



How do they get our vote?: Analyzing the polarization of Presidential nomination acceptance speeches, 1952-2020

Alban S.E

Submitted: May 14, 2023, Revised: version 1, May 27, 2023
 Accepted: June 1, 2023

Abstract

The 2020 U.S. presidential election was an intense and dramatic affair that captivated millions of United States citizens. Widely considered to be the most polarized presidential election in modern history, it brought many issues to the forefront of the American consciousness. The two candidates' ideologies are well represented in their Nomination Acceptance Speeches (NAS). These speeches, in particular, are a reflection of the ideals they would espouse throughout their campaign. However, this area has not been addressed by previous research. In order to discern how presidential candidates use polarizing language to sway public opinion, this study attempts to analyze changes over time in the use of polarizing language through both tonal and partisan lenses. Using quantitative comparative content analysis, the change in the language of the NAS was observed over time. The study found that, contrary to expert opinion, there is insufficient evidence to conclude that either type of polarization has consistently increased over time. Although there are periods where polarization increases or decreases for each party, there is no significant trend over the time period studied. Despite not being conclusive with respect to macro trends, the findings of this study provide insight into the changes in NAS polarization over time. The study also highlights developments in the way speeches by presidential candidates change based on the events surrounding their campaigns. In the future, research is recommended with larger sample sizes studying different types of speeches to continue advancing the political awareness of voting citizens.

Keywords

Political polarization, Affective polarization, Nomination acceptance speech, Partisanship, Party politics, Presidential campaigns, Tonal polarization, Partisan polarization, American Presidency Project

Shadmon E Alban, Singapore American school, 40 Woodlands Street 41, Singapore 738547,
shadalban@gmail.com

Introduction

U.S. politics have become increasingly polarized dating back to the civil war, culminating in modern-day issues with the American public spreading farther and farther apart on the political divide (1, 2). Many ordinary Americans have lost trust in those they disagree with politically and the two parties themselves have become increasingly unlikely to agree on topics and unwilling to compromise (1-3). This trend can be attributed to a number of factors, including rising political divides among politicians and increased animosity across party lines (3, 4). While extensive research has been done on the increase in the polarization of American politics, as politicians continue to concoct new strategies in order to look appealing in the eyes of voters, new ways of looking at the polarization of specific politicians are necessary.

When analyzing polarization in politics, it is commonplace to look towards the Senate as a measure of the change over time (4, 5). Studies conducted in this manner have measured both the consequences of polarization for the senate members themselves and the phrases which indicate the most polarization (4, 5). In Jensen's study, the digitized congressional record was analyzed in order to understand which phrases were most partisan in Congress, and then those phrases were used to determine, among other things, that "ideological polarization outside of Congress does indeed get reflected in congressional behavior" (4). These studies are very useful, but are not focused on how polarization affects the actual voting citizens of the nation. Studies of polarization that focus on presidential speeches, however, are much more likely to reflect the polarization of the American

people and media. There has been a shift in the media to focus on paid advertisements and the "horse race" of presidential elections (6). In other words, what the public sees and hears in the media is much more focused on the presidential election than it is on the House or the Senate floor, and "during campaigns, candidates experience intense and prolonged contact with the voters" (6, 7).

The United States presidential election is conducted in two phases, the Primary, where each party selects a candidate for President, and the General Election, when all eligible voters vote for their chosen candidate. A large part of both the Primary and the General Election is campaigning, where the candidates travel the country and give speeches at rallies in an attempt to sway public opinion in their favor (8). One of the most notable speeches due to its position in the timeline of the election is the presidential Nomination Acceptance Speech (NAS). Given by the chosen candidate once they have been selected by their party at their respective national conventions, either the Democratic National Convention or the Republican National Convention, the presidential nomination acceptance speech marks a turning point in the election process where candidates change their focus onto the entire population of the United States (8). The NAS is also the stage where the selected candidate can "define the latest manifestation of the party's ideology", "rally the party faithful", and "gain the support of independent voters" (9). It is a carefully planned speech in which due to its "political and historical importance", no phrase can be out of place (7).

In terms of presidential speech analysis research, there is a significant amount of evidence that

suggests polarization. While notable for its increase in the past decade, this is not a new development in political research. Many studies into polarization have been conducted on presidential speeches for over 35 years, including a 1984 study on the variation of liberal-conservative positions (2). In addition, polarization has been studied in three distinct ways, affective polarization, the “phenomenon of animosity between the parties” (3), tonal polarization, a derivative of affective polarization which measures “negativity, fearful content, and anger content” (10), and partisanship, which evaluates “trends in party differences in political speech” (11).

While each of these approaches to analyzing polarization has its benefits, their intersection has largely been ignored, and there is a lack of understanding on both the importance and the effects these types of polarization can have on American politics. Thus, it is necessary to investigate recent presidential speeches in an attempt to understand the layers behind the widening gap in American politics. To investigate this, the following research asks *“through multiple quantitative content analyses, to what extent have US Presidential Candidates’ nomination acceptance speeches become more partisan and tonally polarized from 1952 onwards?”*

Most literature on the analysis of the polarization of political speeches focuses either on increasing levels of polarization between political parties or polarization among senate speeches. Studies of group differences in high-dimensional choices agree that analyzing many speech data points in this way reflects the attitudes expected of

increased partisanship, defined by Matthew Gentzkow as “the ease with which an observer could infer a congressperson’s party from a single utterance” (11, 12). An example of this is the Norwegian parliament, where partisanship was determined to have increased during the time period of 1981-2020 (11, 12). In other cases, an analysis of presidential rhetoric has been performed to determine that presidents use rhetoric “in an effort to cultivate support from voters disaffected by partisan conflict” (13). This literature confirms both that polarization is occurring in political speeches and that presidential rhetoric knowingly uses this knowledge in an effort to improve their candidacy.

