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# Twitter: The Electoral Connection?

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## Abstract

The rapid rise of Twitter and other social media tools has enticed many members of Congress to personally use these services. Such waves of technological adoption are comparatively rare in Congressional history, leaving us with little knowledge about why some members of Congress adopt new technologies while others do not. We find that Twitter adoption and use are relatively difficult to predict. Members are more likely to use Twitter if they belong to the minority party, if their party leaders urge them to, if they are young, or if they serve in the Senate. Surprisingly, we find that electoral vulnerability has little or no effect on Twitter adoption or use.

## Keywords

Congress, Internet, communication, Twitter

When Nancy Pelosi's gavel sounded the beginning of the summer recess just before noon on August 1, 2008, a contentious bill to expand offshore oil exploration lay unaddressed on the House docket. The vast majority of House members quickly left the capitol, looking for planes back to their districts. A handful of members, however, did not (Bresnahan, 2008). This group, comprised almost entirely of members of the Republican minority, was concerned that the energy legislation had not been voted on and would therefore lie dormant for weeks until Congress reconvened. This group quickly found itself alone in a dimly lit chamber as capitol security began to shut down House lights, television cameras, and microphones. Shouting to be heard by the few straggling viewers and journalists in the galleries, the remaining Republicans demanded that Democrats return for a vote on the energy legislation. In short course, members were also giving unplanned policy speeches and joining in renditions of "God Bless America" without C-SPAN documentation (O'Connor, 2008).

Some may wonder what benefit these necessarily electorally conscious members saw in such a private expression of political protest. The answer may lie in the fact that many of them personally publicized their efforts via text message, streaming video from personal cell phone cameras, and posts to their individual Twitter accounts (Stelter, 2008). Many of the tweets circulated the existence of the "phantom session," as John Shimkus labeled it, and the progression of speakers proclaiming "Shame! Shame!" on Pelosi and House Democrats. Some members specifically discussed their use

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of new media during the effort. John Culberson repeatedly tweeted that “Twitter posts have been a big part of driving” news about the Republican effort.

No matter the ultimate policy or political implications of this event, it signifies that members of Congress have begun to embrace and personally use social networking tools such as Twitter. The significance of such an episode should not be overlooked in a slow-to-evolve institution where less than 15 years ago, Pat Leahy quipped that many members of Congress “wouldn’t even know how to turn on a computer if they had to. They think it’s a not working [sic] television that won’t give you CNN” (Johnson, 2004, p. 98). Unsurprisingly, the Pew Research Center’s Internet and American Life Project (2009) has recently reported that while 33% of 18- to 29-year-olds use Twitter or some other status-updating site, only 9% of 50- to 64-year-olds and 4% of those older than 65 do so.

In this article, we seek to understand why some members of Congress, seemingly despite their demographic profile, have begun using at least one social networking tool—Twitter. In general, we would expect electoral goals to motivate Twitter adoption. At the same time, however, we also expect member and district factors to play a role. In the end, we find that patterns of Twitter adoption are strongly influenced by minority status, party leadership efforts, chamber, and member age. Other variables have surprisingly weak effects.

## Congress and the Internet

Mayhew (1974) famously argued that the constant need to secure reelection leads members of Congress to look for any opportunity to advertise themselves to constituents, publicize their issue positions, and claim credit for achievements. By this logic, we might expect members of Congress to flock to new communications tools such as Twitter. As indicated by the quotes above, however, members of Congress have had a mixed reaction to online communication tools. In one of the earliest studies of online congressional behavior, Adler, Gent, and Overmeyer (1998) observed that though more than 65% of members had established a personal website by 1997, significant variation existed in the development and use of each site. By 2005, Esterling, Neblo, and Lazer (2005) concluded that though nearly all members of Congress had by then developed websites, the quality, design, and seeming goal of each member’s online presence still varied widely. Although Mayhew might have expected all members to embrace the Internet’s potential for low-cost constituent communications, Esterling et al. found that member and district characteristics explained much of the variance in website development, with young members from highly competitive districts possessing the most robust online presence. They also found that members from rural areas were more likely to have extensive websites to compensate for the inherent difficulty of communicating with a geographically dispersed constituency. Williams and Gulati (2006, 2009) have chronicled similar patterns in Congressional use of Facebook, noting significant variance in member use of the site even though over 90% of Senate candidates and 50% of House candidates actively maintained Facebook profiles by the 2008 election.

More recently, Twitter has begun to be popular with some members of Congress. Members have held accounts on the site since early 2007, only a few months after its creation. Currently, nearly 200 members of Congress maintain accounts and collectively produce more than 100 “tweets” (messages of 140 characters or less) each day. Pundits and politicians alike have argued that Twitter and other social media will play a major role in future campaigns (e.g., Gonyea, 2009). Given Twitter’s relatively small number of users (approximately 17 million) and oft-criticized format that appears to favor fragmentary outbursts over thoughtful discussion, this prediction may seem optimistic.

It is partially Twitter’s unusual format, however, that makes it so interesting to study. After all, can a service that limits posts to a maximum of 140 characters become a genuine part of the political discourse? Both the federal government and the news media seem to believe so, evincing their belief through an increased use of content from Twitter. During protests following the disputed 2009

Iranian presidential election, for example, the State Department asked Twitter to postpone scheduled maintenance because officials considered protestors' tweets uniquely important in monitoring the situation. One official labeled it "a very good example of where technology is helping" (Labott, 2009). Similarly, a recent survey of American journalists found that 57% regularly consult micro-blogging sites such as Twitter when researching stories (George Washington University, 2009). Yet despite Twitter's expanding role in American political discourse and congressional communication, little formal research exists on how and why members of Congress use Twitter. In this article, we begin to consider these questions.

