Appealing to the Base or to the Moveable Middle? Incumbents' Partisan Messaging Before the 2016 U.S. Congressional Elections

Abstract

This paper examines partisan communications of incumbent members of Congress during the nine weeks leading up to the U.S. 2016 election. The central premise is rooted in the median voter theorem, which is coupled with theories of political activation and reinforcement, to show how politicians communicate in order to attract support from large swaths of the public. We analyze the partisanship of tweets posted by incumbents in Congress using mixed effect models to examine the relationships between party, time, and race competitiveness on the degree of partisanship expressed by politicians. Our results reveal that Democrats and Republicans exhibited different partisanship signaling patterns in the weeks before the election. Specifically, Democrats decreased their partisanship, perhaps to appeal to the median voter, while Republicans stayed consistent in their partisanship, potentially using Twitter to activate and reinforce voters rather than to win them over.

Introduction

Political polarization has been widely discussed in political communication research and the popular press for over half a century (see, e.g., Sunstein, 2001). Polarized politicians are sorted into clear camps, and they have little overlap with the other groups, making it hard for them to establish common ground from which to govern[1]. The general sense is that partisanship is increasing (see, e.g., Andris et al., 2015; Baldassarri & Gelman, 2008; Brady & Han, 2006; Poole & Rosenthal, 1984), meaning that politicians are more effectively sorting themselves into non-overlapping groups. The gap between parties may be large or small, nearly always creating problems for multi-party governance (Jesuit & Williams, 2017). As parties become more extreme, however, the inter-party gap both widens and becomes more entrenched.

In this paper, we examine the dynamics of the inter-party gap, focusing particularly on the nature of partisan communications of incumbent members of Congress during the 2016 U.S. election cycle. We formally test hypotheses rooted in campaign-related theories—the median voter theorem in particular—that predict various strategies for partisan or non-partisan messaging. We use #polar scores (Hemphill, Culotta, & Heston, 2016) to measure the partisanship of tweets posted by incumbents in Congress and then use mixed effect models to examine the relationships between party, time, and race competitiveness on the degree of partisanship expressed by candidates. #Polar scores are a polarization measure that relies on the hashtags used by members of Congress to estimate individuals' positions on a liberal-conservative spectrum, and they show that politicians effectively sort themselves into parties through their hashtag use. By analyzing how #polar scores change over time and vary between parties, we are able to specifically analyze how candidates adjust their partisan signals during the lead up to an election.

We found that Democrats and Republicans exhibit different partisanship signalling patterns in the weeks preceding the 2016 elections: Democrats decreased their partisanship, following the "median voter" (Downs, 1957) playbook, while Republicans remained consistent in their messaging and thus used

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[1] It's important to remember that polarization is a measure of how political actors sort themselves or how ideologically consistent they are, not how extreme they are (Pew Research Center, 2014).

Twitter to activate and reinforce (Lazarsfeld, Berelson, & Gaudet, 1948) their base. These differences suggest that the two parties use social media differently, and we are just beginning to understand the impacts of those differences.

Background and Hypotheses

Political Polarization

From 1972 to 2008, both Democrats and Republicans among the general public moved further to, respectively, the left and right of "ideologically center," effectively widening the gap between each party's average member. Over the same period, moderates positioned at the center of the ideological spectrum dropped from 35 to 27 percent of the American voting public (Abramowitz & Fiorina, 2013). Simultaneously, party loyalty, measured by the percentage of Democrats and Republicans voting along straight-ticket lines, has consistently increased from the 1970s (Baldassarri & Gelman, 2008). In 2016, for example, exit polls show that 89 percent of Democrats and 90 percent of Republicans voted for, respectively, Clinton and Trump (Huang, Jacoby, Strickland, & Lai, 2016). Some argue that the polarization of the American electorate is not a recent phenomenon (Fiorina & Abrams, 2008; Fiorina, Abrams, & Pope, 2011; Jensen et al., 2012), and that it simply reflects a more "sorted" electorate where party affiliation and ideology are now more strongly affiliated (Fiorina et al., 2011; Levendusky, 2010).

Polarization is, in part, a function of shifts in political marketing as politicians attempt to reframe the policy agenda and their own political positions in ways that eventually filter into the traditional media (Shapiro & Hemphill, 2017). This process has been occurring over an extended period of time with analyses of congressional language over 130 years revealing higher levels of ideological polarization in the past (Jensen et al., 2012)[2]. However, after controlling for finite-sample and other previously ignored biases, Gentzkow et al. (2016) show that partisan language has in fact significantly increased since the early 1990s. In that study, they analyze Congressional speeches and argue that the specific type of language used within each party has grown increasingly distinct from the opposite party when communicating about virtually the same topics. (Hemphill et al., 2016) original #polar score study reveals that these distinctions are clear on Twitter as well in that parties use distinctly different hashtags even when discussing the same issue[3]. The strength of a particular message is its ability to resonate with a specific community (Schudson, 1989), but the impacts of partisan messages on audiences is still unclear. Given that politicians attempt to reach particular and targeted audiences (Hemsley, Stromer-Galley, Semaan, & Tanupabrungsun, 2018; Kreiss, 2016), it follows that their partisanship is part of overall messaging strategy.

