presidential Speech

To test the theory of presidential coalition building and rhetorical strategy, I collect a corpus of spoken addresses and remarks given by presidents Reagan through Biden, from January 20, 1981 to June 11, 2022. To determine how presidents persuade, I leverage word embedding methods to develop a measure of the relative use of factual and feeling

language within each speech-paragraph in my corpus. In the sections that follow, I outline the methodological procedure in detail. Before doing so, I provide a brief overview.

To create my measure, I use a method called Distributed Dictionary Representations (DDR, [Garten et al. 2018](#)), which combines the advantages of dictionary-based methods and word embeddings, a natural language processing technique recently popularized in political science ([Rheault and Cochrane 2020](#)). I begin by operationalizing my core concepts (i.e., fact and feeling language) by generating two lists of keywords, one for each concept, from the General Inquirer Dictionary ([Stone et al. 1966](#)). Using a pre-trained GloVe model ([Pennington, Socher and Manning 2014](#)), as recommended by ([Rodriguez and Spirling 2022](#)), I place the dictionaries and each speech-paragraph in my corpus into a common vector space. Next, I measure the similarity between these two dictionaries and each paragraph to generate a single continuous measure of relative factual language use for each text unit in the corpus. This method improves upon standard dictionary approaches in that it (i) generates a continuous, bounded measure for each paragraph in the corpus regardless of length and (ii) does not require the presence of any individual word in either dictionary to produce a score. In addition, the method is unsupervised, scalable, and easy to apply to other political contexts.

## Collecting the Corpus

To build my corpus, I write a web scraper to download the text and associated metadata of all oral presidential statements hosted on the American Presidency Project (APP) website ([Woolley and Peters N.d.](#)). To identify only spoken content, I use the APP's category structure and download speeches categorized as either "Spoken Addresses and Remarks" and "Miscellaneous Remarks."<sup>4</sup> In total, this corpus includes 18,336 unique

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<sup>4</sup>The authors of the APP "restrict the term 'Address' to Presidential speech prepared in advance, delivered in a formal setting and not followed by any Q&A." Remarks are more common and include theoretically relevant content including statements given during bill and executive order signings, nominations, and when touring disaster sites. After my initial collection of this data, APP combined these two categories.

documents including State of the Union Addresses, statements at nominations, and exchanges with the press.<sup>5</sup> If a document includes multiple speakers, I attempt to automatically remove paragraphs not spoken by the president. As speeches combine factual and affective appeals, I subdivide each document into natural paragraphs. In terms of pre-processing, I convert all text to lowercase, remove stopwords and punctuation.<sup>6</sup> I drop all paragraphs with 10 remaining words or less (which tend to be non-substantive) as well as all speeches given before presidents officially take office and when their lame duck period begins. The result is a corpus of 391,362 speech-paragraphs.

## Constructing Dictionaries

To measure the rhetorical style of each paragraph in my corpus, I begin by generating two dictionaries, one for factual language and one for feeling language. Combining insights from the existing literature, the factual dictionary includes words associated with numeric and quantitative information ([Blumenau and Lauderdale 2022](#)) as well as words indicative of causal processes or knowledge ([Lim 2008](#)). The feeling dictionary uses words representative of the four core motivators of political action identified by [van Zomeren \(2016\)](#)—collective identity, emotion (particularly, anger), efficacy, and morality—which receive robust support across the political science literature (see also [Gulliver, Fielding and Louis 2021](#)). My keywords come from the General Inquirer Dictionary ([Stone et al. 1966](#)), a pre-defined and validated dictionary that includes category-specific word lists associated with my concepts of interest. In [Table 1](#), I present the category-specific lists used as well as representative keywords from each list.

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<sup>5</sup>This corpus holds a middle ground between studies of going public that focus only on major national addresses and those that include both spoken and written statements. Studying a single type of speech (e.g., only State of the Union Addresses) can present a misleading picture of the presidential agenda ([Eshbaugh-Soha and Peake 2011](#); [Russell and Eissler 2022](#)) whereas written content (e.g., budget memos), although public, is not intended for popular consumption ([Tulis 1987](#)).

<sup>6</sup>My dictionaries include some common stopwords that I do not remove, such as “we” and “us.” I discuss my stopwords in the supplemental appendix.

Table 1: General Inquirer categories and representative keywords in the fact and feeling dictionaries

Category	Words
<b>Fact Dictionary</b>	
Numb	billion, zero, quarter, first, final
Quant	add, average, cost, ration, size
Cause	cause, chance, deterministic, effect, why
Know	analysis, formula, knowledge, sum, proficient
<b>Feeling Dictionary</b>	
We	lets, our, ourselves, us, we
Hostile	war, fight, anger, threat, enemy
Goal	achievement, gain, goal, victory, win
Virtue, Vice	arrogant, scum, compassion, holy, valor

Note: All keywords come from the General Inquirer Dictionary ([Stone et al. 1966](#)).

## Applying Dictionaries to Paragraphs

In the abstract, I aim to determine the relative similarity between each paragraph in my corpus and the two dictionaries. To do so, I take advantage of word embeddings. In the broadest sense, the word embedding model I use learns about the semantic similarity between words in a corpus by measuring how often words appear near each other. The model output is an embedding matrix where each row is a word and each column is a (non-human interpretable) coefficient associating words along some arbitrary dimension. Researchers can measure the distance between these words (typically using cosine similarity) to learn semantic relationships. In my application, I use a 300-dimensional, pre-trained, GloVe embedding matrix ([Pennington, Socher and Manning 2014](#)) trained on text from Wikipedia and Newswire, as recommended by [Rodriguez and Spirling \(2022\)](#).<sup>7</sup> Each word in my dictionaries, as well as every word in every paragraph, is assigned its 300d vector representation.

The core insight of the DDR method ([Garten et al. 2018](#)) is that word vectors can

<sup>7</sup>Although researchers can train these models locally on their specific corpus, [Rodriguez and Spirling \(2022\)](#) find that this particular model outperforms locally trained models in human-validation tasks and is well-suited for political science applications.

be added together and averaged to create a broad conceptual representation that combines information from individual words. For example, words that are similar to House and Senate individually include “Congress,” “capitol,” “Republicans” and “lawmakers.” However, after adding these two words together, “lawmakers” appears as more similar. The model “knows” that it is more similar to their union than either individually. Adding and averaging all word vectors from the fact language dictionary yields a single, 300d centroid that captures the concept of factual language. We can do the same for the feeling dictionary and every paragraph in the corpus.<sup>8</sup> To create a unidimensional scale of relative factual language use, I normalize and subtract the 300d feeling vector from the normalized 300d fact vector to create an “axis” of factual language (see [Kozlowski, Taddy and Evans 2019](#)). I measure the cosine similarity between each speech-paragraph and this axis, where higher values (i.e., higher similarity) mean a paragraph uses more factual language and lower values (i.e., lower similarity) mean a paragraph uses more feeling language. As this measure has little substantive meaning on its own, I standardize the scale to facilitate empirical interpretation.