## Why Use Twitter?

Although there is little research dealing directly with Congressional use of Twitter, a large literature exists on patterns of member-constituent communication more broadly. Examining this literature suggests several hypotheses relevant to Twitter use by members of Congress. At the same time, however, it is questionable how these may be compared with new media activity such as Twitter use. For example, many studies consider the nature and effect of messages from members that are filtered through another source (such as a news broadcast) before reaching the public. When a member engages in this type of communication, he or she surrenders a large amount of control over the timing, context (Steger, Kelly, & Wrighton, 2006), and content of the message conveyed to constituents (Flowers, Haynes, & Crespín, 2003).

By contrast, member use of new media such as Twitter is direct and unmediated. Traditionally, members desiring such unmediated communication with constituents had only a handful of options. Among them, paid advertising, personal visits to the district, and franking are the most common. Research suggests that paid advertising can have positive effects (Ansolabehere, Iyengar, Simon, & Valentino, 1994; Huber & Arceneaux, 2007; Ridout, Shah, Goldstein, & Franz, 2004), but its high costs deter most members from using it much. Likewise, personal visits can be valuable (Fenno, 1978; Kenny & McBurnett, 1997) but extremely resource-intensive.

Of the traditional modes of unfiltered member constituent communication, then, only franking comes at a low cost. We might expect, then, that the same sorts of motives that lead members to send franked mail might also lead them to experiment with new forms of social media such as Twitter. Strong evidence suggests that franked mail is used most often by members of Congress who are either new to the institution or who are in highly competitive districts (Cover, 1980; Davis, 2000). Members appear to rely most on direct communication with their districts when their electoral position is most unsure and their need to strengthen constituent ties is greatest (Dolan & Kropf, 2004; Lipinski, 2004). Although some are skeptical that such efforts affect electoral margins (McAdams & Johannes, 1985; Parker & Parker, 1985), others offer evidence that franking can effectively communicate both personal and policy information (Cover & Brumberg, 1982). Yiannakis (1982) suggests that many of the same personal demographic and district characteristics that influence franked mail use also influence the production and distribution of press releases.

More recently, many members have begun to pursue direct constituent communication online using e-mailed newsletters. These e-newsletters are perhaps most similar to member use of Twitter and therefore most useful for thinking about why some members might start using Twitter. Like communication via Twitter, electronic newsletters are relatively easy and inexpensive to produce and distribute to individuals online. Just as members need to construct a large network of followers to maximize the efficacy of their tweets, however, members generally need constituents to actively sign up to receive e-newsletters before they can be broadly distributed. A large portion of constituents may therefore learn of e-newsletter content only when it is publicized by a mediating third party, as is the case with press releases. As with other forms of direct communication, Parker and Goodman (2010) find that electoral goals drive e-newsletter production and distribution.

Ultimately then, elements of each of the modes discussed above are useful examples of the electorally driven communication environment and tradition in which members of Congress use Twitter. Each method of direct communication offers members a ready and potentially effective opportunity to preserve and expand their support base within their district by minimizing the appearance of personal or ideological differences with their constituents (Ansolabehere, Snyder, & Stewart, 2001; Merrill & Adams, 2003). Candidates are highly mindful of the profile they present (Vavreck, 2001) and are therefore likely to recognize and take advantage of the persuasive power of directly communicating with constituents in some fashion (Bartels, 2000; Weisberg, 1980), including online social media tools that members may not be inherently comfortable with. These studies and theories give rise to our first major hypothesis, that electoral marginality affects member use of Twitter:

### *Hypothesis 1: Electoral Marginality*

*Hypothesis 1a:* As has been observed with franking and personal websites, members whose districts are highly electorally competitive will be more likely to use Twitter when compared with members whose districts are less competitive.

*Hypothesis 1b:* Likewise, members who differ ideologically from their district will be more likely to use Twitter.

It is important to note here that member–constituent communication is a multifaceted and increasingly multimodal activity. Cook (1990) suggests that media sophistication has been a defining characteristic of congressional communication since at least the 1970s when members began hiring specialized staffers to help them coordinate constituent communications. Today, many members allocate an increasing amount of staff resources to manage new media production and distribution (Fitch and Goldschmidt 2005). Almost without exception, members of the 111th Congress communicate with their constituents using a blend of many methods, at times blurring the line between online and offline communication. With help from their staff, for example, many members of Congress have begun using new media in an effort to generate traditional media coverage (Lipinski & Neddenriep, 2004). Williams and Gulati (2010) have also noted that member use of online communication may be driven by their desire to match the technological expectations, needs, and capacities of their constituents. It therefore appears likely that members of Congress would leverage their resources—including tech-savvy staff—to incorporate low-cost social networking services such as Twitter into their constituent communication efforts.

At the same time, however, while members of Congress may recognize the communicative potential in Twitter, they may hesitate to use the technology. Recall that the average demographic profile of a member of Congress is significantly different than the average Internet user, likely making it difficult for many members to personally use Twitter (Horrihan, 2007; Manning, 2010). Herrnson, Stokes-Brown, and Hindman (2007) have further argued that incumbents may consider their congressional website an adequate Internet presence and therefore resist investing further resources in online activity. Perhaps more importantly, however, members may recognize their significant incumbency advantage and therefore be unwilling to alter their media habits from past, successful campaigns, for fear of putting themselves at electoral risk.<sup>1</sup> Therefore, as Johnson (2004) points out, new technologies are most often introduced and adopted by new members of Congress seeking low-cost ways to secure their newly won positions. Similarly, Evans and Oleszek (2003) argue that many members view new “technology negatively at first, but opposition to it is gradually overcome as members recognize its value and utility. Then the technology is adapted to the workways of Congress and woven into the routines of the legislative process” (p. 100).<sup>2</sup> It is entirely likely that use of Twitter may follow this same pattern, with new members of Congress paving the way to more general adoption.

Based on these findings, we also expect that member and district characteristics will have a significant influence on individual Twitter use:

### ***Hypothesis 2: Member and District Characteristics***

*Hypothesis 2a:* Those members who are demographically most similar to average Internet users in the United States will be more likely use Twitter.

*Hypothesis 2b:* New members of Congress will be more likely to use Twitter.

*Hypothesis 2c:* Members whose constituents are demographically more likely to be Internet users will be more likely to maintain active Twitter accounts.