Partisanship being a factor in political speeches may seem like an unavoidable fact. After all, the people giving the speeches are representing a party with which they have ideological alignment. However, analysis of presidential rhetoric and strategies suggests that it is more intentional (13). Rhodes was able to conclude in 2014 that while presidents were using more bipartisan themes, this was simply in order to gain the support of voters who were tired of the partisan fighting (13). Rhodes later found that partisan polarization is not the only type of polarization that can be measured in a candidate’s speech. Polarization observed in Presidential speeches is not limited to partisanship, but also in their tone. Specifically Rhodes in 2019 conducted a content analysis on the increase in “negative, fearful and angry content in candidate statements about their opponents” (10). Unlike other literature on this topic, this paper will explore both the partisan and tonal aspects present in the specific presidential speeches of the NAS.

Despite the individual focus on partisanship and negativity, both aspects are necessary when discussing the polarization of presidential speeches. For example, a causal test on the U.S. Primary elections determined that primaries deliver less politically polarized politicians (14). This result does not take into account the conclusion of Rhodes in his study about bipartisan posturing that candidates knowingly use less partisan language to make themselves more electable and instead use more tonally polarized speech (10, 13). In other words, Rhodes and Vayo concluded in 2019 that candidates had increased their tonal polarization when speaking about their opponents while continuing to straddle the partisan line for the sake of their broader appeal. Overall, polarization in presidential candidate speeches has not been conclusively determined. In an effort to come to a more conclusive result, more research is warranted into the political and tonal polarization of presidential speeches.

Specifically, research on the change in polarization of nomination acceptance speeches over time is severely lacking. Presidential nomination acceptance speeches form the backbone of a candidate's ideals, and are given to a specific audience of that candidate's supporters, making them an ideal place to analyze the politics and tone the candidate wants to convey, and justifies additional study (8, 9). Using the quantitative content analyses of previous studies which examined both the political and tonal polarization of political speeches, further research will analyze the speeches of the presidential candidates of both parties.

Significance

The following study may provide insight into the strategies of presidential candidates and their use of polarization. It may also reveal the changing landscape of American voters and the values they identify with. With a widening gap on issues such as the economy, foreign relations, and views of the president's morality between Republicans and Democrats from the highest levels of Congress to the average citizen all becoming more partisan, it is more important than ever to understand all aspects of polarization that affect all American citizens (15, 16). Although previous research has concluded an increase in polarization, it is unknown whether the NAS either plays a significant role in determining this polarization, or whether the NAS accurately reflects this polarization.

Due to the previous establishment of the relationship between political polarization and the year, there may exist a correlation between the total polarization of the NAS and the year it is delivered. If this is true, it would establish that the NAS is a good predictor of how polarized the current American political landscape is, and could potentially be relied upon in the future for other analyses of different political questions.

Methods

In this study, the NAS for every presidential candidate was analyzed from 1952 until the most recent presidential election of 2020 for its tonal and partisan polarization. Multiple content analyses were performed in order to calculate the different values representing tonal and partisan polarization used in the data analysis in order to calculate what is termed as total polarization. The calculation of tonal polarization follows a dictionary-based method after Rhodes and Vayo,

and the calculation of partisan polarization is based on the estimator proposed by Gentzkow and others for measuring partisanship (10, 11).

A content analysis is a quantitative “method in which features of textual, visual, or aural material are systematically categorized and recorded so that they can be analyzed.” (17). The materials in this study are the NAS speech transcripts and the features that are analyzed are textual in nature.

In order to systematically categorize the features, it was necessary to break down the transcripts into text files that a program could more easily understand. Following Gentzkow and others, the text was edited into a more basic form. Hyphens and apostrophes were deleted, all other punctuation was replaced with spaces, and parenthetical insertions were removed (11). A list of common words taken from the Python natural language toolkit was removed and the remaining words were reduced to their stems, meaning reducing words to their base or root form. Stemming is useful because it simplifies the analysis and improves the efficiency of the processing. An example of stemming would be the word “obligation” being stemmed to “oblig”, while the word “freedom” stems simply to “freedom”. This removal of tense and other suffixes and prefixes is vital to the function of the content analysis performed in this research.

When selecting documents, it was necessary to take into consideration a few factors, including the differences in audience. The speeches from the literature search were delivered to a wide range of audiences, which could pose a challenge when attempting to analyze a speech that was written and planned for that audience specifically.

The NAS avoids this problem by being given at a specific venue and audience for each election cycle, namely the Democratic or Republican national conventions. The Nomination Acceptance Speech is also valuable in that it always takes place at the same time during the campaign. Having a reliable time and date in relation to the presidential race helps keep the results more consistent and comparable over time. In order to find the needed raw transcripts for analysis, The American Presidency Project, an online, searchable database that contains a large amount of presidential transcripts was accessed (18).

To analyze tonal polarization using negative, fear, and anger content, a dictionary-based content analysis was used. A dictionary-based content analysis counts keywords “associated with overarching concepts or themes” (10). As in Rhodes and Vayo (10), the overarching themes of negativity, fear, and anger, which when calculated, were referred to as tonal polarization. The specific keywords used in this content analysis were the same ones that Rhodes and Vayo used in their 2019 study, and were obtained from the Lexicoder Sentiment Dictionary, which “combines and standardizes three of the largest and most widely used lexical resources” to create a large dictionary of negative words that are then developed further by Rhodes and Vayo into fear and anger categories (10). Each speech was then run through a self-coded software program that was designed to count the frequency of each of the tonal polarization keywords that appeared in the speech per thousand words. This value was used as the tonal polarization.