Word embeddings in general, and DDR in particular, offer advantages over alternative approaches. As compared to standard count-based dictionary methods, we can capture semantic similarity even when words in the dictionaries are not present in a paragraph. This method does well even when dictionaries are not fully inclusive of a concept, yielding high performance at just 30 words ([Garten et al. 2018](#)). Dictionary methods are also sensitive to the number of words in a string, which vary considerably within the corpus; DDR is able to compute a similarity score irrespective of word count.

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<sup>8</sup>To ensure each sub-category is equally weighted in its dictionary, technically, I sum words within each sub-category, normalize the result, and then add these four results together to create the final 300d centroid.

## Using the Measure

To demonstrate the face validity of my measure, I present two paragraph excerpts per president, one that scores among the ten most factual and one among the ten most affective, in Table 2. Comparing the top half (more factual) to the bottom half (more feeling), numeric data and quantitative comparisons clearly discriminate between these two types of speeches. However, the ways in which presidents use quantitative data in these examples are varied. President W. Bush explains how he plans to change tax rates. President Biden claims credit as he highlights growth in COVID vaccine uptake. Feeling speeches are more soaring and emotional. Presidents use this kind of language to mobilize Americans for war, as illustrated by President W. Bush. Presidents Reagan and H. Bush appeal to nationalism and patriotism in efforts to bring Americans together. By contrast, President Trump heightens partisan divisions with inflammatory language attacking the other party. Some topics, like the economy and war, seem to fit naturally with factual and feeling language, respectively. However, this rhetorical analysis is not simply another way of looking at topics; both styles capture a range of policy issue areas.

To visualize how presidents persuade over time, in Figure 1, I plot the average relative factual language score for each president-term in my sample. Each bar represents one presidential term, as denoted on the  $x$ -axis. The scale on the  $y$ -axis captures the standardized, relative measure of factual language use where higher (lower) values are associated with more factual (feeling) language. Overall, Democratic presidents (in blue) use more factual language on average. Biden uses the most factual language, however, I urge caution in interpreting this result given that the sample only includes his first year and a half in office. Republican presidents (in red) speak in less factual language on average, however, President Reagan rivals his Democratic counterparts. Presidents W. Bush and Trump use much more feeling language than other presidents, with W. Bush's first term being the most feeling-based in the corpus. This is likely a consequence of the September 11th terrorist attacks and the invasions of Iraq and Afghanistan. Although I had not an-



Table 2: Paragraph excerpts for each president that use more factual and more feeling language

Date	President	Snippet
<b>More Facts, Fewer Feelings</b>		
05/16/1984	Reagan	venture capital four times 1980 real fixed business investment increased 13 percent last year best increase 30 years
09/20/1991	H.W. Bush	consider case mexico since 1986 mexico joined gatt dropped tariff rates 100 percent 100 percent little more 10 percent us exports mexico more doubled
05/10/2000	Clinton	four years ago 12 percent kids reading or above grade level today 57 percent four years ago 5 percent math or above grade level today 70 percent
05/26/2001	W. Bush	will work existing law americans grouped five income tax brackets 15 percent 28 percent 31 percent 36 percent nearly 40 percent
06/25/2013	Obama	12 warmest years recorded history all come last 15 years last year temperatures some areas ocean reached record highs
02/13/2019	Trump	police departments today provided us new homicide data showing steep declines over last 2 years including estimated reduction 16 percent
06/18/2021	Biden	sixty five percent 65 percent american adults gotten least one shot including 87 percent our seniors 5 months ago we only 5 percent adult americans
<b>More Feelings, Fewer Facts</b>		
10/07/1985	Reagan	leave without reminding america must remain freedoms staunchest friend freedom our staunchest ally americas responsibility
05/29/1991	H.W. Bush	beltway cynics may call renewal patriotism old fashioned americans rarely mistake cynicism sophistication patriotism binds
09/27/1998	Clinton	want tell want hear clearly adversity our problem election adversity energized our supporters adversity clarified choices
12/12/2005	W. Bush	today middle east freedom contending totalitarian ideology seeks sow anger hatred despair like fascism communism hateful ideologies
09/27/2015	Obama	makes us human america best our ability connect our ability see ourselves somebody else ally marginalized dispossessed discriminated
02/29/2020	Trump	democrat partys immigration policies empower bloodthirsty cartels maim murder torture smuggle traffic innocent human beings
10/15/2021	Biden	whenever we hear kind poisonous hatred wherever we see our fellow humans dehumanized mean we go war we must speak silence as dad remind silence complicity

Note: Paragraph excerpts are chosen from among the ten highest and lowest scoring on the factual axis for each president.

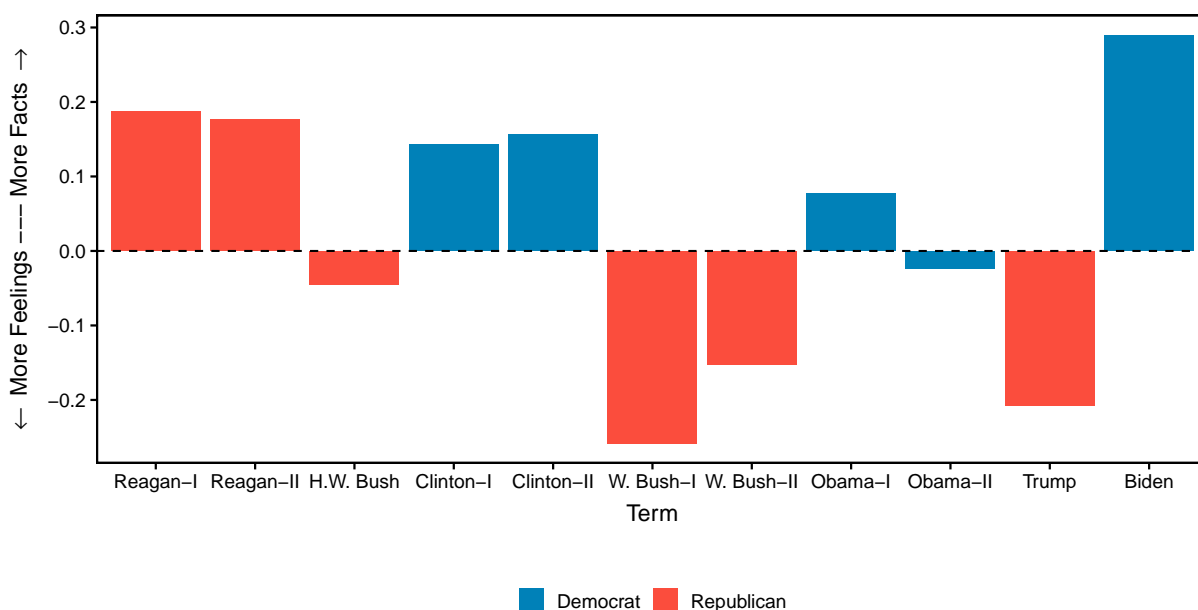


Figure 1: Presidential use of fact and feeling language across terms. Higher (lower) values are associated with greater fact (feeling) rhetoric. Democrats use more factual language, on average, than Republicans.

anticipated the seemingly systematic differences between Republican and Democratic presidents, I speculate that they could be driven by the asymmetric coalitions that comprise the parties ([Grossmann and Hopkins 2016](#)). Given Democrats big-tent coalition, appeals to emotion and identity may not be as strategically successful as they are among more homogeneous and ideological Republicans.