External forces may also play a significant role in member decisions to use new media. For example, members of a minority party may find themselves drawn to Twitter and other alternative media when traditional media lose interest in covering them. Republicans lost control of Congress in 2006 but retained considerable media influence as a result of their continued control of the presidency. After the 2008 elections, however, Republicans found themselves shut out of power both in Congress and in the White House, making it difficult for them to communicate their message via traditional media. For example, during a typical week in May 2010, national Democratic leaders were mentioned in 4.5 times as many news articles as Republican leaders.<sup>3</sup> Because traditional media cover the majority party more than the minority party, we might expect Republicans to rely more heavily on alternative media such as Twitter.

The influence of party leadership may significantly enhance this minority party effect. To be sure, researchers continue to debate the importance of party leadership. Although some afford crucial explanatory power to the influence of party leadership (Snyder & Groseclose, 2000), others are more guarded in their appraisals (Mayhew, 1974; McCarty, Poole, & Rosenthal, 2001), and still others are skeptical of the very existence of significant party effects (Fiorina, 2002; Krehbiel, 1993). Cox and McCubbins (2007) have argued that party leadership is most effective when it focuses on helping current party members retain their seats, an activity that is centrally tied to member communication strategies. At a minimum, then, we might expect communications advice from party leadership to have some influence on member behavior and use of new media tools such as Twitter.

In this vein, we note that House Republican leaders have urged their members to adopt new forms of communication such as Twitter, Facebook, and YouTube. House Minority Leader John Boehner used the caucus's 2009 retreat to urge Republican members of the House to try to gain an electoral advantage by surpassing Democrats in their use of new media outlets (O'Connor, 2009). During the retreat, Boehner also urged House Republicans to be a "party of communicators" and to use any available method to do so. Perhaps most tellingly, House Republican leadership identified a freshman representative with communications and marketing experience as a standard others should emulate. Although this freshman is lean on traditional political experience, Boehner and others were enthused about his comfort with new media such as Twitter, his commitment to developing an online constituency, and his willingness to speak directly with constituents using a variety of new media.<sup>4</sup>

The preceding paragraphs suggest that party influence will exert a significant effect in determining individual Twitter use and are the basis of our final hypothesis:

### ***Hypothesis 3: Party Influence***

*Hypothesis 3a:* Members of the minority party (Republicans) will be more likely than members of the majority to use Twitter, especially if their leaders urge them to do so. House Republican leaders have done so, but we are unaware of a similar push by Senate Republicans or by Democrats in either chamber.

*Hypothesis 3b:* Leaders who urge their caucus to use Twitter (i.e., House Republican leaders) will themselves be more likely to use Twitter.

## Data and Variables

We test these hypotheses on three different indicators of Twitter activity. First, we use a simple dummy variable indicating whether each member of the current (111th) Congress has created a Twitter account at all; as of January 2010, 185 (35%) had done so.<sup>5</sup> Although this variable is straightforward, however, it has a serious drawback: It does not account for whether members of Congress continue using their Twitter account after creating it. For example, contrast Senator Dick Durbin, who has created a Twitter account but who has never posted a single item to it, with Representative John Culberson, who averages over 130 tweets each month.

We use two additional measures in an effort to account for these differences. Our second measure is a dummy indicating whether the member of Congress has ever posted more than 30 tweets in a single month; 95 members of Congress (18%) have done so. This variable places heavy Twitter users in a single category opposite those who use Twitter rarely or not at all. Although the 30 tweets cutoff is arbitrary, it performs roughly the same as other reasonable cutoffs. We chose 30 because it is high enough to reflect active usage but low enough to preserve adequate variance.<sup>6</sup>

Our third measure is a measure of the “size and strength of [each member’s] sphere of influence” on Twitter as measured by Klout, a private research firm. Rather than simply count up how many tweets each member has posted, Klout scores reflect each member’s “true reach” (actual audience size), “amplification ability” (number of posts that get replied to or discussed by other Twitter users), and “network score” (where a member’s Klout score is boosted if that member’s readers also have high Klout scores).<sup>7</sup> Including these scores in our analysis enables us to estimate not only each member’s frequency of Twitter usage but also each member’s success in influencing political dialogue. Klout scores range from 0 to a possible 100, although scores above 50 are rare. The average Klout score among Twitter users in our data is 18.5; the highest Klout score belongs to Representative John Boehner, with a score of 65. We use naturally logged Klout scores to reduce skew.<sup>8</sup>

We estimate the first two (dichotomous) dependent variables using probit; we estimate logged Klout scores using ordinary least squares. In all specifications, we use robust standard errors clustered by state. To test our hypotheses, we regress each dependent variable on the three broad categories of independent variables specified in our hypotheses: Electoral marginality, member and district characteristics, and party influence.

### *Hypothesis 1: Electoral Marginality*

*Hypothesis 1a, partisan competitiveness.* We measure each district’s general partisan competitiveness by recording the losing major-party presidential candidate’s vote share in 2008.<sup>9</sup> This methodology will produce a competitiveness score of 0 in districts where one major-party presidential candidate won 100% of the vote and a score of 50 where the candidates were perfectly tied. In our data, we observe scores ranging from 5 to 50.<sup>10</sup>

*Hypothesis 1b, ideological fit.* To measure each member’s ideological fit with his district, we regress each district’s vote for McCain in 2008 on both dimensions of the member’s DW-NOMINATE scores (Poole & Rosenthal, 2001). To the extent that the member’s roll call votes predict the district’s presidential vote, we argue that the member fits the district. We therefore use the absolute values of this regression’s residuals as a measure of ideological fit. We multiply these absolute residuals by negative one so that higher values (those closer to 0) indicate better fit between the member and her district. This variable ranges from  $-29.14$  to  $-0.02$  with an average of  $-6.15$ .