In sum, polarization is not new, but the effects of nuanced language differences are a more recent phenomenon. In addition, research does not yet explain the relationship between the political campaign cycle and the short-term patterns of polarized messages used by American politicians. Assuming that such patterns of polarized message use play a significant role in politicians' campaign strategies, it is now prudent to expand upon and integrate novel forms of communication into our extant understanding of polarization.

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[2] The methods employed in (Jensen et al., 2012) are consistent with those identifying key policy topics in congressional press statements via Bayesian inference, shown elsewhere in Grimmer (2010) and Quinn et al. (2010).

[3] For instance, #getcovered and #trainwreck were both used to discuss the Affordable Care Act. Democrats used #getcovered to encourage constituents to purchase insurance on the exchanges the ACA established while Republicans used #trainwreck to criticize the bill and the exchanges.

Campaign Strategies

Campaign Strategies before Social Media

Literature on campaigns and party strategy offers explanations about why politicians select certain partisan messages over others. This is connected to theories about campaigning and voters' decisions and how party loyalty and unity help lawmakers appeal to voters. The relationships between party loyalty, party unity, and voters' choice offer viable explanations for why politicians would invoke varying degrees of partisanship while campaigning for office. Here, we provide a brief overview of the literature on these relationships.

We turn first to the literature about how people decide to vote in elections. Initially, Lazarsfeld, Berelson, and Gaudet's (1948) panel study of people's decisions to vote in presidential elections revealed that three variables together—religion, socio-economic class, and place of residence—reliably predicted votes. This "index of political predisposition (IPP)" accounts for much of the variation in vote predictions and is beyond campaigners' control. Yet, other aspects of the public may be acknowledged, particularly the role of party loyalty (Downs, 1957; Schoenberger, 1969). Schoenberger's (1969) study of the 1964 presidential election—in which Barry Goldwater (Republican) ran unsuccessfully against incumbent Lyndon Johnson (Democrat)—focuses on one the most lopsided elections in U.S. history given Goldwater's 38.5% vote share. For Schoenberger, this exceptional election was the basis for understanding how presidential races influence down-ticket campaign strategies—Goldwater was wildly unpopular as a candidate, and his lack of popularity presented down-ticket Republicans with a strategic choice: dissociate themselves from the top of the ticket, or fall in line. This research found that candidates who withheld support for Goldwater benefited from that choice, demonstrating that party unity and loyalty is not always a candidate's preference. In contrast to Downs' (1957) assumption of party loyalty among candidates, Schoenberger's (1969) finding suggests that partisan messages—i.e. indicators of party loyalty—provide varying benefits to candidates depending on their party's presidential nominee.

The benefits to candidates of employing partisan messaging are also a function of how they perceive their respective parties. Assuming that two categories of voters must be attended to by candidates—base voters and swing voters (Cox & McCubbins, 1986)—campaigns may strategically avoid highlighting party loyalties, or even party affiliation. Based on televised advertisements in Congressional elections between 1998 and 2008, Neiheisel and Niebler (2013) found that candidates running where voters are predisposed to their parties emphasized their own party affiliations. Candidates in open races (i.e. where there is no incumbent), however, were less likely to advertise their party affiliations. Meanwhile, party unity—the percentage of the time individual politicians voted with their party's majority—increased in both parties during the 1980's and 1990's (Roberts & Smith, 2003). As well, Rohde (1991) argued that increased partisanship resulted from political reforms in the 1960's and 1970's, namely that newly-elected Democrats pushed reforms through the House that weakened committee chairs and strengthened the majority party. As a result, aligning with one's party would bolster one's accessibility to leadership positions and the institutional authority and resources they afford (Matthew E. Glassman, 2016). Meanwhile, the electorate also began to change. For instance, the Voting Rights Act added many Black voters to the electorate, and they tended to favor Democrats, ensuring that Democrats who wanted to be re-elected would need to align themselves well with this reformulated party (Rohde, 1991). Candidates that opted to eschew voting along party lines would have faced lost electoral support and any opportunities for future leadership roles in the House.

Although it's tempting to assume that a campaign's primary function is to move voters from "undecided" to "decided" or from "Democrat" to "Republican," Lazarsfeld, Berelson, and Gaudet (1948) showed that

campaign propaganda were far more effective at reinforcing and activating voters' choices than converting them. *Activation*—where campaign messaging triggers voters to make decisions based on their existing predispositions—and *reinforcement*—where messages strengthen the resolve of existing supports—are both more common than *conversion*—where messages actually change individuals' preferences..