As there was no set list of words that are considered partisan, the same dictionary method used to calculate tonal polarization could not be used in this case. Instead, to analyze partisan polarization, the raw stems for each speech were separated into all of their two word phrases known as “bigrams”, as done by Gentzkow et. al. (11). An example of this in action with the sentence “We all went to the store”, would appear as (We, all), (all, went), (went, to), (to, the), (the, store)

These bigrams were then combined for all speeches and placed into a table where the rows corresponded to a particular bigram, the columns were a particular speech, and the values represented the number of times the row bigram was said in the column speech. For example, if a bigram was said only 2 times in one speech, it would have a row such as the one presented below

(Bigram)	0	2	0	0	0
----------	---	---	---	---	---

Once the frequency with which a bigram was said in the speeches was calculated, the total number of times each bigram was said by each party, was also determined. This data was then used to determine what is termed as the partisan percent value. This value was calculated by dividing the total number of times the bigram was said across both sets (Republicans and Democrats) by the number of times the bigram was said across one set (Republican or Democrat, depending on the party of the speaker). For instance, if a bigram was said 4 times in total (3 times by Republicans and 1 time by Democrats), it would have a partisan percent value of .75 for Republican candidates and .25 for Democrat candidates. This resulted in each bigram having a Republican partisan percent value and a Democratic partisan percent value.

Next, the bigrams were separated into those that were said over 50% of the time by Republicans and those that were said over 50% of the time by Democrats. Bigrams that were said less than 3 times in total were eliminated. The number of

bigrams spoken in each speech, by both Democrats and Republicans were calculated, as was the total word count in each speech. Using this data, the partisan polarization value for each speech was determined.

For each bigram in each speech, the number of times the bigram was said in that speech was divided by the number of times the bigram was said across all speeches, both Republican and Democrat. The value so obtained was multiplied by the partisan percent value for that bigram. This value was termed the partisanship value of the bigram in a certain speech. The partisanship value of each bigram is an attempt to quantify how much a certain bigram is affecting the partisanship of the speech. For each speech, the sum of the total partisanship value of all bigrams in the speech was calculated to determine the partisan polarization value of the speech.

In order to make the results more easily comprehensible, Z-scores were utilized (the number of standard deviations from the mean a

value in a set is) to obtain a more comparable measure. This way, both tonal and partisan polarization can be compared on an even scale.

The Z-score values were scaled so they were in a range of 1-10. The scaled Z-score values for tonal and partisan polarization were multiplied together to obtain what is termed as total polarization.

The values obtained from the content analyses were numerical, so it was possible to conduct statistical tests to determine if the results were significant. Since a correlation was being calculated, the main statistical test used to determine the findings was a linear regression t-test. This test was performed in order to understand if the values obtained were changing as a linear relationship over time. The linear regression t-test takes two sets of data into account and reports the slope of the line of best fit β , the standard error of the slope SE_{β} , and the p -value, for which anything below 0.05 was considered significant, indicating that the two sets of data have a linear relationship. The results

would be indicative of whether or not the NAS had become more polarized over time.

A matched pair t-test on the data was also performed. A matched pair t-test requires two sets of data that can be matched together. The data analyzed has both (i) a Republican and Democrat for each relevant year and (ii) a winner and a loser (whichever candidate won the presidential election in a particular year being the winner) for each relevant year that was used for the matched pair t-test to analyze. In this case, applying the matched pair t-test to these two sets of data determines if there are any significant differences between the data in the Republican set and the Democratic set or the Winner set and the Loser set.

Results

This section of this paper displays the results of the statistical tests that were used in order to determine the statistical significance of the correlation and difference that was found between various observed variables. The values used in all the statistical tests can be found in the Appendix.

Table 1: Linear Regression t -test

p -values from the linear regression t -test between various measured data.

	β	SE_{β}	p-value
Tonal Polarization & Year	-0.001	2.024	0.934
Partisan Polarization & Year	0.017	2.088	0.319
Total Polarization & Year	0.105	10.126	0.204