The term-level visualization helps us understand which presidents ground their rhetoric in more or less factual language in the aggregate. To visualize how presidents persuade at a more granular level, in [Figure 2](#), I plot the standardized, relative use of fact-based language over time. On the  $x$ -axis, I plot time in terms of months from January 1981 to June 2022. On the  $y$ -axis, I plot the relative fact score where a one-unit increase (decrease) represents a one-standard deviation increase in the use of fact-based (feeling-based) language. The points represent the monthly average score, and the loess lines are fit on the

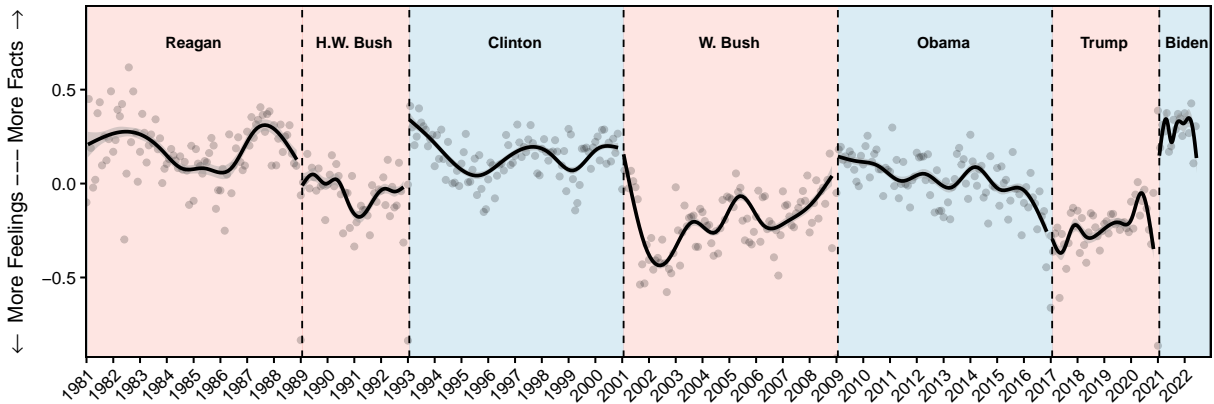


Figure 2: Presidential use of fact and feeling language over time. Higher (lower) values are associated with greater fact (feeling) rhetoric.

full data, where each observation is the paragraph-level standardized fact score. Here, it is clear that presidents vary substantially in their use of factual and feeling language within their terms as they adjust to the changing political landscape and coalition dynamics. For example, Presidents H. Bush and W. Bush respond to the First Gulf War and the 9/11 terror attacks by leaning into mobilizing speech. President Trump’s rhetoric is more feeling-based than most on average, yet he pivots to a much more factual speaking style at the onset of the COVID-19 pandemic.

## Empirical Strategy

To test my hypotheses that unified government, presidential approval, and conditional party government are associated with relative increases in feeling language, I create three independent variables. To assess the unified government hypothesis, I create a binary indicator that takes on a value of 1 when government is fully unified (i.e., the House and Senate majority are both held by the president’s party) and 0 otherwise. To test the Approval Hypothesis, I use data from Gallup. I assign each day the most recent Gallup survey result and divide by 10 (or, approximately one standard deviation). To test the

CPG Hypothesis, I measure polarization as the standardized average of the differences between the House-party medians and Senate-party medians using DW NOMINATE scores. In the empirical model, I interact this variable with unified government. I also include several controls variables. I account for the timing of elections by creating a binary variable that takes on a value of 1 for all speeches given from labor day to election day in midterm and presidential election years. I also account for a president's first 100 days in office with a variable that takes on a value of 1 from January 1 to April 29 in the president's first year in office. I control for the number of words in each paragraph (excluding the removed stopwords). I include fixed effects for presidents, allowing me to isolate within-president changes. I also include fixed effects for months and speech types (i.e., whether a speech is an address, remark, exchange, or none of the above per their name). My unit of analysis is each individual paragraph, and I cluster my standard errors at the document level to account for dependency of paragraphs within speeches.

To test my hypotheses, I regress the standardized fact-vs-feeling measure on my independent and control variables using ordinary least squares.<sup>9</sup> Given the specification of the dependent variable, the coefficients should be *negative* if they are consistent with the theoretical expectations.

## Results: How Presidents Persuade

In Table 3, column 1, I present results for the baseline model. The dependent variable is the paragraph-level measure of relative factual language use. As such, negative coefficients on the independent variables would indicate support for my hypotheses. In row one, the effect of unified government is negative and statistically significant. When the president's party controls both houses of Congress, a presidential paragraph becomes approximately 3.2 percent of a standard deviation more feeling-based. In row 2, the effect

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<sup>9</sup>In the supplemental appendix, I discuss results using a binary classification of factual and affective speech.

Table 3: Presidents use relatively more feeling language when government is unified, when approval is high, and under conditions of CPG.

	(1)	(2)	(3)
Unified Government	-0.032** (0.012)	-0.185*** (0.050)	-0.024+ (0.013)
Presidential Approval (10s)	-0.033*** (0.003)	-0.041** (0.014)	-0.032*** (0.004)
Congressional Polarization	-0.141*** (0.020)	-0.321*** (0.075)	-0.124*** (0.022)
Unified × Polarization			-0.024+ (0.012)
Election Season	-0.031* (0.012)	-0.012 (0.063)	-0.030* (0.012)
First 100 Days	0.041* (0.019)	0.046 (0.083)	0.041* (0.019)
Word Count	0.008*** (0.000)	0.007*** (0.000)	0.008*** (0.000)
President FE:	7	7	7
Speech Type FE:	4	—	4
Month FE:	12	12	12
Num.Obs.	391,216	27,229	391,216
R2 Adj.	0.061	0.041	0.061
R2 Within Adj.	0.030	0.020	0.030

+ p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

Note: Coefficients are from ordinary least squares models. The dependent variable is a standardized measure of fact-language use relative to feeling-language use. In models 1 and 3, all speeches are included; in column 2, only speeches categorized as higher profile “addresses” are included. Models include fixed effects for presidents, months, and speech types. Standard errors are clustered at the document-level.

of a 10 point increase in presidential approval is associated with a statistically significant shift toward feeling language of 3.3 percent of a standard deviation. Both of these results indicate that changes in presidential strength also affect the language presidents use when they go public.

In column 2, I replicate these results after subsetting only to speeches named as “addresses” by the APP. These are the highest profile speeches, such as the State of the Union Address and national televised addresses. If presidents are strategically choosing their linguistic strategy, the results should be strongest among this smaller subset of 1,920

speeches. And indeed, that is what we see. Under unified government, presidents' language in addresses becomes 18.5 percent of a standard deviation more feeling-based. A 10-point increase in presidential approval yields 4.1 percent of a standard deviation increase in feeling speech.