## **Hypothesis 2: Member and District Characteristics**

*Hypothesis 2a, member's propensity to be online.* Our hypotheses predict that members will be more likely to use Twitter if they are more demographically similar to Internet users in general. We include two variables to capture this similarity. The first, year of birth, is straightforward. The second is a general Internet usage propensity score. Using a national sample of more than 2,000 Americans, The Pew Research Center's Internet and American Life Project has identified several demographic variables that predict these respondents' probability of using the Internet (Rainie & Smith, 2008). Using the raw survey data from Pew, we estimated a probit equation of Internet usage. Variables in the model include race, education level, marital status, employment status, gender, and income. From this model's coefficients, we used the same variables to predict each member of Congress's probability of using the Internet regularly. These predicted probabilities serve as our "propensity to be online" index.

*Hypothesis 2b, years in Congress.* As is the case with franked mail, our hypotheses also predict that the newest members of Congress will be more likely to adopt Twitter. Our "years in Congress" variable records the number of years that have passed since each member was first elected to either chamber of Congress. We log this variable to prevent the handful of extremely long-serving members from skewing the analysis.

*Hypothesis 2c, district's propensity to be online.* We estimate the district's general propensity to be online by including education, occupational, and age data for each district. Because Internet usage is higher among educated, younger, white-collar Americans, we expect that members of Congress will be more likely to use Twitter, if their districts fit this profile.

## **Hypothesis 3: Party Influence**

*Hypothesis 3a, party identification.* We use a simple dummy to indicate whether each member is a Republican or, by default, a Democrat. There are only two declared independents in Congress (Senators Sanders and Lieberman), but both caucus with the Democrats and we code them accordingly. In models that pool Representatives and Senators together, we use separate dummies for House Republicans and Senate Republicans to account for the different emphasis that each leadership team has placed on Twitter.

*Hypothesis 3b, leadership.* We use a second dummy to indicate whether each member holds a leadership position. By "leadership," we refer to any general position within either party; this definition excludes standing committee chairs but includes the chair of each caucus's campaign committee.<sup>11</sup> We also include a third term that interacts party with leadership, recognizing that the party leadership teams have differed in their emphasis on Twitter and other new media

## **Other Controls**

*Average franks per quarter.* To control for each member's general propensity to maintain open communications with constituents, we also measure the average number of pieces of franked mail that each member sent per quarter between January 2007 and September 2009, per official Congressional records.

## **Empirical Results**

We begin by estimating separate sets of regressions for House and Senate members, after which we present pooled estimates. Table 1 displays the estimates for the House. Contrary to expectations, these

**Table 1.** Twitter Usage Among U.S. Representatives

	Model 1 Has Twitter Account?	Model 2 Active Twitter User?	Model 3 Twitter Influence (Logged Klout)
<b>Electoral marginality</b>			
Partisan competitiveness	-0.0182* (0.00812)	-0.00217 (0.00976)	-0.0107 (0.00743)
Ideological fit with district	0.0158 (0.0137)	0.00786 (0.0165)	0.0208+ (0.0119)
<b>Member characteristics</b>			
Year of birth	0.0203* (0.0100)	0.0257* (0.0128)	0.0171+ (0.00990)
Propensity to be online	-2.484 (6.550)	1.769 (7.572)	-3.243 (5.449)
Years in Congress (logged)	-0.167 (0.115)	-0.113 (0.157)	-0.105 (0.0833)
Average franks per quarter	-1.78e-07 (6.01e-07)	-3.83e-07 (7.76e-07)	2.48e-07 (6.13e-07)
<b>District characteristics</b>			
Percentage with a college degree	0.0240 (0.0195)	0.110** (0.0235)	0.0295+ (0.0172)
Percentage in white-collar jobs	-0.0132 (0.0273)	-0.131** (0.0283)	-0.0233 (0.0235)
Median age in district	0.0114 (0.0209)	0.0375+ (0.0226)	0.00155 (0.0207)
<b>Party influence</b>			
Republican	1.250** (0.155)	1.214** (0.187)	0.982** (0.144)
Leader			-0.426+ (0.215)
Leader × Republican			1.293* (0.539)
Constant	-37.29* (15.72)	-49.73* (19.47)	-28.38+ (15.07)
N	409	409	409
Model estimated	Probit	Probit	OLS
Pseudo R <sup>2</sup> or OLS R <sup>2</sup> (adjusted)	0.169	0.194	0.195 (0.170)

Note. OLS = ordinary least square. Standard errors cluster-corrected by state.

\*\*  $p < .01$ .

\*  $p < .05$ .

+  $p < .10$ .

estimates indicate that both electoral marginality and member–district ideological similarities have minimal effects on Twitter adoption. Indeed, none of the variables concerning electoral marginality and district characteristics has a consistently significant estimated effect. Competitiveness and ideological fit each produce a statistically meaningful coefficient in one of the three models, but these inconsistent findings may reflect nothing more than statistical noise. The district’s average education level appears to have a modest positive effect on member Twitter usage, as expected, but this result appears in only two of the three models. Moreover, when district education has the strongest effect (in Model 2), it is counteracted by a strong negative effect of white-collar employment. This unexpected finding may reflect some multicollinearity between education and white-collar employment; these two variables correlate highly ( $r = .932, p < .0001$ ). Thus, we cannot conclude that these two variables have no effect, but we are unable to estimate the precise nature of their influence.