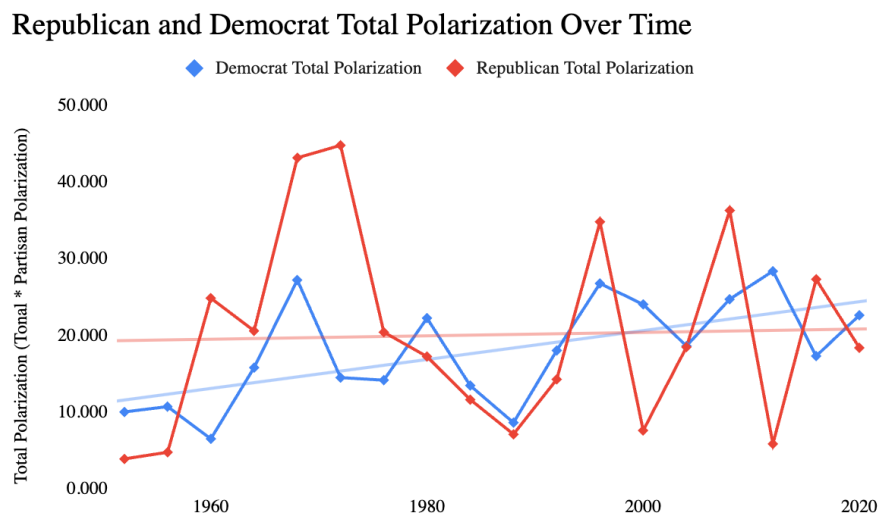


Figure 1: Total polarization over time for both Republican and Democrat NAS

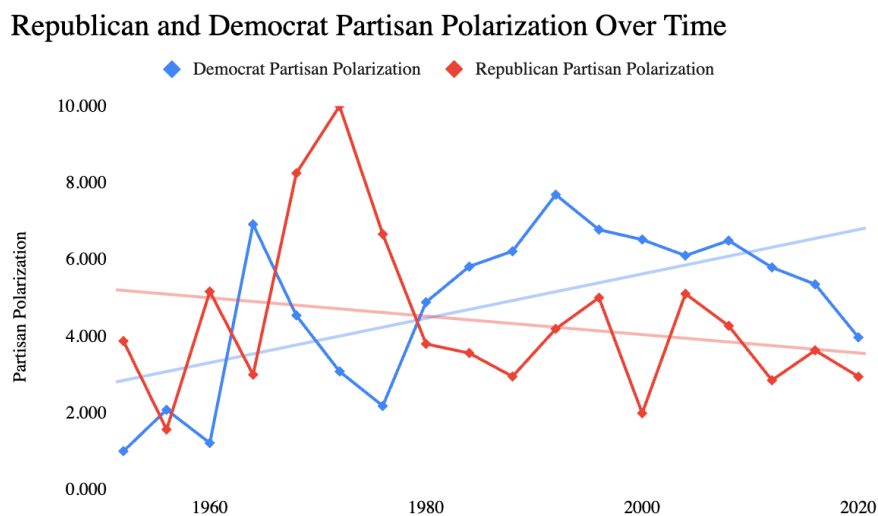


Figure 2: Partisan polarization over time for both Republican and Democrat NAS

Republican and Democrat Tonal Polarization Over Time

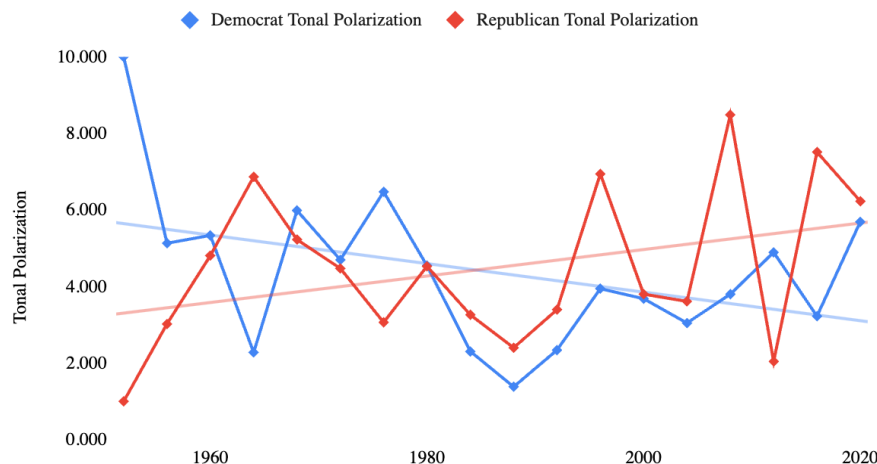


Figure 3: Tonal polarization over time for both Republican and Democrat NAS

Table 1 shows the slope and p -value given by the linear regression t -test when performed on the tonal, partisan, and total polarization values for both parties over the years 1952-2020. A higher slope indicates that the tonal polarization increased on average over time, and a lower, negative slope indicates that the tonal polarization decreased on average over time. As seen in the table, regardless of the calculated slopes the p -values are greater than the significance level of 0.05. This means the correlation is insignificant, so there is insufficient statistical evidence to claim that either tonal, partisan, or total polarization in the NAS change significantly over the years. This is evident when observing Figure 1, as there is no obvious correlation between the values, and the observed line of best fit has a nearly horizontal slope.

Table 2: Republican Linear Regression t -test

p -values from the linear regression t -test between various measured data.

	β	SE_{β}	p-value
Total Polarization & Year	0.022	13.309	0.885
Partisan Polarization & Year	-0.024	2.131	0.337
Tonal Polarization & Year	0.035	1.967	0.141

Table 2 again shows the slope and p -value given by the linear regression t -test, but only performed on Republican values. As seen in the table and Figures 1-3, regardless of the calculated slopes the p -values are greater than the significance level of 0.05. This means the correlation is insignificant, so there is insufficient statistical evidence to claim that either tonal, partisan, or

total polarization in the Republican speeches change significantly over the years.

Table 3: Democrat Linear Regression t -test

p -values from the linear regression t -test between various measured data.

	β	SE_{β}	p-value
Total Polarization & Year	0.189	5.620	0.009
Partisan Polarization & Year	0.059	1.730	0.010
Tonal Polarization & Year	-0.037	1.893	0.102

Table 3 shows the slope and p -value given by the linear regression t -test performed on Democrat values. This not only marks the first statistically significant results found, but also brings up some other interesting findings. In terms of significant results, both the Democratic partisan and total polarization values have a p -value below 0.05, meaning that it is possible to say with sufficient statistical evidence that there is a linear relationship between those values and the year they were spoken in Democratic speeches.