In sum, campaign effects, party loyalty, and polarization predict that candidates will align themselves with their party when the top of the ticket is popular and when the party's message appeals to voters' predispositions. Reasonable strategies emphasizing reinforcement and activation could produce partisan or polarized messaging. Yet, when focusing on voters who are not predisposed to support a particular candidate, these same messaging strategies would no longer be effective. An alternative is Downs' median voter theorem and its predictions about how politicians communicate for the purpose of voter conversion.

The median voter theorem suggests that a majority-voting mechanism will result in the outcome preferred by the median voter. The theorem relies on three main assumptions:

1. Voters' preferences are single-peaked;
2. Preferences are measured in a single-dimension; and
3. Only two candidates are running.

These assumptions mean that voters have just one point on a spectrum (e.g., conservative vs liberal) at which they are most satisfied, and, as the outcome gets further from that point on the spectrum, they become consistently less satisfied. Most voters vote in line with their predispositions (Lazarsfeld et al., 1948),[4] but in some cases such predispositions may not match the messages they receive from candidates who they are expected to support. For example, attempts to automatically classify 2012 presidential candidates' text (e.g., speeches, debates, advertisements, press releases, and Facebook posts) using text-analysis software indicate that Romney and Obama invoked language styles of both parties, representing a sharp contrast to Obama's communication style in 2008 (Hart & Lind, 2013). The similarities between the candidates.

According to Downs (1957), and in line with updates to this line of inquiry (e.g., Cormack, 2016), the median voter theorem argues that

1. Politicians will communicate in ways that will attract support from large swaths of the public; i.e., politicians will primarily emphasize those issues that the majority of the public, represented by the median voter, agrees is important; and
2. Politicians will communicate in ways which differentiate themselves from members of the opposite party in order to provide a clear distinction when it comes time for individuals to vote; i.e. politicians will take positions that are different from their opponents'.

We predict that, as the election nears, politicians will adjust their rhetorical strategies to appeal to the median voter; i.e. any movement toward the center would still leave candidates more appealing to more extreme voters of their party than their opponent. 65% of those who changed their intentions during previous year perceived no significant distinction between candidates, as did 46% of those who did not change their votes (Lazarsfeld et al., 1948), meaning there is room for candidates to establish a distinction between themselves and their opponents.

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[4] 70% of the time, according to Lazarsfeld et al. and colleagues (1948).

Campaign Strategies on Social Media

Social media is an increasingly important source of political news for Americans (Mitchell, Gottfried, Barthel, & Shearer, 2016). There is also a relationship between politicians' Twitter feeds and mainstream media's political news coverage (Conway, Kenski, & Wang, 2015; Shapiro & Hemphill, 2017), suggesting that Twitter use can influence electoral politics by impacting which issues and actors receive media attention. After all, the audience for politicians' tweets is not solely comprised of their constituents but also journalists and the public. Interviews with campaign staffers highlight the importance of political journalists as targets of campaign messages (Kreiss, 2016)[5]. Politicians and candidates recognize the strategic importance of social media for appealing to individual constituencies and raising their individual profiles and even turn to paid consultants to help craft their online messaging strategies (Howard, 2005). Further, between parties, there is little variation in social media adoption (Chi & Yang, 2011; Shapiro & Hemphill, 2017; Vergeer & Hermans, 2013; Williams & Gulati, 2010). We also know that Congress is getting more sophisticated in its Twitter use, with early studies showing that most tweets served information purposes (Golbeck, Grimes, & Rogers, 2010; Hemphill, Otterbacher, & Shapiro, 2013), while more recent research confirms that articulating policy positions and communicating to constituents are increasingly common (M. E. Glassman, Straus, & Shogan, 2013; Straus, Williams, Shogan, & Glassman, 2014; Zhang, Stromer-Galley, et al., 2017).

With regard to social media's specific roles in election campaigns,[6] a comparative study of Twitter use during Dutch and British elections found close alignment between parties' communication strategies and their members' Twitter use (Graham et al., (2014). British politicians, especially, used Twitter as a broadcast medium in which they made policy statements and attacked their opponents; however, they interacted little with their constituents. Other studies comparing the EU, Korea, and U.S. (Otterbacher, Shapiro, & Hemphill, 2013) and the U.S. alone (M. E. Glassman, Straus, & Shogan, 2009; Hemsley et al., 2018; Mergel, 2012) found similarly low levels of constituent interaction, suggesting that tweets are analogous to other one-way campaign communication approaches such as website content and television and print ads. Existing research also suggests that campaigns' messaging strategies change overtime, specifically increasing their calls to action and reducing their persuasive messages as elections near (Zhang, Tanupabrungsun, et al., 2017)[7]. They also use Twitter's affordances, such as mentions, to specify audiences for their content (Hemsley et al., 2018), for instance, mentioning a specific media outlet when providing information about an upcoming event.