In column 3, I return to my analysis of all speeches to test the CPG hypothesis. Here, I interact unified government with the standardized measure of congressional polarization. When congressional polarization is at its mean, presidents use more feeling language under unified versus divided government, however, this result is only significant at  $p < 0.1$ . However, as polarization increases, presidential speech becomes more feeling-based under divided, and perhaps, even more so under unified government. To facilitate interpretation of the interaction and test for non-linearity, in Figure 3, I plot the marginal effect of unified government across the range of congressional polarization using a standard linear estimator as well as a more flexible binning estimator as recommended by [Hainmueller, Mummolo and Xu \(2019\)](#). The linear marginal effect is negative, and consistent with the CPG hypothesis: presidents use more feeling language as polarization increases under unified government relative to divided government. However, the more flexible binning estimator suggests that the relationship is quadratic. When polarization between the parties is low or high, presidents use more affective language. When polarization is middling, presidents use more factual language.

Although this result was unexpected, one potential explanation is that, under unified government, when parties are not polarized, the president can count on his co-partisans to bring his bills to the floor, and he can rely on support from the out-party to help enact his policies. However, when polarization is middling, the president is in a bind. He cannot rely on out-party support, but at the same time, many of his co-partisans may be ideologically distant, leading to a need for a persuasive speaking strategy. Finally, as hypothesized, when polarization is high and government is unified, presidents use a more affective speaking style. Co-partisans have similar ideological preferences to the

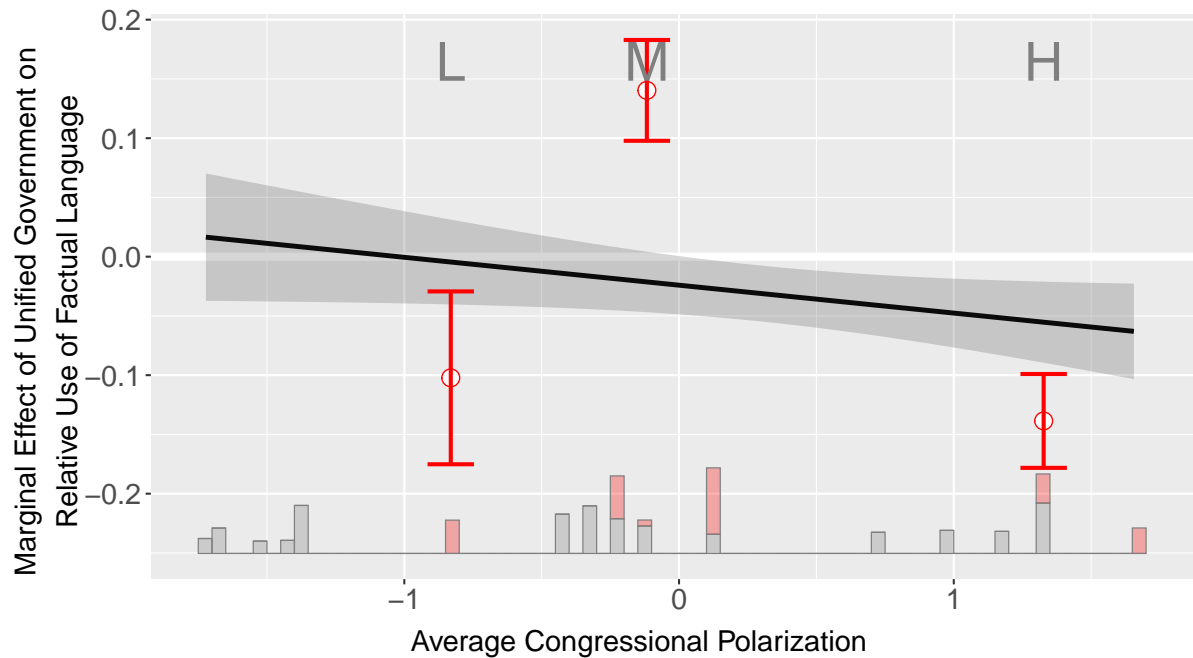


Figure 3: The marginal effect of unified government on the relative use of factual language in presidential speeches as congressional polarization increases. Higher (lower) values indicate more factual (affective) language. Consistent with the CPG hypothesis, presidents shift away from facts and toward feeling language under unified government when polarization is high. However, the relationship is non-linear.

president and strategic incentives to support him and his agenda.

### A Causal Test: Scott Brown’s “Historic Upset”

My argument about presidential persuasion is grounded in a theory of coalition management. Strong presidents with large coalitions mobilize their supporters with appeals to feelings. Weak presidents with smaller coalitions try to attract new converts by using the language of facts. One difficulty in testing this theory, and many theories of presidential behavior, is that causal inference is difficult when  $n = 1$ . Unlike the 535 members of Congress with varying electoral and institutional considerations, there is only one president with one, national constituency. Presidential coalitions change slowly, over time, and often, in ways presidents can see coming. Rarely, do presidents suddenly, and unexpect-

edly, lose or gain strength, which could provide some causal leverage on the relationship between coalition strength and rhetorical strategies.

Although the previous section provides correlational evidence that presidents vary their rhetorical style consistent with my theory, there are challenges to inference such as omitted variable bias and reverse causality. In the following section, I present a quantitative case study centered on a rare, unexpected power shift in Washington, D.C. In January of 2010, Republican Scott Brown won a surprising special election, ending Democrats' filibuster-proof Senate super-majority. In this section, I describe the historical context with a focus on the Affordable Care Act. Then, using a regression discontinuity in time (RDiT), I present evidence that President Obama reacted to this surprising coalitional shift with a turn toward factual language when discussing healthcare. This result is consistent with my theory and bolsters the correlational findings presented in the previous section.

## **The Context**

In 2008, Barack Obama won the presidential election. Democrats retained control of both chambers of Congress, increasing their margins with 257 seats in the House and 58 effective seats in the Senate (56 Democrats and 2 Independents caucusing with Democrats). However the race for Minnesota's seat between Al Franken (D) and Norm Coleman (R) hung in the balance. Although the state election board had declared Franken the winner by 225 votes, Coleman's campaign challenged the result leading to a lengthy court battle. As the case played out, Arlen Specter, a Republican from Pennsylvania switched his party affiliation and began caucusing with Democrats in April of 2009, giving the party 59 seats. On June 30, Coleman (R) lost his court challenge on appeal and Franken (D) took office on July 7, 2009. This outcome led to a rare, 60-seat, filibuster-proof Senate majority, giving the president and his party immense procedural power.<sup>10</sup> However, this super-majority was in name only, as Senator Ted Kennedy (D-MA) was never

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<sup>10</sup>In the U.S. Senate, 60 votes are required to end debate and force a vote on a measure, allowing the minority party to block votes on legislation supported by a simple majority of the chamber.



present in the 111th Congress due to illness. He passed away on August 25, 2009. On September 24, Paul Kirk (D), his temporary appointed replacement, was seated pending a special election on January 19, 2010. With this 60-seat majority, President Obama and Democrats were able to end debate on, and pass, the Affordable Care Act in the Senate on a party-line vote on December 24, 2009.