When it comes to member characteristics, only age has a strong, consistent effect on all three variables of interest. A member’s tenure in Congress, franking activity, and Internet usage propensity index have no consistent effect on her probability of using Twitter. To illustrate, we will contrast an average Republican member whose birth year is one standard deviation below the mean (born in 1931) with an otherwise identical member born one standard deviation above the mean (born in 1972). The younger member’s probability of having a Twitter account is .31 higher than the older member’s and his probability of using that account actively is .37 higher than the older member’s. These effects rival the effect of partisanship reported below. Given that we control separately for Congressional tenure, we can conclude that younger members likely use Twitter simply because

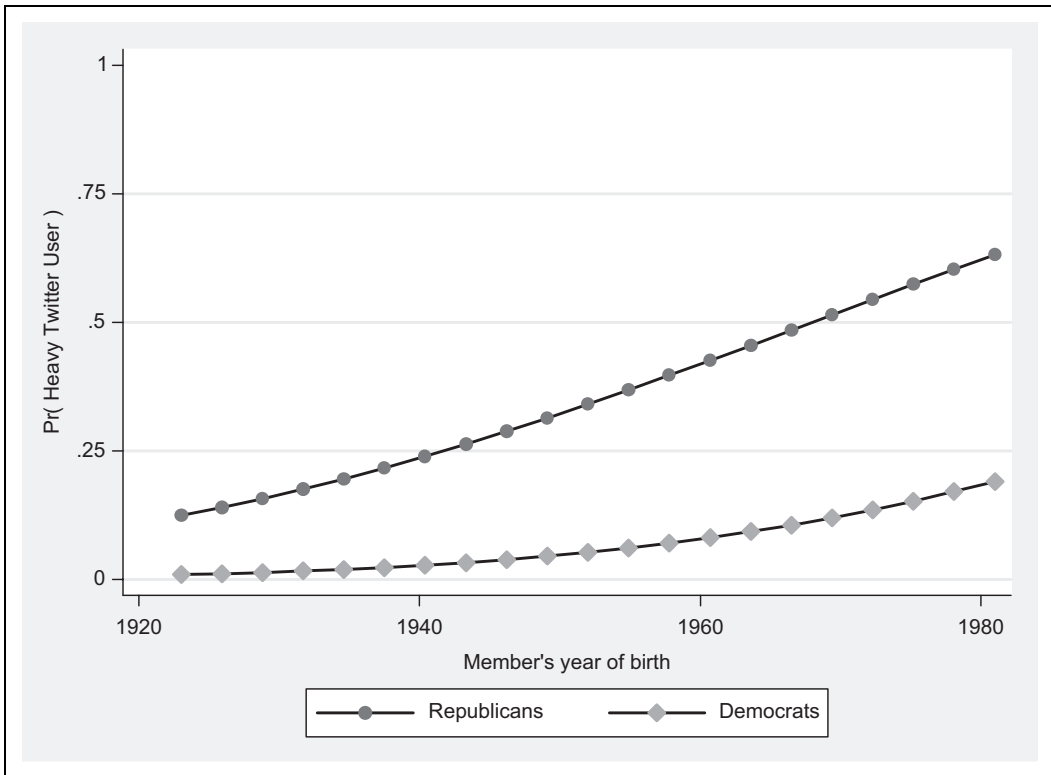


they are more comfortable with the Internet and other new technologies and not necessarily because they are less wedded to existing Congressional workways.<sup>12</sup>

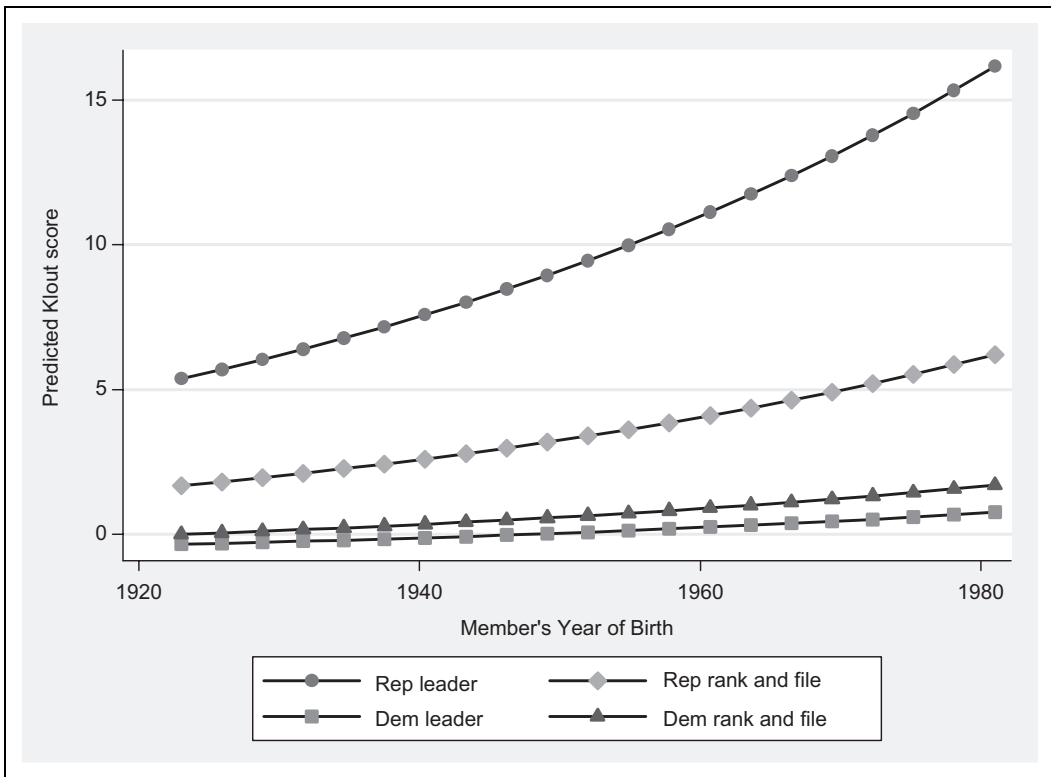
These estimates do strongly support our expectations about party effects, however. In the House, Republicans are far more likely to use Twitter than Democrats are. With other variables held at their mean, a Republican's probability of having a Twitter account is .44 higher than a Democrat's; a Republican's probability of actively using that Twitter account is .29 higher than a Democrat's. Similarly, at the margin, a Republican's Klout score is predicted to be 98.2% higher than an otherwise identical Democrat's. These are large effects.