Incumbents debate policy issues online openly (Druckman, Hennessy, Kifer, & Parkin, 2009) and enjoy wide advantages in large part because of the press coverage they have already received while serving in office (Prior, 2006). However, whether they are in the minority or majority party still matters. When Congress is popular, majority party incumbents enjoy stronger advantages, and the race is essentially theirs to lose (Jones, 2010). This can lead to decreases in messaging overall as candidates avoid saying things that may hurt their reelection chances. During the time period we analyzed in the present study, Gallup estimated Congressional approval between 18-20% (Gallup, n.d.) suggesting that minority party incumbents (Democrats) could have enjoyed an advantage by positioning themselves against Congress.

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[5] On Twitter, politicians are also engaged in many simultaneous forms of political communication: e.g., press outreach, agenda setting, constituent engagement, and issue debate. We recognize that active campaign messaging is not the only, or even necessarily the primary, purpose of tweets. This does not diminish their utility for examining partisanship before elections, however.

[6] See, for example, (Borondo, Morales, Losada, & Benito, 2012; Enli & Skogerbø, 2013; Graham, Jackson, & Broersma, 2014; Groshek & Al-Rawi, 2013; Johansson, 2016; LaMarre & Suzuki-Lambrecht, 2013; Larsson & Moe, 2012).

[7] In general, campaigns did not use Twitter for get-out-the-vote campaigns or fundraising (Frechette & Ancu, 2017)

As well, coupled with low Congressional approval, increased polarization increased the risk of vote loss for majority party candidates, meaning that polarization would have been more dangerous when approval was low (Jones, 2010), as it was in 2016 (Gallup, n.d.). This may explain why, in a study of campaign websites, candidates in competitive races were less likely to link to their party's sites given the desire for control over their messaging (2011). The same practice is possible on Twitter as politicians attempt to control connections to their party by including or excluding party links from their descriptions and tweets.

Congress and Its Audiences

The impact of Congress's social media use depends in part on the audience of their messages, and one's understanding of his/her audience certainly influences how social media tools might be used. The research shows that Congress assumes its social media audience is more politically engaged (Williams & Gulati, 2010) and that they consider campaign websites, Facebook pages, and Twitter feeds effective tools for communicating with voters (Druckman, Kifer, & Parkin, 2017a). Little work has been done to examine who follows politicians, but the extant research suggests that followers are opinion leaders (Karlsen, 2015) or at least people who are more politically engaged than most voters (Norris & Curtice, 2008). Research also shows that Congress's Twitter use impacts mainstream media coverage of political issues (Shapiro & Hemphill, 2017). Taken together, the research on the likely audiences and impacts of congressional Twitter use suggest multiple routes through which messages can reach voters, with some pathways more direct than others. We study the tweets Congress posts and assume they are used to present a more or less partisan image; we then measure how partisan their tweets make them appear. We assume that however the partisan image reaches voters, they will be able to recognize it.

Hypotheses

Based on the theories and prior work discussed above, we construct four hypotheses. First, we test Downs' median voter theorem (1957) that politicians reduce their partisanship near elections in order to attract voters from the middle of the partisan spectrum:

H_1: As the election nears, politicians will communicate in less polarized ways.

The stark partisan divides on social media (Mergel, 2012; Smith et al., 2011) suggest that it would be an opportune venue for reaching those already predisposed to a lawmaker's message—to activate and reinforce existing preferences—rather than to target the non-predisposed with social media-based messaging. If social media is a good predictor of activation and reinforcement and not conversion, then we would expect to see *more* rather than *less* partisanship as the election nears which leads to our second hypothesis:

H_2: As the election nears, politicians will communicate in more polarized ways.

Given the literature on presidential elections, incumbency, and polarization (e.g., Jones, 2010; Schoenberger, 1969), we expect in-party candidates to adopt less extreme polarization strategies in order to counter the effects of low Congressional approval and an unpopular presidential candidate. This leads us to a third hypothesis:

H_3: Majority party incumbents (Republicans) will exhibit lower polarization scores than minority party incumbents (Democrats).

Finally, we expect that candidates in close races will adopt less extreme polarization strategies as they attempt to avoid being defined solely by their party affiliation:

H[4]: Candidates in close races will exhibit lower polarization scores.

In summary, prior literature leads us to contrary predictions about how polarized politicians will be in their messaging, and also that Republicans will exhibit somewhat less polarization as the in-party.