Democratic Partisan Polarization Over Time

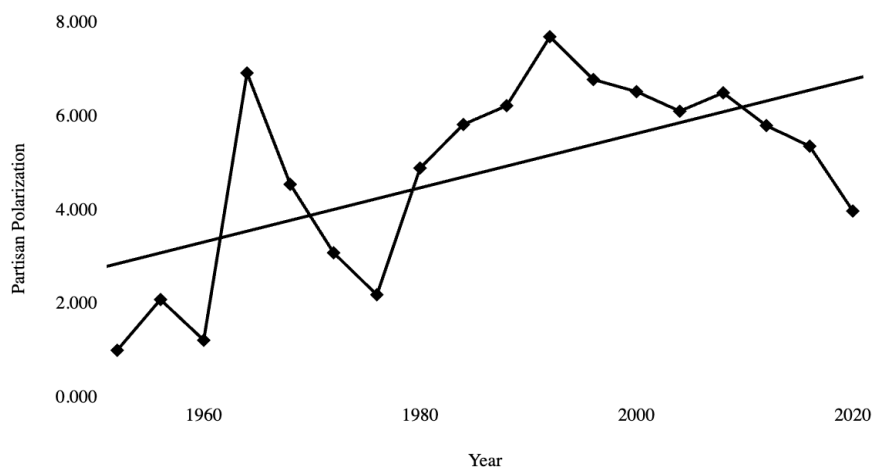


Figure 4: Democrat partisan polarization over time

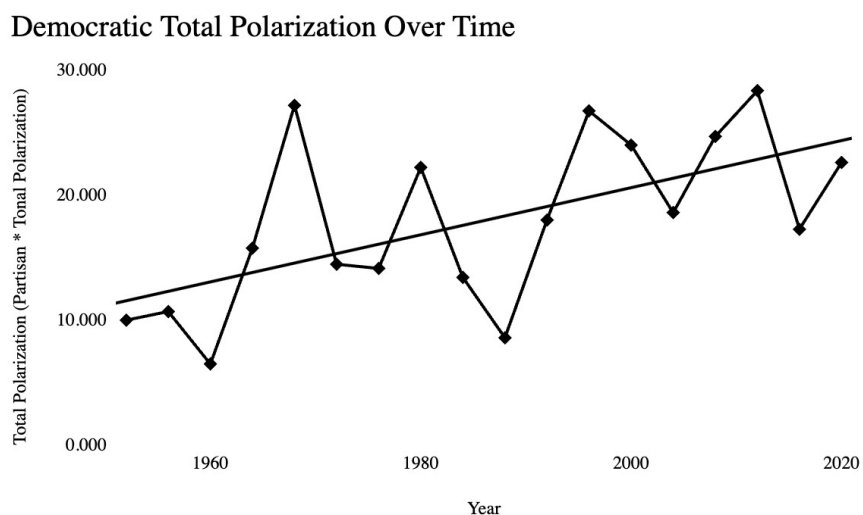


Figure 5: Democrat total polarization over time

Looking at Figures 4 and 5, the correlation is significantly more evident than seen in Figure 1.. It is also interesting to note that while none of the values for only Republican speeches were statistically significant, there were trends such as

partisan polarization having a negative slope and tonal polarization having a positive slope, the exact opposite being true for only Democrat speeches.

Table 4: Linear Regression *t*-test

p-values from the linear regression *t*-test between various measured data.

	β	SE_{β}	p-value
Tonal and Partisan Polarization	-0.350	1.997	0.046

Table 4 displays another statistically significant finding, with a *p*-value of 0.046 being less than the significance level of 0.05. As this is another linear regression *t*-test, it is readily apparent that tonal and partisan polarization have a significant and negative linear relationship. Again, this is more obvious when looking at Figure 6, where

the correlation is much more visible. When partisan polarization increases, tonal polarization decreases and *vice versa*. This result is particularly surprising and could have some interesting implications that will be discussed later.

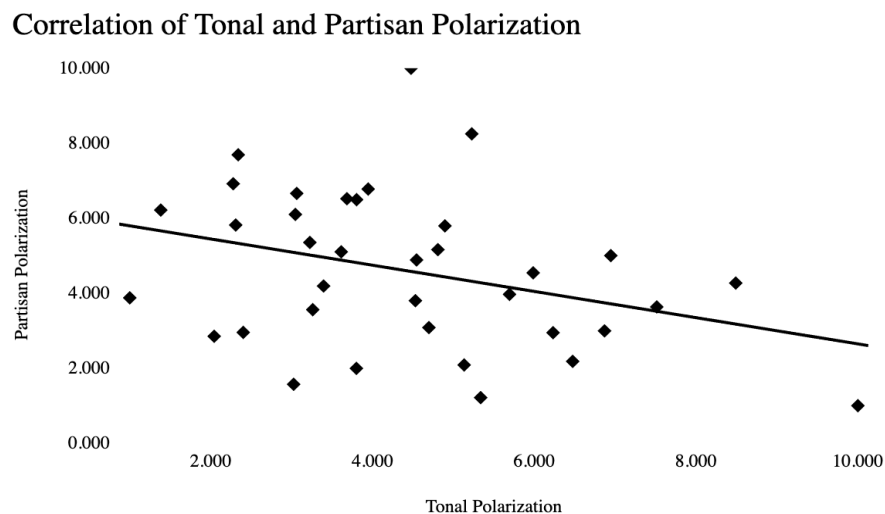


Figure 6: Correlation between tonal and partisan polarization

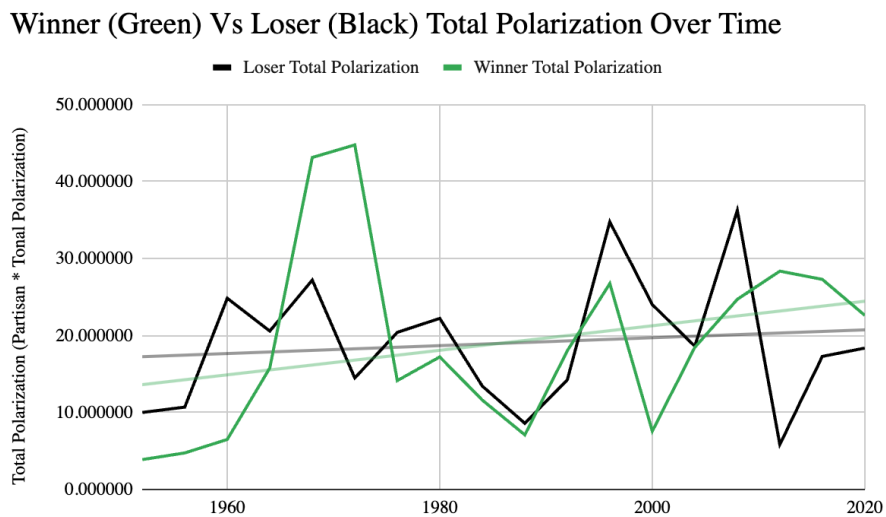


Figure 7: Winner and Loser total polarization over time

Table 5: Matched Pair *t*-test

p-values from the matched pair *t*-test between the various different groups.