As the House had already passed its own version of the healthcare legislation, the two chambers would need to reconcile the two bills before sending the legislation to the president for his signature. Ultimately, Democrats did not plan to do so through a conference committee, but rather, by drafting a compromise proposal behind closed doors that could pass both chambers (Cannan 2013). However, this plan would not come to pass. On January 19, 2010, Republican Scott Brown won a surprise victory in the Massachusetts special election, defeating Democrat Martha Coakley. Although polling had tightened in the week before the race, Democrats had held that seat since 1952, and news outlets described the outcome as a “historic upset” (POLITICO, Burns 2010), “a dramatic upset” (ABC, Dwyer 2010) and a loss that “stuns Democrats” (New York Times, Cooper 2010). Undeterred, President Obama pushed forward on comprehensive reform with the hope of attracting some Republican support. When this approach failed, the House passed the Senate version of the bill and small changes were worked out through the reconciliation process, allowing for a simple majority vote.

## **Testing the Causal Story**

My theory of presidential coalition-building would suggest that President Obama, at the apex of power in late-2009, would appeal to feelings as he sought to mobilize Democrats to pass the healthcare bill. However, following the election loss and change in power, the theory would predict that President Obama would shift toward factual appeals as he sought Republican support for his healthcare proposal. I focus specifically on healthcare given its centrality to the election and the filibuster-proof majority’s centrality

to passing the law.

Given the surprising nature of the Republican victory, I model this event as an RDiT. In Figure 4, I plot days from the day after the election on the  $x$ -axis, ranging from  $-31$  (December 20, 2009) to  $+31$  (February 20, 2010). The cut-point is the day after the election, January 20, 2010. On the  $y$ -axis, I plot the relative factual language use for each speech-paragraph about healthcare in light points,<sup>11</sup> a total of 215 paragraphs across 31 documents.<sup>12</sup> The smoothed loess lines trace the president's local average relative factual language score before the election (in green) and after the election (in orange). This plot suggests that, following the Republican victory, President Obama uses more factual language when discussing healthcare than he did prior to the election, consistent with my expectations.

To more rigorously test this hypothesis, I estimate two different regression discontinuity models where observations up to, and including, election day are coded as pre-treatment, and the running variable takes on a value of 0 beginning January 20, 2010.<sup>13</sup> First, I estimate a linear model interacting the treatment (i.e., the election loss) and the number of days from the day after the election. I also control for presidential approval, speech type, and word count. Second, I estimate a local linear regression using the `rdd` package in R with the same variables. I estimate both models for all bandwidths between  $\pm 31$  days from the election and  $\pm 4$  days from the election.<sup>14</sup> I cluster standard errors at the speech-level.

I present results from these models in Figure 5. In the left panel, I present the point estimates and 95% confidence intervals for the local average treatment effect (LATE) of

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<sup>11</sup>I exclude a speech the president gives at a rally for Democrat Martha Coakley, which could bias the results.

<sup>12</sup>To determine which paragraphs are about healthcare, I conduct a keyword search of all paragraphs in the window that use the stem "health\*" or words "health care," "healthcare," "health insurance," "insurance," "uninsured," "premium," and "coverage." If a speech-paragraph includes at least one of the keywords, I manually confirm that it plausibly related to healthcare (e.g., *not* "healthy economy" or "unemployment insurance"), and code it as 1. Paragraphs that do not include a keyword are coded as 0.

<sup>13</sup>Given that election results were not known until the evening of January 19, 2011, President Obama has not yet been treated with the election loss on election day.

<sup>14</sup>Smaller bandwidths do not provide sufficient data to run the models.

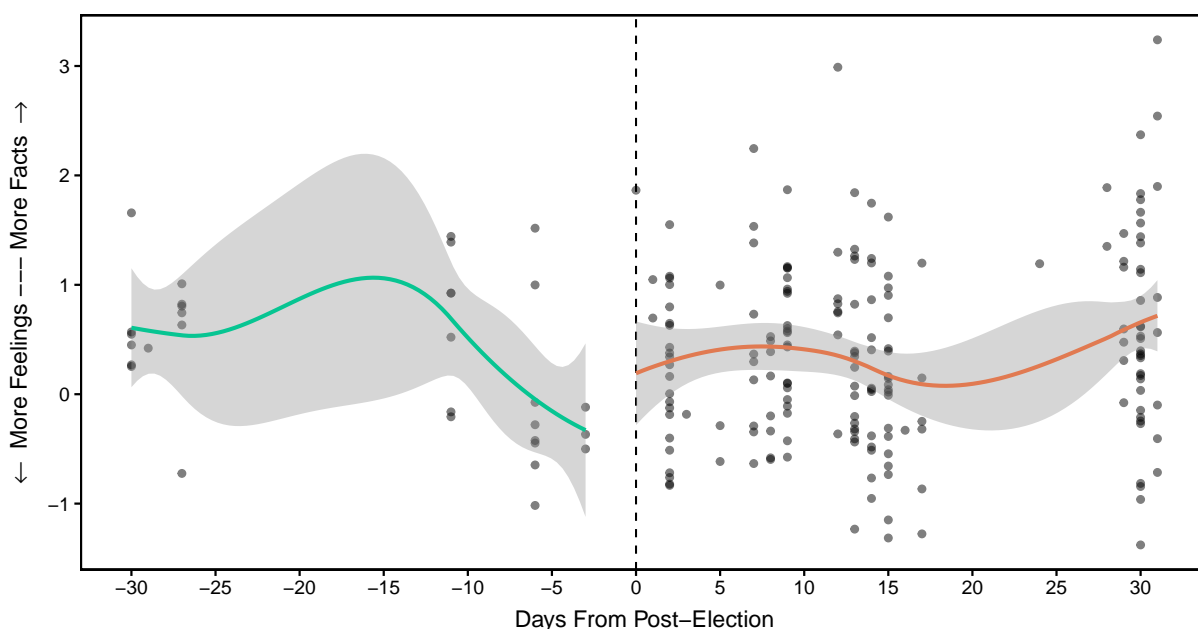


Figure 4: Scott Brown’s (R) victory in the Massachusetts special Senate election and President Obama’s loss of the Democratic filibuster-proof majority leads to a shift toward factual language in healthcare paragraphs. Light circles represent paragraphs that include healthcare keywords.

losing the election on President Obama’s relative use of factual language across all bandwidths. In all specifications, the point estimate is positive, almost a full standard deviation increase on average, consistent with my theoretical expectations that the president would increase his use of factual language following the loss of the filibuster-proof Senate majority. These estimates are statistically significant for nearly all bandwidths, with few differences between the two model specifications. Ultimately, this analysis provides some evidence in support of the causal theory: presidents with coalitional strength appeal to feelings; presidents with weak coalitional support persuade with facts.