Method

We collected 25,483 tweets posted by 458 official Twitter accounts for members of Congress and used those tweets to calculate weekly measures of polarization (#polar scores) over the last nine weeks of the campaign. By "official" accounts, we mean those that are paid for with public funds, which are not supposed to support re-election efforts but rather serve as official communication channels for the office. This affords us an opportunity to study the partisanship in official communication and also provides what is likely a more conservative measure of partisan behavior by members of Congress. These 458 accounts include all sitting MCs whether they ran for re-election in 2016 or not and whether they won in 2016 or not. We then employed mixed effects regression models to predict #polar scores, using party, time, and margin of victory as fixed effects[8].

Sample and measures

To collect Twitter handles, we used a crowd-sourced list of official Twitter accounts for members of Congress from the @unitedstates project[9]. For all the Twitter accounts available for members of Congress as of November 2016, we then used purpletag (Culotta & Hemphill, 2016) to collect tweets and calculate #polar scores, i.e. estimates of politicians' positions on a liberal-conservative spectrum based on the hashtags they include in their tweets[10].

To calculate #polar scores, each hashtag is first scored, and then the scores of all hashtags a user posts are summed to create a user's #polar score. For instance, #doyourjob and #gunviolence were the most liberal tags used during the period, while #betterway and #utpol were the most conservative. We calculated #polar scores for each user for each day and analyzed their changes over time by averaging scores over each of the nine weeks in our sample. Among users, Rep. Donald Norcross (D-NJ) and Rep. Paul Ryan (R-WI) were the most liberal and conservative, respectively. #Polar scores are centered around zero where negative scores are liberal and positive scores are conservative. This scaling recognizes and builds on other polarization measures using negative-to-positive or liberal-to-conservative scales, including DW-NOMINATE (Carroll et al., 2011; Lewis & Poole, 2004; Poole & Rosenthal, 1985) and variants using campaign finance data (Bonica, 2013, 2014), which is connected to candidates' supporters and affiliated interest groups (Barber & McCarty, 2013). Tausanovitch and Warshaw's (2017) meta-analysis of these measures of candidates' ideological orientations suggests that unobserved incentives and contexts are likely impacting these measures differently. Without disputing this finding, it should be stated explicitly that #polar scores are in fact highly correlated with DW-NOMINATE (Hemphill et al., 2016)

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[8] Both our data (in CSV format) and our analysis (as an R file) are available in Supplementary Materials.
[9] https://github.com/unitedstates/congress-legislators

[10] Because we collected data in 2017, some members of Congress had deleted their tweets or accounts, meaning that there are some missing tweets from the period. Accounts or tweets were deleted for different reasons, including losing a re-election campaign, winning but being nominated to Trump's cabinet, or a tweet containing a typo.

We used election results data from BallotPedia ("Election results 2016," n.d.) and individual state's election records to construct measures of race competitiveness, which is in line with Cox and Munger's (1989) closeness measure. Our outcome and predictor measures are listed in Table 1.

Table 1. Measures included in linear mixed-effects models		
Variable	**Type**	**Operationalization**
abs	outcome	Absolute value of the average partisanship of the member of Congress's Twitter feed for a particular week, i.e. the absolute value of the #polar score
handle	predictor	Twitter handle associated with the member of Congress's account
party (Republican)	predictor	1 = Republican; 0 = Democratic
week	predictor	Number of the week where 1 = week following Labor Day
margin of victory	predictor	Ratio of votes separating the winner and the runner-up to sum of votes both candidates received

We analyzed the tweets posted by 458 accounts associated with members of Congress (259 Republicans and 199 Democrats), which comprise the population of verifiable accounts active during the period under examination. Unlike standard calculations of #polar scores, we modified the typical #polar score calculated method by generating hashtag scores based on the entire 9-week period and then using those scores to calculate scores for individual users. Hashtags' scores change over time as different users adopt them and their attention to issues varies. #Polar scores default calculations use one-day and one-week time windows over which a hashtag's use is measured. By setting the time window to the entire period from Labor Day to Election Day, and by calculating just one score per hashtag based on its use during that period, we effectively control for issue-specific variance. Weeks run Monday - Sunday and began on September 5, 2016 (Labor Day).