	μ	sd	p-value
Republican and Democrat	-2.093	12.608	0.491
Winner and Loser	-0.044	12.791	0.998

Table 5 shows the results of the matched pair *t*-test. The *p*-values are greater than 0.05 so the results are insignificant. This is also evident in Figure 7 as no correlation is obvious between the variables. This means that we are unable to reject the null hypothesis that the 2 groups could be from the same population, or in other words, there is no correlation between Republican total polarization versus the winner of the General Election, or the Democrat total polarization versus the winner of the General Election.

Discussion

Findings from this study conclude there is no significant linear relationship between the year the NAS was delivered and the total polarization of that speech.

Literature conducted in the past has identified an increase of polarization in American politics on every level, hence, it was expected that if the NAS was a good representation of the polarization of the country, it would have become more polarized as well (10, 11, 19). However, the above study did not find a linear relationship between either the tonal polarization or the partisan polarization values over time. A possible cause of this finding is that the Nomination Acceptance Speech may not be an appropriate representation of polarization after all. If the NAS is the candidate's first real introduction to the

citizens of the nation, it is possible that they tone down their message when making their introduction before slowly increasing the polarization of their speech as the campaign progresses. More research into how the polarization of a presidential candidate changes their speech throughout their campaign is needed to answer these questions. It is also possible that the method used to measure partisan polarization was not as effective as it was supposed to be. Since large adjustments to the method used in Gentzkow et al (2019) were needed due to the reduced sample size, the method may have yielded a different result than intended. It is doubtful that this would be the case though, because the method of measuring partisan polarization was logically sound and seemingly provided reasonable data that was then further analyzed.

The findings that were statistically significant however are interesting in themselves. The fact that Democratic speeches were significantly correlated with polarization and Republican speeches were not could give an indication that the Democratic party comes into the NAS with more of a partisan agenda. The finding that the slope of partisan polarization was negative for Republicans and positive for Democrats supports this as it suggests that Democrat NAS are becoming more partisanly polarized and less

tonally polarized while the opposite is true for the Republican NAS. It could be speculated that contrasting the ideological shift to the right, over the years, for the Republicans *vis-a-vis* the Democrats has negative repercussions on (Republican) candidate electability, hence the emphasis for the Republicans is tonal, rather than partisan.

Limitations

The sample size (number of speeches) in this study was limited. While there was a sufficient amount of data in order to conduct statistical tests, most literature and research in the public domain constituted of orders of magnitude more speeches (10, 11). The benefits of conducting a study on a specific speech like the NAS are perhaps made less impactful due to the NAS only occurring at most twice every four years, meaning that there is a paucity of data to conduct research on. While this may not have had a significant impact on the results, the lesser sample size implies that similar conclusions cannot be made about a larger set of data, only about the polarization of the NAS itself.

Another limitation is the fact that the study relied on speech data to make conclusions about polarization, when there are many factors that can influence polarization. An example of this is when calculating tonal polarization, there is an inability to take into consideration the volume at which the words are said, the speed at which they are said, or the literal tone of voice a candidate had while they were speaking. It is also possible that the polarization of a speech is drastically different depending on the events surrounding it, and not just on the speaker (10). This study originally planned to conduct a case study into

outlier years to determine if any outside events were factors in the level of polarization of the NAS, but due to time constraints, this was not pursued.

Implications and Future Research

The results of this research suggest that future studies on the polarization of presidential speeches may not want to rely on the NAS as the only factor. It also suggests that a larger study be conducted which can also qualitatively analyze the events surrounding the presidential campaign to gain a greater understanding of what factors influence the candidates to speak in a more or less polarized way. The significant result within the Democratic speeches also provides insight into the difference between the parties' use of the NAS. The Republican candidates increasingly do not use their platform to highlight the beliefs of their party, and instead focus more on other aspects of their rhetoric. On the other hand, Democratic candidates increasingly speak more about their party and ideology, and rely less on tonal polarization. Another interesting aspect of the findings was a statistically significant negative correlation between tonal and partisan polarization. This is perhaps due to the fact that candidates tend to focus on one type of polarization or the other instead of both. The correlation between these two variables was unexpected, but adds potential for future research on the intersections between the multiple types of polarization, a unique element to this study. A potential future study, with a larger sample size, could follow the framework of Rhodes and Vayo (2019) by using a mixed-method approach of a content analysis and case study into outlier years in order to determine the effects of the events surrounding the speeches, while also using the

intersection between the different types of polarization present in this study.

Overall, this study can provide a greater understanding of how polarization affects the NAS and *vice versa*. Namely, that in general the NAS is not a good predictor of the polarization of the political climate in America at the time it was delivered, but in certain situations can provide information about how the parties differ. The NAS being such an important speech in the

election cycle may also be useful in understanding how it interacts with polarization, due to candidates perhaps not wanting to present themselves at their most polarized in their first formal introduction to the larger voting population. Hopefully, this study can provide benefits not just for academics, but for average citizens who are curious as to the workings of their candidates for presidents, and want to learn more about how they use different strategies to seem appealing.