This partisan pattern is especially pronounced when comparing House Democratic leadership to House Republican leadership. In the House, 10 of the 12 Republican leaders use Twitter but only 1 of the 17 Democratic leaders follows suit. Moreover, none of the Democratic leaders meets our definition of an "active" Twitter user (i.e., those who have tweeted more than 30 times in a single month). Unfortunately, probit performs poorly when independent variables perfectly predict dichotomous outcome variables; this weakness of probit forces us to omit the leadership dummies from the two probit specifications. Still, the estimated effects of leadership in the linear model (Model 3) confirm our expectation that House Republican leaders use Twitter actively.

For a better grasp of the substantive effects of age and partisanship, refer to Figure 1, which depicts these variables based on the coefficients in Model 2; other variables are held at their means. Based on our data, a 40-year-old Democratic representative is as likely to use Twitter actively as an 80-year-old Republican representative. We might expect most Republicans younger than 40 to be on Twitter regularly, but even the youngest Democrats tend not to use it.



**Figure 1.** Effects of age and partisanship on active Twitter usage in the house.



**Figure 2.** Effects of age, party, and leadership on Twitter reach (Klout Scores) in the house.

Figure 2 takes this interpretation one step further by plotting leaders separately from other representatives. To do so, we use the ordinary least squares (OLS) coefficients from Model 3. All Republicans, regardless of age, are expected to have a positive (if modest) Klout score on average; only the youngest Democrats approach the same expectation. Moreover, there is a clear difference between Republican leaders and Republican rank-and-file; there is no such difference among Democrats. Apparently, House Republican leaders are teaching by example that they want their entire caucus on Twitter—and many of the Republican rank-and-file are following suit.

Table 2 presents corresponding models for U.S. Senators. Partisanship lacks the same robust effects among Senators that we observed among Representatives. Although Senate Republicans appear to use Twitter at slightly higher rates than Senate Democrats, the difference is not statistically significant. The lack of partisan effect in the Senate implies that much of the partisan effect in the House is the result of party leadership efforts, not the result of minority status alone. Although House Republican leaders have urged all House Republicans to use Twitter and other social media, we are unaware of similar efforts among Senate Republican leaders.

We omit the leadership dummies from all Senate models due to low variance. In the House, we record over a dozen leaders in each party. In the Senate, we record only half a dozen leaders among Republicans—insufficient to draw firm conclusions. Including leadership dummies in the Senate does not meaningfully alter other coefficients in the model, but it does produce an erratic estimate of the effect of leadership (especially among Republican leaders) that is highly sensitive to model specification.

The estimated effect of age is roughly as large among Senators as it was among Representatives, although the estimate fails to reach statistical significance in the Senate models. This variable's

**Table 2.** Twitter Usage Among U.S. Senators

	Model 4 Has Twitter Account?	Model 5 Active Twitter User?	Model 6 Twitter Influence (Logged Klout)
Electoral marginality			
Partisan competitiveness	0.0257 (0.0307)	-0.0238 (0.0393)	0.0268 (0.0363)
Ideological fit with district	-0.0162 (0.0296)	-0.0161 (0.0333)	-0.0184 (0.0407)
Member characteristics			
Year of birth	0.0225 (0.0276)	0.00230 (0.0288)	0.0113 (0.0306)
Propensity to be online	4.589 (10.58)	6.363 (11.63)	5.678 (9.724)
Years in Congress (logged)	0.334+ (0.182)	0.385 (0.259)	0.345+ (0.187)
Average franks per quarter	6.94e-06 (5.55e-06)	7.82e-06 (5.64e-06)	8.84e-06 (7.07e-06)
District characteristics			
Percentage with a college degree	0.0488 (0.0732)	0.0154 (0.0994)	0.0143 (0.0768)
Percentage in white-collar jobs	-0.0181 (0.0999)	-0.0143 (0.144)	0.0344 (0.110)
Median age in district	-0.0400 (0.0499)	-0.0837 (0.0689)	-0.102 (0.0647)
Party influence			
Republican	0.568 (0.351)	0.636 (0.443)	0.445 (0.456)
Constant	-49.65 (46.24)	-8.687 (46.79)	-27.43 (52.13)
N	96	96	96
Model estimated	Probit	Probit	OLS
Pseudo R <sup>2</sup> or OLS R <sup>2</sup> (adjusted)	.0800	.120	.090 (-0.017)

Note. OLS = ordinary least square. Standard errors cluster-corrected by state.

\*\*  $p < .01$ .

\*  $p < .05$ .

+  $p < 0.10$ .

insignificance may reflect the reduced variance of age among Senators relative to Representatives. In the House, our data include 88 Representatives aged 50 or younger, 21 of whom are 40 or younger; in the Senate, we record only 8 Senators younger than 50 and none younger than 40. Although the estimated effect of age is the same in both chambers, there are apparently too few young Senators to produce a statistically significant estimate.

As in the House, none of the other variables is consistently significant across the three models in Table 2. As a result, we are unable to make any meaningful conclusions about Twitter adoption in the Senate. These null results are not the product of reduced variance on the dependent variables: 34% of Representatives and 36% of Senators have a Twitter account and 18% of Representatives and 17% of Senators are active Twitter users.

That being said, these null findings might result from reduced sample size and reduced variance on our independent variables. To check that possibility, we also present pooled models in Table 3 that incorporate both Senators and Representatives. These pooled models have the additional advantage of enabling us to test whether Senators are more likely than Representatives to use Twitter. As it happens, it does appear that Senators use Twitter more heavily than Representatives. With other variables held at their mean,<sup>13</sup> a Senator's probability of using Twitter is .15 higher than an otherwise identical Representative's.