Analysis approach

Linear mixed models were used to analyze the effect of party and week on #polar scores. We used R (R Core Team, 2016) and *lme4* (Bates, Mächler, Bolker, & Walker, 2015) to analyze the relationships between time, party, margin, and partisanship. We used a mixed model approach instead of a standard linear model because #polar score and handle are interdependent (i.e., how partisan nature of a person's messages are depends in part on properties of a person such as the state he represents or his prior partisanship. In this way, we expected variation in both party and handle to influence partisanship from week to week. All models were fit using maximum likelihood estimation. For fixed effects, we included *week*, *party*, and *margin*. For random effects, we included intercepts for Twitter *handles* and by-handle random slopes for *week*, allowing us to assume that handles may start with different #polar scores and that handles may respond to time differently. Regarding response to week, for instance, events like polls may occur during the focal time period in some jurisdictions but not in others, triggering a different response from handles with new polling information. We visually inspected residual plots and used *p-*

8

values from likelihood ratio tests of the full model compared with other models to evaluate the significance of the variables in question[11]. Equation 1 shows formula for the complete model:

$$Y \; = \; \beta_0 + \; \beta_1 P + \beta_2 W + \; \beta_3(P{:}W) + \; \beta_4 M \; + \; \Sigma_h \; (\theta_h + \eta_h * W)1[H = h] + \; e \qquad (1)$$

Where P = party, W = week, and M = margin; θ_h are the random intercepts and η_h are the random slopes for each handle. We ran different combinations of those variables and present the results in Table 2.

Results

Descriptive Statistics

Figure 1 shows each party's average #polar scores for each week, highlighting how Republicans exhibited more variation within their party (larger variance within each week), while Democrats exhibited more variation from week to week. It also makes clear that week 2 was an outlier for Democrats[12] and that most communication by members of each party was partisan, i.e. primarily falling above zero.

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[11] For instance, we constructed models with fewer predictors (e.g., party alone) and without random effects. The results of all models are available in the supplementary materials.

[12] Democrats had average scores that were nearly 2-3 times as large during week 2 relative to other weeks. When we analyze just the last 7 weeks (weeks 3-9), the direction and magnitude of our results remain unchanged. During week 2, the most polarized tags among Democrats were #closetheloophole (-59), #gunvote (-37), #doyourjob (-35), and #noflynobuy (-31). The Congressional Record shows that House Democrats made multiple attempts to bring gun-related legislation to the floor on the 14th (e.g., Rep. Lawrence on H.R. 1217, and Rep. Matt Cartwright [D-PA] on H.R. 1076). The large #polar scores for that week resulted from the Democrats' coordinated efforts to message around gun control legislation on the 14th. Our data include 300 tweets with the #GunVote hashtag on the 14th alone. While not all of those tweets were posted by Democrats, but the vast majority were.
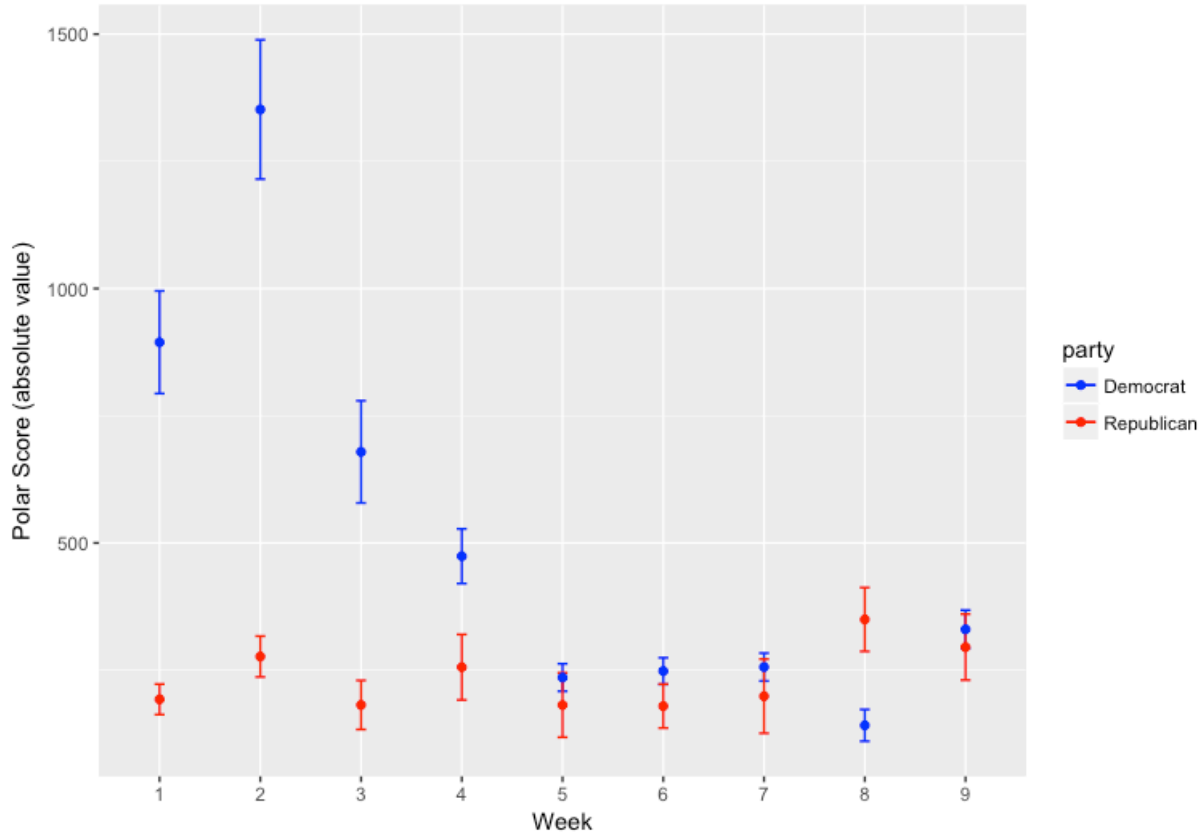
Figure 1. #Polar scores (absolute value) over time for each party