I conduct a series of tests to probe the robustness of these results. First, I conduct a dount regression (see [Hausman and Rapson 2018](#)) in which I exclude speeches given within three days of the election on either side of the cut-point. Although estimates are less stable across bandwidths, they are generally consistent with those presented here

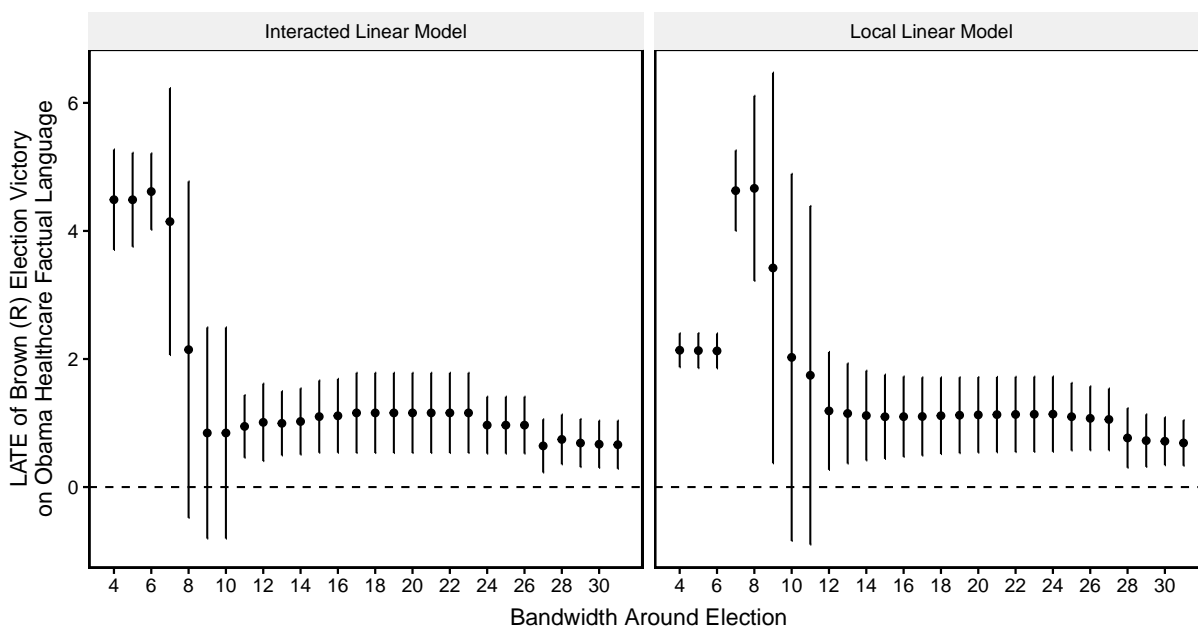


Figure 5: President Obama shifts toward fact-based language when he loses his filibuster-proof supermajority. The left-side panel presents RDIT results using an interactive linear model. The right-side panel presents RDIT results using a local linear model. Both models suggest that this sharp loss of congressional support causes Obama to speak about healthcare using more factual language in an effort to persuade out-partisans.

(see Appendix Figure A1). I also run the same models using all paragraphs in the window, rather than just healthcare paragraphs (see Figure A2 in the appendix). Although the coefficients are generally positive, they are not statistically significant. In contrast to expectations, at very small bandwidths using the local linear models, coefficients are negative and statistically significant. These robustness checks provide some additional strength to the results, but also outline potential scope conditions. Either way, I urge caution in over-interpreting them. Empirically, the timing of the election, right after the winter holidays and New Years, mean that the president was not speaking as often before the election as after, and there are limited observations near the cut-point.

To further probe this causal relationship, I run two additional RDIT analyses in the supplemental appendix centered around the Democrats' 2010 midterm "shellacking" and

Jim Jeffords 2001 party switch, which changed majority control of the Senate. In Figure A3, I present RDiT results showing that President Obama shifts toward factual language when Democrats lose their 2010 House majority. In Figure A4, I present evidence that when Democrats take control of the Senate following Jefford’s party switch, President Bush also shifts toward factual language. Of course, there is only one president at any time, making causal inference challenging. Nonetheless, these analyses are generally consistent with my argument and provide some additional support to the underlying theory: presidential rhetoric is responsive to changing coalition dynamics.

## Conclusion

When do presidents persuade with facts and when do they mobilize with feelings? In this paper, I argue that presidents consider their coalitional goals—base expansion or base mobilization ([Galvin 2020](#))—which condition the rhetorical strategy they employ when going public. Presidents will use the language of facts to change minds and appeal to emotion in an effort to raise the salience of issues and mobilize their existing supporters. I hypothesize that conditions empowering presidents (i.e., unified government, high approval, conditional party government) prompt presidents to focus on their core base rather than reaching out to potential supporters. As such, their rhetoric evokes feeling more than fact during these periods. Using word embedding methods ([Garten et al. 2018](#)), I develop a measure of fact versus feeling language in text, allowing me to scale each speech-paragraph in my corpus. I find evidence consistent with these hypotheses and provide some evidence to support the causal story with a regression discontinuity framework. I find that Scott Brown’s (R) surprising election victory, which ended Democrats’ filibuster-proof Senate majority, affected President Obama’s rhetorical approach on healthcare. His healthcare speeches become more fact-based in an effort to appeal to Republicans who might help him shepherd the Affordable Care Act into law.

This research contributes to our understanding of presidential leadership and going public (Bond and Fleisher 1990; Canes-Wrone 2006; Kernell 1997; Lim 2008; Neustadt 1991) with new theory and measurement. Presidency scholars debate the degree to which presidential speeches can change opinion or raise the salience of issues, however, each is posited as the only goal of going public. By situating these two goals within a strategic framework tied to coalition strength, I revive our belief in presidents' abilities to persuade and outline conditions under which they try. By understanding how presidents persuade, we can better theorize about who presidents target and how they achieve their goals. This study also contributes to the literature on presidential coalition-building (Arnold 1990; Galvin 2009, 2020; Kriner and Reeves 2015; Seligman and Covington 1989) and rhetorical style (Campbell and Jamieson 1990; Gooch 2018). Methodologically, this paper answers the call to apply new text methods to presidential corpora (Kaufman 2020) by creating a scalable, unsupervised measure of fact and feeling language. Finally, this research joins a lively debate in normative and positive political science about the nature and efficacy of political persuasion (Blumenau and Lauderdale 2022; Broockman and Kalla 2022; Druckman 2022; Hawley 2021; Goodman and Bagg 2022; Suhay, Grofman and Trechsel 2020).

Where do we go from here? This paper provides a broad overview of how presidents approach persuasion, but there is much more to investigate. In conducting this research, I was surprised to find that Democratic presidents appealed to facts more than their Republican counterparts. One potential explanation lies in idiosyncrasies. Both Bush presidents presided over foreign wars, a topic that lends itself to more emotional and mobilizing appeals, while President Trump was possibly distinct in his more affective rhetorical style. Alternatively, these differences could be more systematic and grounded in the nature of the two parties asymmetric coalitions (Grossmann and Hopkins 2016). Although this research suggests that rhetorical style varies across each topic, it is clear that some issues and language use are correlated. Future research could consider the classic distinction between foreign and domestic affairs, and how these two broad issue areas condition

rhetorical styles and strategies. Finally, scholars should consider the behavioral implications of this theory. Do factual speeches convert non-supporters while feeling speeches mobilize the base? Experimental approaches could provide important insight.

Presidents are some of the most important political actors in the world. Foreign leaders, domestic politicians, journalists, scholars, and the American public pay attention to what presidents say. Their speeches are constantly covered, but their power is potentially misunderstood. I argue that the impact of going public cannot be accurately assessed without first focusing on the language presidents use and how they seek to persuade the public. We should not be so quick to dismiss the efficacy of presidential appeals.