We hypothesized earlier that members of Congress would use Twitter more if they faced a more difficult electoral situation at home—that is, if their district was more competitive or if they were a poor ideological fit with their district. Although our efforts to measure these variables directly are not consistently significant in our models, this difference between Senators and Representatives may reflect the same sorts of forces we discussed earlier. Senate “districts” are much larger and more diverse than House districts. As such, Senators may find themselves experimenting with innovative

**Table 3.** Pooled Estimates of Twitter Usage Among Representatives and Senators

	Model 4 Has Twitter Account?	Model 5 Active Twitter User?	Model 6 Twitter Influence (Logged Klout)
Electoral marginality			
Partisan competitiveness	-0.0124+ (0.00720)	-0.00117 (0.00878)	-0.00544 (0.00772)
Ideological fit with district	0.00658 (0.0111)	0.00377 (0.0142)	0.0122 (0.0111)
Member characteristics			
Year of birth	0.0220* (0.00910)	0.0271* (0.0118)	0.0177+ (0.00953)
Propensity to be online	-0.302 (5.267)	-1.282 (5.526)	-0.578 (4.459)
Years in Congress (logged)	-0.0185 (0.0946)	0.0288 (0.124)	0.0212 (0.0871)
Average franks per quarter	2.23e-07 (5.92e-07)	1.26e-07 (6.96e-07)	6.18e-07 (6.36e-07)
District characteristics			
Percentage with a college degree	0.0228 (0.0177)	0.0977** (0.0223)	0.0254 (0.0160)
Percentage in white-collar jobs	-0.0116 (0.0251)	-0.114** (0.0279)	-0.0162 (0.0224)
Median age in district	0.00223 (0.0199)	0.0175 (0.0220)	-0.0141 (0.0212)
Party influence			
Senator	0.612** (0.213)	0.434 (0.273)	0.580** (0.208)
Senate Republican	0.506+ (0.272)	0.758* (0.320)	0.434 (0.329)
House Republican	1.190** (0.148)	1.148** (0.181)	0.938** (0.145)
House Leader			-0.404+ (0.215)
House Leader × Republican			1.258* (0.546)
Constant	-43.07** (14.68)	-49.75** (18.75)	-32.44* (15.34)
N	505	505	505
Model estimated	Probit	Probit	OLS
Pseudo R <sup>2</sup> or OLS R <sup>2</sup> (adjusted)	.139	.156	.151 (0.127)

Note. OLS = ordinary least square. Standard errors cluster-corrected by state.

\*\*  $p < .01$ .

\*  $p < .05$ .

+  $p < .10$ .

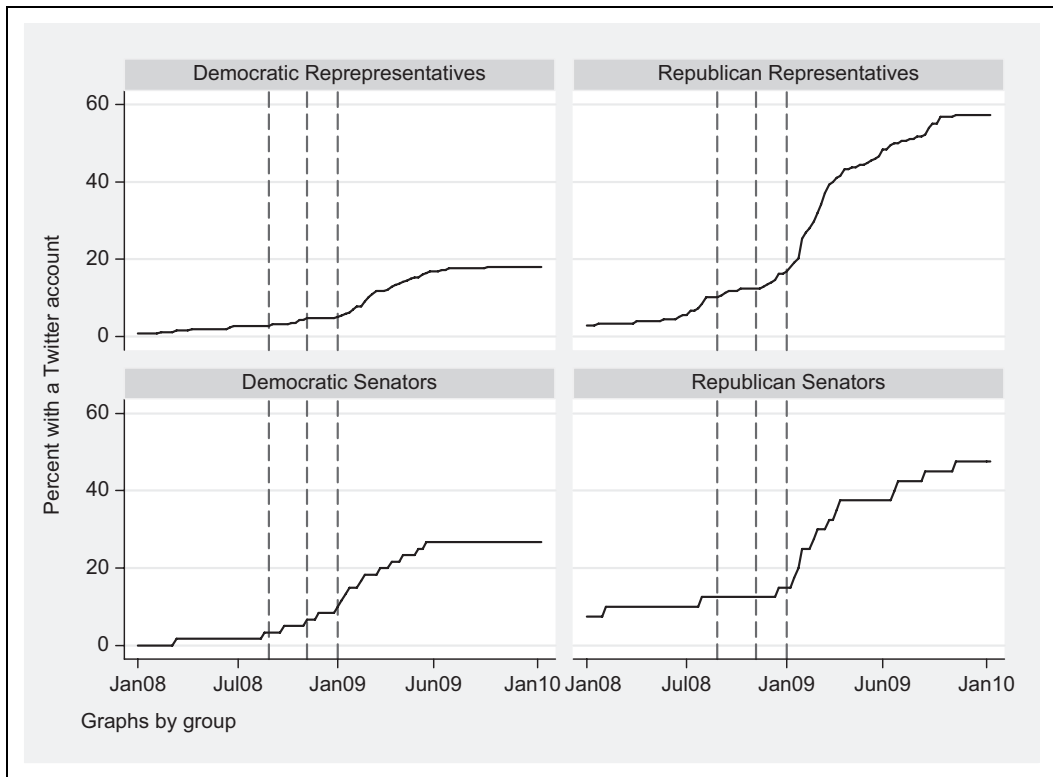
communications technologies such as Twitter in hopes of broadening their appeal. Indeed, as noted above, other research has shown that Senators use the Internet more actively than Representatives (Herrnson, Stokes-Brown, & Hindman, 2007).

As before, Table 3 again suggests that House Republicans use Twitter far more than House Democrats; the relevant coefficients have roughly the same magnitude as in Table 1. However, Table 3 also finds a similar but weaker partisan pattern in the Senate. This partisan effect is smaller and less robust than in the House but still strong enough to suggest a genuine pattern. It appears, then, that there is a minority party effect motivating Republicans in both chambers to adopt Twitter. Efforts by House leadership to promote Twitter have apparently paid off, though, since partisanship has a much stronger effect in the House than in the Senate.

The other coefficients in Table 3 are similar to those reported in Tables 1 and 2. Among the other variables in the model, only age is consistently significant; its estimated effect has the same magnitude as in Tables 1 and 2.

## Discussion

Our results suggest that although Twitter use is becoming popular for many members of Congress, it is difficult to discern patterns of individual motivation for doing so. Many of the hypothesized variables have no meaningful effect on decisions by members of Congress to use Twitter. This is true across all



**Figure 3.** Adoption of Twitter accounts over time.

of our Twitter use indicators. Ultimately, we are aided in our effort to explain congressional Twitter use only by each member's age, party affiliation, leadership status, and chamber.