Regression Results

To evaluate our hypotheses, we ran linear mixed-effects models predicting the partisanship of messages using combinations of party, time, and Twitter handle. The results of our overall model are available in Table 2. Model 3 achieved best fit using the AIC measure. We used ANOVA to compare the models to one another, and though model 4 has a lower AIC, it was not significantly lower than model 3.

Our results indicate that partisanship decreased over time (β = -117.29, p < 0.001). In order to examine the precise interaction between party and week, we present the results for models for, separately, Republicans and Democrats in Table 2 as well. Democrats' messages grew significantly less partisan as the election drew near (β = -110.01, p < 0.001) while Republicans' partisanship did not change significantly (β = 2.82, p = 0.522).

We also checked for influential individuals and outliers using Cook's distance measures. Though we did find outliers by this measure, removing them (individually or as a group) did not change the significance or direction of the results in the overall model.

	Model 1	**Model 2**	**Model 3**	**Model 4**	**GOP**	**Dems**
Fixed Effects						
Week	-47.44*** (6.91)	-47.77*** (6.92)	-117.29*** (9.32)	-117.27*** (9.32)	2.82 (4.40)	-110.01*** (12.99)
Party (GOP)		-102.46 (55.15)	-878.60*** (95.63)	-873.07*** (96.15)		
Week * Party			125.10*** (12.56	125.08*** (9.32)		
Margin				0.65 (1.17)		
Constant	555.13*** (51.72)	613.98*** (59.7)	1048.39*** (71.5)	1022.75*** (84.9881)	184.90*** (31.66)	1024.49*** (100.39)
Random Effects						
Handle	964,118	925,335	324,614	779,356	148,321	48,7028
Handle, week	13,112	13,114	779,051	9412	154,608	1,640,135
R^2	0.69	0.69	0.69	0.69	0.78	0.60
AIC	49962	49962	49877	49875	25868	23133
Table 2. Results of linear mixed model regressions predicting #Polar scores (absolute value)						

Hypothesis Testing Results

H$_1$: Less Partisanship as Election Nears

Our results indicate that overall, Congress exhibits less partisanship as the election nears (for "week", = -117.29, $p < 0.001$), but most of that effect is driven by less partisanship among Democrats (as we can see in the separate Republican-only and Democrat-only models where week is insignificant for Republicans). Nonetheless, we find support for H$_1$ both overall and among Democrats.

H$_2$: More Partisanship as Election Nears

Only Republicans exhibited more partisan messaging as the election neared, but that increase was not statistically significant overall. Partisanship among Republicans peaks in week 8 (see Figure 1), but they do not show an overall trend of increasing partisanship. Democrats' polarization decreased significantly over the same period. Therefore, we do not find support for H$_2$.

H$_3$: Lower Partisanship among Republicans

Compared to Democrats, Republicans were less polarized throughout the time period. Even as Democrats became less polarized and Republicans became more so, Republicans still exhibited lower scores. Therefore, we find support for H$_3$.

H$_4$: Lower Scores in Close Races

We measured race competitiveness or closeness with a margin of victory calculation. Including margin of victory in the models did not improve their performance. However, in the models that include margin, we found no significant relationship between margin and partisanship (= 0.65, p = 0.577). Therefore, we do not find support for H$_4$.

Discussion

We set out to understand whether legislators were appealing to (a) voters in their respective bases or (b) voters near the middle of the political spectrum. Based on prior work about the median voter (Downs, 1957), activation, conversion, and reinforcement (Lazarsfeld et al., 1948), and polarization (Jones, 2010; Schoenberger, 1969), we generated hypotheses about the changes in polarization that would appear over time as well as the differences that would be visible between parties. We found that Democrats and Republicans behaved differently throughout the 9-week period before the election. Specifically, Democrats began the period quite polarized in their rhetoric but moved toward the middle as the election neared. Republicans started the period near the center and finished it virtually unchanged. These findings reveal a number of novel distinctions between the parties and confirm the impacts of time, but not race competitiveness, on a politician's messaging strategy.