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# Appendix

## Stopwords

In my text pre-processing, I first remove a few common phrases that add nothing substantive to the interpretation of paragraphs and lead the model to overestimate affective speech. These include: 'thank you', 'bless you', 'god bless', 'god bless america', 'god bless the united states', 'thank' (but not the stem 'thank'). Then, I remove all unigram stopwords from the `tm` package in R (excluding words in my custom dictionaries), all letters, and the words 'please', 'mr', 'ms', 'mrs', and 'just'.

## Logit

In Table [A1](#), I re-estimate the same models as in the main text with a binary independent variable that takes on a value of 1 when the standardized fact-affect score is 0 or greater, and 0 otherwise. All models are otherwise identical and are estimated using logit. In column 1, the coefficient on unified government is no longer statistically significant, however it is directionally consistent. In column 2, the results are substantively similar to those in the main text. In column 3, the interaction between unified government and polarization is now statistically significant. Broadly, these results replicate those of the main text.

Table A1: Replication of regression models with binary indicator for factual or affective speech are generally consistent.

	(1)	(2)	(3)
Unified Government	−0.033 (0.022)	−0.286*** (0.083)	−0.012 (0.024)
Presidential Approval (10s)	−0.050*** (0.006)	−0.049* (0.024)	−0.047*** (0.007)
Congressional Polarization	−0.254*** (0.037)	−0.492*** (0.128)	−0.205*** (0.041)
Unified × Polarization			−0.067** (0.023)
Election Season	−0.084*** (0.023)	−0.086 (0.104)	−0.081*** (0.023)
First 100 Days	0.063+ (0.034)	0.083 (0.127)	0.064+ (0.034)
Word Count	0.015*** (0.000)	0.013*** (0.001)	0.015*** (0.000)
President FE:	7	7	7
Speech Type FE:	4	—	4
Month FE:	12	12	12
Num.Obs.	391,216	27,229	391,216
R2 Adj.	0.030	0.019	0.030
R2 Within Adj.	0.015	0.011	0.015

+ p < 0.1, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

## Alternative RDiT Models

In Figure A1 I estimate the same RDiT models as in the main text excluding all speeches given within three days of the cutoff (see Hausman and Rapson 2018). Results are less stable but are generally consistent with those in the main text.

In Figure A2, I estimate the same RDiT models as in the main text using all speeches President Obama gives around the 2010 special election (instead of those only focused on healthcare). In the local linear model, when the bandwidth is very small, the results indicate that the president’s rhetoric becomes more affective following the loss—inconsistent with my theory. However, for larger bandwidths, the coefficients become positive, but not statistically significant.



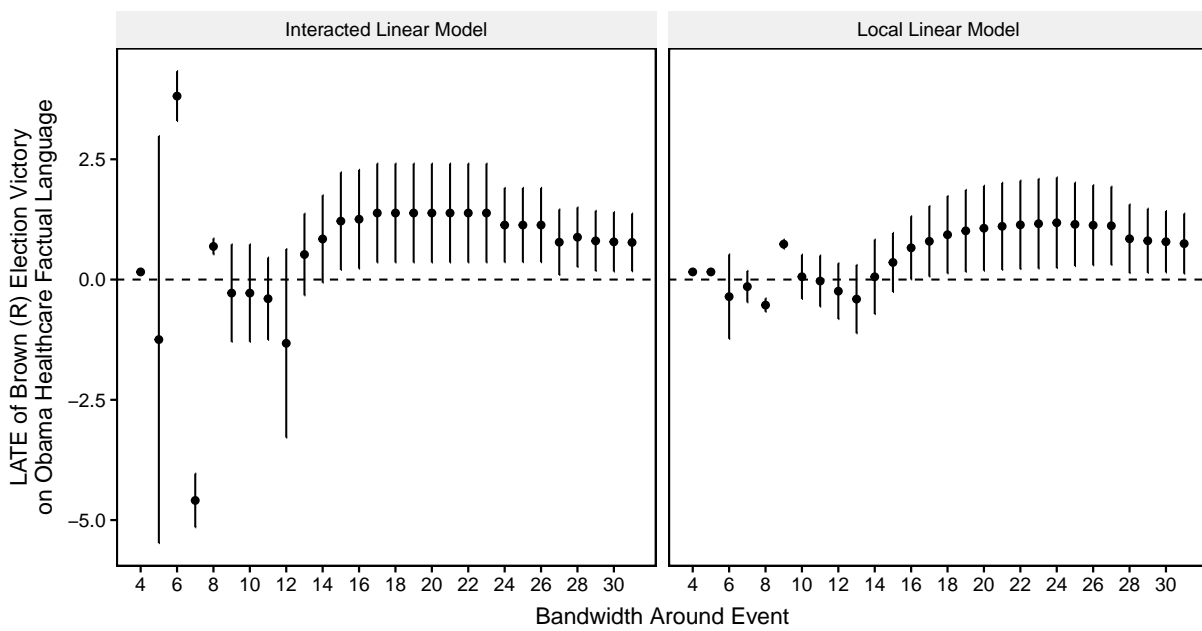


Figure A1: Donut RDiT of Obama factual language before and after the January 10 special election excluding all speeches given within 3 days of the cut-point. Results are less stable but are generally consistent with those in the main text.

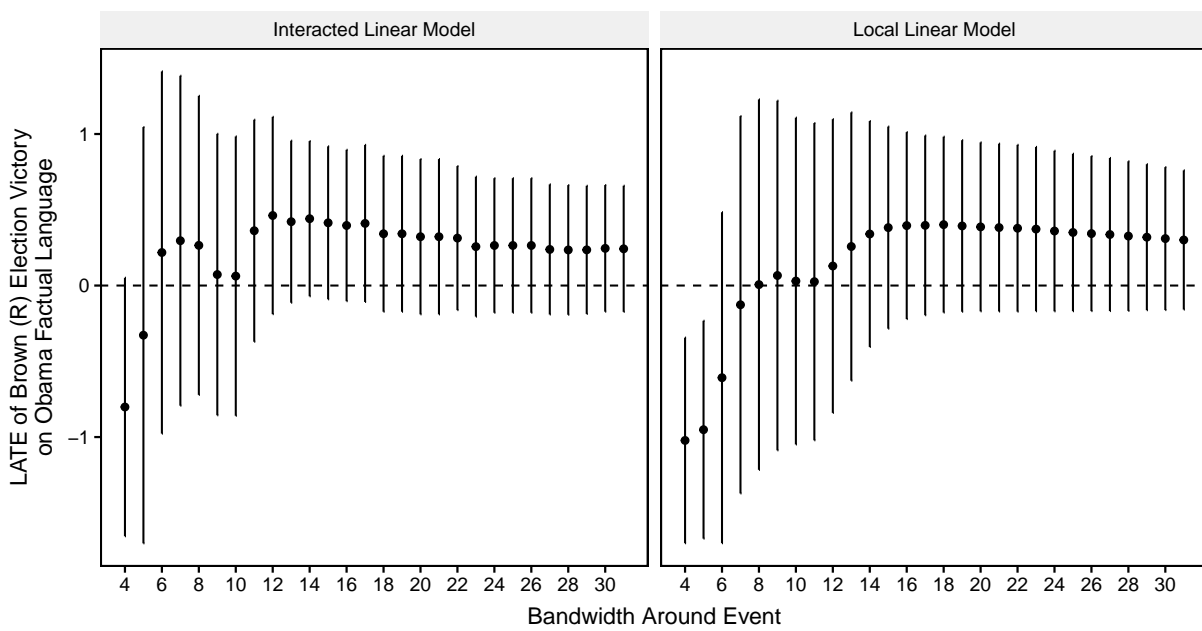


Figure A2: RDiT of Obama factual language before and after the January 10 special election using all speeches (not just healthcare speeches). Conclusions vary based on bandwidth.