References

1. Hare, C., & Poole, K. T. (2014). The Polarization of Contemporary American Politics. *Polity*, 46(3), 411–429. <http://www.jstor.org/stable/24540219>
2. Poole, K. T., & Rosenthal, H. (1984). The Polarization of American Politics. *The Journal of Politics*, 46(4), 1061–1079. <https://doi.org/10.2307/2131242>
3. Iyengar, S., Lelkes, Y., Levendusky, M., Malhotra, N., & Westwood, S.J. (2019). The origins and consequences of affective polarization in the United States. *Annual Review of Political Science*, 22, 129-146. <https://doi.org/10.1146/annurev-polisci-051117-073034>
4. Jensen, J., Naidu, S., Kaplan, E., Wilse-Samson, L., Gergen, D., Zuckerman, M., & Spirling, A. (2012). Political polarization and the dynamics of political language: Evidence from 130 years of partisan speech [with comments and discussion]. *Brookings Papers on Economic Activity*, 1–81. <http://www.jstor.org/stable/41825364>
5. Algara, C. & Johnston, S. (2021). The Rising Electoral Role of Polarization & Implications for Policymaking in the United States Senate: Assessing the Consequences of Polarization in the Senate from 1914–2020. *The Forum*, 19(4), 549-583. <https://doi.org/10.1515/for-2021-2034>
6. Gilens, M., Vavreck, L., & Cohen, M. (2006). The mass media and the public's assessments of presidential candidates, 1952-2000. *The Journal of Politics*, 69(4), 1160-1175. <https://doi.org/10.1111/j.1468-2508.2007.00615.x>

7. Miller, N.L., and Stiles, W. B. (1986). Verbal familiarity in American presidential nomination acceptance speeches and inaugural addresses (1920-1981). *Social Psychology Quarterly*, 49(1), 72–81. <https://doi.org/10.2307/2786858>
8. Hoffman, D.R. and Howard A.D. (2009). Vote for me: Appeals to voters in presidential nomination acceptance speeches. *Collected Faculty and Staff Scholarship*, 2. <https://scholar.dominican.edu/all-faculty/2>
9. Dearin, R. D. (1997). The American Dream as Depicted in Robert J. Dole’s 1996 Presidential Nomination Acceptance Speech. *Presidential Studies Quarterly*, 27(4), 698–713. <http://www.jstor.org/stable/27551795>
10. Rhodes, J.H. and Vayo, A.B. (2019). The historical presidency: Fear and loathing in presidential candidate rhetoric, 1952–2016. *Presidential Studies Quarterly*, 49(4), 909-931. <https://doi.org/10.1111/psq.12512>
11. Gentzkow, M., Shapiro, J.M., & Taddy, M. (2019). Measuring group differences in high-dimensional choices: Method and application to congressional speech. *Econometrica*, 87(4), 1307-1340. <https://www.nber.org/papers/w22423>
12. Fiva, J.H., Nedregård, O., & Øien, H. (2021). Polarization in parliamentary speech. *Center for Economic Studies and Ifo Institute (CESifo), Munich*. <https://www.cesifo.org/en/publications/2021/working-paper/polarization-parliamentary-speech>
13. Rhodes, J. H. (2014). Party polarization and the ascendance of bipartisan posturing as a dominant strategy in presidential rhetoric. *Presidential Studies Quarterly*, 44(1), 120–142. <http://www.jstor.org/stable/43285375>
14. Cintolesi, A. (2022). Political polarization and primary elections. *Journal of Economic Behavior & Organization*, 200, 596-617. <https://doi.org/10.1016/j.jebo.2022.06.018>
15. Jacobson, G. C. (2003). Partisan Polarization in Presidential Support: The Electoral Connection. *Congress & the Presidency*, 30(1), 1–36. <https://doi.org/10.1080/07343460309507855>
16. Newman, B. & Siegle, E. (2010). Polls and elections: The polarized presidency: Depth and breadth of public partisanship. *Presidential Studies Quarterly*, 40(2), 342-363. <https://doi.org/10.1111/j.1741-5705.2010.03756.x>

17. Coe, K. & Scacco, J.M. (2017). Quantitative content analysis. *Communication Faculty Publications*, 939. <https://doi.org/10.1002/9781118901731.iecrm0045>

18. Various Nomination Acceptance Speeches, available at <https://www.presidency.ucsb.edu/documents/app-attributes/nomination-acceptance>

19. Rhodes, J. H., & Albert, Z. (2017). The transformation of partisan rhetoric in American presidential campaigns, 1952–2012. *Party Politics*, 23(5), 566–577. <https://doi.org/10.1177/1354068815610968>

Appendix

Data Calculated from the Sample of NAS speeches

Candidate	Year	Party	Word Count	Tonal Score	Partisan Score	Total Polarization
Adlai Stevenson II	1952	D	761	10.000	1.000	10.000
Adlai Stevenson II	1956	D	1386	5.133	2.084	10.694
John F. Kennedy	1960	D	1085	5.337	1.216	6.492
Lyndon B. Johnson	1964	D	1026	2.280	6.919	15.774
Hubert Humphrey	1968	D	1750	5.989	4.542	27.198
George McGovern	1972	D	1247	4.699	3.081	14.478
Jimmy Carter	1976	D	1381	6.477	2.183	14.138
Jimmy Carter	1980	D	2360	4.546	4.889	22.222
Walter Mondale	1984	D	1230	2.308	5.819	13.428
Michael Dukakis	1988	D	1583	1.383	6.218	8.596
Bill Clinton	1992	D	2158	2.343	7.691	18.016
Bill Clinton	1996	D	3424	3.946	6.778	26.743
Al Gore	2000	D	2871	3.684	6.519	24.015

John Kerry	2004	D	2459	3.048	6.102	18.601
Barack Obama	2008	D	2269	3.803	6.494	24.696
Barack Obama	2012	D	2256	4.895	5.794	28.361
Hillary Clinton	2016	D	2612	3.227	5.356	17.282
Joe Biden	2020	D	1585	5.694	3.971	22.610
Dwight Eisenhower	1952	R	520	1.000	3.877	3.877
Dwight Eisenhower	1956	R	2145	3.026	1.567	4.742
Richard Nixon	1960	R	2459	4.809	5.165	24.837
Barry Goldwater	1964	R	1524	6.868	2.996	20.574
Richard Nixon	1968	R	2165	5.228	8.250	43.127
Richard Nixon	1972	R	2047	4.476	10.000	44.757
Gerald Ford	1976	R	1421	3.065	6.659	20.406
Ronald Reagan	1980	R	2309	4.531	3.799	17.216
Ronald Reagan	1984	R	2553	3.262	3.559	11.608
George H. W. Bush	1988	R	2134	2.403	2.950	7.090
George H. W. Bush	1992	R	2499	3.398	4.191	14.241
Bob Dole	1996	R	2660	6.946	5.005	34.763
George W. Bush	2000	R	1983	3.802	1.993	7.578
George W. Bush	2004	R	2628	3.614	5.107	18.456
John McCain	2008	R	1952	8.489	4.271	36.258
Mitt Romney	2012	R	2010	2.043	2.853	5.829
Donald Trump	2016	R	2172	7.516	3.631	27.288
Donald Trump	2020	R	3137	6.231	2.947	18.363