First, we recognize that week was a significant predictor of messaging for both parties and throughout the period. According to the median voter theorem (Downs, 1957), candidates should attempt to appeal to voters near the middle of the political spectrum in order to capture the votes of all people more extreme than they are in one direction and those who are less extreme than their opponent in the other. Democrats' messaging behaviors indicate that this model provides a reasonable explanation of their strategy. The margin of victory in races, our measure of closeness or race competitiveness, was not a strong predictor, indicating that messaging in close races was not different from messaging in likely victories. Candidates did not appear to downplay their party affiliations or to appear less partisan in an effort to appeal to centrists.

For a median voter or centrist appeal to work, candidates must convert at least some voters from the other party. Lazarsfeld and colleagues (1948) suggest that this is quite difficult, even when voters face choosing an extreme candidate within their own party. This difficulty partially explains how Republicans' pattern of starting with low polarization but becoming marginally more polarized over time could be an effective election campaign strategy. That is, by selecting a low baseline position, Republicans made appeals consistent with the attitudes of centrist voters, potentially capturing those that could be easily converted. Meanwhile, by increasing their polarization just before the election (in week 8), they could be effectively appealing to existing partisans and likely activating them—i.e., convince them to vote Republican—just in time for the election.

Alternatively, Republicans may have chosen a less extreme messaging strategy because they led an unpopular Congress and had an unpopular presidential candidate at the top of their ticket (Andrews, Katz, & Patel, 2016). Both of those features of the election indicate much greater risk to Republicans of losing

voters relative to Democrats. The election was Republicans' to lose (Jones, 2010), and downplaying one's party affiliation is common in close races (Druckman et al., 2011).

Given the widespread use of social media for constituent communication, and the increasing importance of Twitter especially (e.g., Conway et al., 2015; Groshek & Al-Rawi, 2013; Williams & Gulati, 2010), one might assume that 2016 was a unique election for social media. Our findings indicate that the behaviors legislators exhibited on Twitter can be explained with existing campaign messaging theories—2016 was not so special that we could not have predicted how legislators communicated, despite the presence of candidate Trump in the Twittersphere. Druckman, Kifer, and Parkin (2017b) found similar results when studying web site strategy during the same period, arguing that web campaigning was also relatively stable given the technological and political change occurring. The bottom line is that though Trump was an outsized presence on social media and in political news, he didn't meaningfully impact others' online communication strategies. Yet, while the use of Twitter in 2016 may not reveal new messaging strategies, it does clarify differences in strategies between the major parties: Democrats were more aggressively partisan at the outset but moved to the middle over time while Republicans were modest in their partisanship at the outset and mostly remained so.

Future work could examine the effectiveness of these strategies in a number of ways. First, and building off of Glassman (Matthew E. Glassman, 2016) and Roberts and Smith (2003), one could focus on the efforts of aspiring party leaders specifically, examining whether they are more likely to align with their party's majority until reaching a leadership position, at which time they may attempt to move the party into relatively new directions. These sorts of behavioral shifts by elected officials are are an important mechanism in moving the median voter over time. Alternatively or perhaps in parallel, one could also focus on the risks relating to in-party and out-party dynamics as described by Jones (2010), particularly how polarization facilitates or inhibits non-incumbents from getting elected. Comparing the partisanship patterns from election to election is one way to gain insight about these majority- and minority-party impacts. A third avenue of future work could focus on the impact of a growing concern about social media use by our elected officials: the dissemination of falsehoods and negative campaign messages by political figures. Negative campaign messages have been shown to increase incivility among Twitter users (Hopp & Vargo, 2017), while false stories are widely disseminated and readily accepted via social media (Allcott & Gentzkow, 2017).

Specific to our findings, future work may include challengers' messages, and/or campaign accounts, and predictors for additional features of the election such as early voting policies and whether the election is a primary, a midterm, or a presidential election. For instance, in states with early voting and large vote-by-mail efforts, the specific timing of election day may be a less powerful predictor of behaviors. The legislative activities that occur during the period under analysis also influence what messages are sent, and future work could examine the relationship between specific legislative incidents (e.g., roll call votes, floor debates) and campaign messaging. Our results indicated, for instance, that Democrats were particularly partisan during the second week of the period we examined when the House debated gun control legislation. We did not see a similar spike in partisanship among Republicans that week despite their opposition during the floor debate. This difference indicates a possible area of research in political communication and social media that compares the partisanship of messages in different media—for instance, do legislators use Twitter for more polarized communication than they do for their floor speeches or press releases? Do challengers use more *conversion* approaches than *activation* or *reinforcement*? Differences in the use of these platforms would indicate audience-specific strategies worthy of further scrutiny. Twitter and related social media are increasingly powerful tools for politicians to communicate directly with the public and with the press. Our results suggest that the two major parties in

the U.S. use different messaging strategies near elections, and research is just beginning to explain the impacts of social media strategies on political outcomes.

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