In Figure A3, I estimate the same RDIT models as in the main text with a focus on the 2010 Republican midterm “shellacking.” Consistent with my hypothesis about presidential strength and language use, President Obama’s speeches become more factual after Democrats lose their House majority. The cut-point is November 3, 2010, the day after the midterms. All speech-paragraphs given between October 3, 2010 and December 3, 2010 are included.

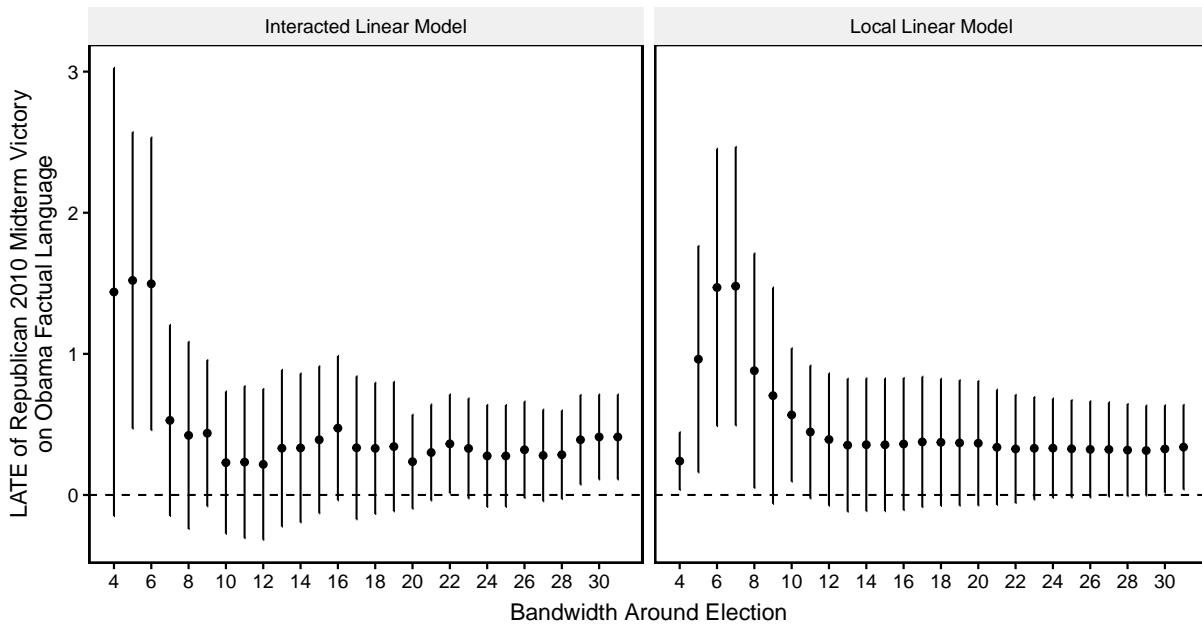


Figure A3: RDIT of Obama factual language before and after the 2010 midterms. President Obama shifts toward factual language when Democrats lose their House majority in the 2010 midterms, consistent with my theory.

In Figure A4, I estimate the same RDiT as in the main text with a focus on Senator Jeffords switch out of the Republican party, which gave Democrats control of the Senate. Jeffords announces his switch on May 24, 2001, and Democrats take control of the Senate on June 6, 2001. The latter is the cut point as it is the date on which Republicans officially lose power.<sup>15</sup> All speech-paragraphs given between May 6, 2001 and July 6, 2001 are included. Coefficients are generally positive, and for bandwidths near the cut-point in the local linear model, they are statistically significant. These results support the hypothesis that President Bush shifted toward factual language after losing the Senate majority, consistent with the theory.

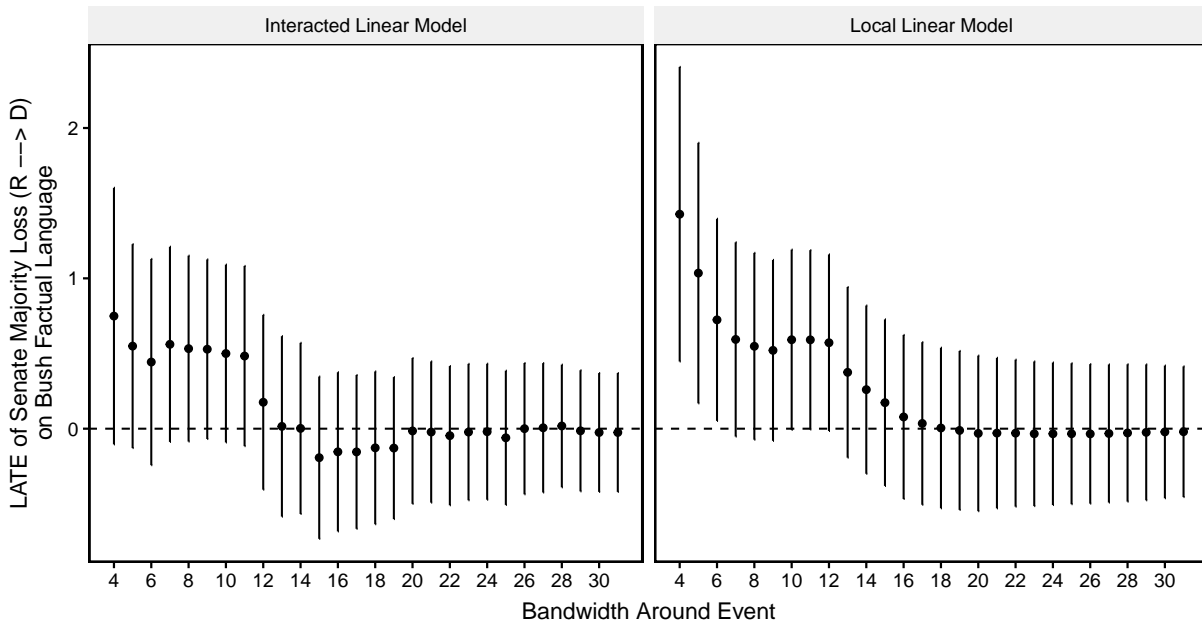


Figure A4: RDiT of Bush factual language before and after Jeffords switches parties and Republicans lose Senate majority control. President Bush shifts toward fact-based language when Republicans lose their Senate majority following Jim Jefford’s party switch from Republican to Independent.

<sup>15</sup>Coefficients using May 24 as the cut-point are positive but not statistically significant.