Example of NAS, Eisenhower 1952

Obtained from the American Presidency Project

<https://www.presidency.ucsb.edu/documents/address-accepting-the-presidential-nomination-the-republican-national-convention-chicago-0>

“Mr. Chairman, my Fellow Republicans:

May I first thank you on behalf of Mrs. Eisenhower and myself for the warmth of your welcome. For us both this is our first entry into a political convention and it is a heartwarming one. Thank you very much.

And before I proceed with the thoughts that I should like to address briefly to you, may I have the temerity to congratulate this convention on the selection of their nominee for Vice-President. A man who has shown statesmanlike qualities in many ways, but as a special talent an ability to ferret out any kind of subversive influence wherever it may be found and the strength and persistence to get rid of it.

Ladies and Gentlemen, you have summoned me on behalf of millions of your fellow Americans to lead a great crusade—for Freedom in America and Freedom in the world. I know something of the solemn responsibility of leading a crusade. I have led one. I take up this task, therefore, in a spirit of deep obligation. Mindful of its burdens and of its decisive importance. I accept your summons. I will lead this crusade.

Our aims—the aims of this Republican crusade—are clear: to sweep from office an administration which has fastened on every one of us the wastefulness, the arrogance and corruption in high places, the heavy burdens and anxieties which are the bitter fruit of a party too long in power.

Much more than this, it is our aim to give to our country a program of progressive policies drawn from our finest Republican traditions; to unite us wherever we have been divided; to strengthen freedom wherever among any group it has been weakened; to build a sure foundation for sound prosperity for all here at home and for a just and sure peace throughout our world.

To achieve these aims we must have total victory; we must have more Republicans in our state and local offices; more Republican governments in our states; a Republican majority in the United States House of Representatives and in the United States Senate; and, of course, a Republican in the White House.

Today is the first day of this great battle. The road that leads to Nov. 4 is a fighting road. In that fight I will keep nothing in reserve.

Before this I stood on the eve of battle. Before every attack it has always been my practice to seek out our men in their camps and on the roads and talk with them face to face about their concerns and discuss with them the great mission to which we were all committed.

In this battle to which all of us are now committed it will be my practice to meet and talk with Americans face to face in every section, every corner, every nook and cranny of this land.

I know that such a momentous campaign cannot be won by a few or by divided or by uncertain forces. So to all those from the precinct level up who have worked long hours at difficult tasks in support of our party—and for our party's candidates—I extend an earnest call to join up; join up for longer hours and harder work and even greater devotion to this cause. I call on you to bring into this effort your neighbors next door and across the street. This is not a job for any one of us or for just a few of us.

Since this morning I have had helpful and heartwarming talks with Senator Taft, Governor Warren and Governor Stassen. I wanted them to know, as I want you to know, that in the hard fight ahead we will work intimately together to promote the principles and aims of our party. I was strengthened and heartened by their instant agreement to support this cause to the utmost. Their cooperation means that the Republican party will unitedly move forward in a sweeping victory.

We are now at a moment in history when, under God, this nation of ours has become the mightiest temporal power and the mightiest spiritual force on earth. The destiny of mankind—the making of a world that will be fit for our children to live in—hangs in the balance on what we say and what we accomplish in these months ahead.

We must use our power wisely for the good of all our people. If we do this, we will open a road into the future on which today's Americans, young and old, and the generations that come after them, can go forward—go forward to a life in which there will be far greater abundance of material, cultural, and spiritual rewards than our forefathers or we ever dreamed of.

We will so undergird our freedom that today's aggressors and those who tomorrow may rise up to threaten us, will not merely be deterred but stopped in their tracks. Then we will at last be on the road to real peace.

The American people look to us to direct our nation's might to these purposes.

As we launch this crusade we call to go forward with us the youth of America. This cause needs their enthusiasm, their devotion, and the lift their vision of the future will provide. We call to go forward with us the women of America; our workers, farmers, businessmen. As we go to the country,

Americans in every walk of life can have confidence that our single-minded purpose is to serve their interest, guard and extend their rights and strengthen the America that we so love.

The noble service to which we Republicans summon all Americans is not only for one campaign or for one election. Our summons is to a lifetime enrollment. And our party shall always remain committed to a more secure, a brighter and an even better future for all our people.

We go out from here with unbounded trust in the American people. We go out from here to merit their unbounded trust in us.

Wherever I am, I will end each day of this coming campaign thinking of millions of American homes, large and small; of fathers and mothers' working and sacrificing to make sure that their children are well cared for, free from fear; full of good hope for the future, proud citizens of a country that will stand among the nations as the leader of a peaceful and prosperous world.

Ladies and gentlemen, my dear friends that have heaped upon me such honors, it is more than a nomination I accept today. It is a dedication — a dedication to the shining promise of tomorrow. As together we face that tomorrow, I beseech the prayers of all our people and the blessing and guidance of Almighty God.”

Word samples from Tonal Polarization Dictionary

Fight, Murky, Wary, Cheat, Brutal. Audacity, Doom, Orphan, Revulsion, Terrify