Of particular note are the chamber and party effects evident in our models. Although it is not difficult to attribute increased Twitter usage among Republicans to specific instruction and exhortation by party leaders, the minority status of the party likely also influenced many Republicans in both chambers to adopt alternative media such as Twitter in an effort to circumvent the traditional media dominance of the majority party. The isolating feeling of minority status may have been exacerbated by suspicions of liberal bias in the established media. As noted above, therefore, at least some Republicans may have adopted Twitter because they felt they had few other ways to communicate their party message to the voting public—and they may well have adopted Twitter even without prodding by party leaders.

Still, the much stronger effect of partisanship in the House relative to the Senate suggests that party leadership also plays a role. In the House, Republican leaders have urged their caucus to use Twitter and other social media to communicate their message. They have led by example, with Minority Leader John Boehner having the highest Klout score of any member of Congress. These efforts have enhanced the partisan gap in Twitter usage in the House when compared to the Senate.

Regardless of party, we also find that Senators are more likely than Representatives to use Twitter. This finding is somewhat more complicated. Given that Senators tend to be older than Representatives, we might expect Senators to be less likely to use Twitter. Instead, after taking account of age, we find the opposite. Senators may use the service more than Representatives simply because they represent larger and more diverse constituencies.

Perhaps our most intriguing result is the limited role that electoral considerations seem to play in members' Twitter adoption and usage. Although others have found that electoral considerations motivate website development (Esterling, Neblo, & Lazer, 2005) and e-newsletter use (Parker & Goodman, 2010), very few electoral factors in our analysis appeared to consistently influence Twitter adoption. Our initial expectations, therefore, that members had begun to use Twitter because they were either electorally threatened or ideologically out of step with their constituents, were not borne out. Similarly, while record breaking sums were spent by candidates on traditional communication efforts during the 2008 election, Twitter usage among incumbents did not rise meaningfully during the campaign season. Figure 3 depicts the number of Congressional Twitter accounts in existence over time, with vertical lines marking the beginning and end of the campaign season (September 1st to election day) and the beginning of January. Twitter usage took off sharply in early 2009 as the 111th Congress convened—but not during the campaign. These findings are surprising given members' presumed electoral focus (Mayhew, 1974) and Twitter's ability to directly reach a broad group of voters at low cost to the member.

This is not to suggest, of course, that members do not use Twitter for political purposes. Indeed, even a brief review of the content of members' tweets reveals that the messages often publicize political events and policy positions. Instead, our variables may prove poor proxies of electoral motivation. More broadly, it may be the case that *all* members of Congress feel equally threatened by reelection. If members of Congress feel "unsafe at any margin" (Mann, 1978), then there would be little or no variance in the perceived need for members of Congress to shore up their bases of electoral support. That is, if Mayhew (1974) is correct that *all* members feel equally threatened by the need for reelection, then we have little reason to expect any measure of vulnerability to predict a member's protectionist efforts. If that is the case, then we should not be surprised if other, nonpolitical factors such as member age and the behavior of party leadership play a larger role than may otherwise be expected in predicting Twitter usage. The seeming absence of electoral motivations may also be attributable to limitations in available data. Most of the Twitter accounts currently in use by members were created in early 2009, after the 2008 election had concluded. More time and elections may be needed before possible electoral motivations in Twitter use become clearer. We may well observe a spike in Twitter usage during future campaign cycles.

More universal adoption notwithstanding, current Twitter use may have far-reaching effects on the nature and quality of representation. The impression that one may use Twitter to frequently check up on a member of Congress may increase constituent trust and support.<sup>14</sup> Such changes may come as a result of the direct, at times personal nature of tweets, which may cause some to feel that members are being more open, honest, and trustworthy. These feelings are likely enhanced when individuals publicly become followers of a member's tweets, especially when follower lists are relatively small, thereby endowing followers with the feeling of membership in an elite group. Similarly, the interactive nature of Twitter should not be overlooked. Individuals may feel that they have a larger and more direct ability to influence the decisions and behavior of their member of Congress when a relevant Twitter account is available. In this sense, Twitter may become part of a member's extended "home style" (cf. Fenno, 1978, also Esterling et al., 2005).

At the same time, however, the presence of Twitter in member–constituent communication may serve to weaken the relationship as well. Mayhew (1974) has argued that the pressing demands of constant reelection often lead members of Congress to disregard substantive policymaking in favor of superficial actions that help them build a personal following. Mayhew argues that members of Congress are more interested in the appearance of responsiveness than in actually ensuring that constituent concerns are reflected in public policies. Similarly, Greco Larson (1990) argues that member personal characteristics are most often the subject of direct member–constituent communication, allowing the member to "deemphasize policy positions while still . . . [gaining] visibility in the district." The ability to produce and instantly distribute brief, costless messages to a potentially huge

audience, many of whom may have already expressed an interest in the member by publicly following their Twitter feed, may exacerbate this tendency. Indeed, it is not uncommon for current Congressional Twitter users to use the service less to engage in substantive policy discussions and more to publicize either personal media appearances or, in the case of one member, to complain about the service he received from an airline.<sup>15</sup>

Ultimately, however, our results indicate that more time and data are necessary before a clearer picture of Congressional use of Twitter is possible. To that end, our work in this article has laid an initial framework upon which future studies may build. At the least, we cannot afford to overlook questions of how and why members of Congress use alternative media. As modern communications continue to rapidly change and influence the mass public, the presence of services such as Twitter will also directly affect democratic elections, congressional governance, and member–constituent relations.

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### Notes

1. Indeed, the ease of posting to Twitter creates the possibility of posting something foolish. Consider Chuck Grassley's curious assertion that he was "still on skedul/even workinWKEND" (see Graham, 2010).
2. As an example, Evans and Oleszek note that though reliable, efficient means for electronic tallying of floor votes were presented to Congress as early as 1869, it was not until 1970 that the House adopted such measures. The Senate still records all floor votes by hand with paper and pen.
3. During the week ending May 17, 2010, Yahoo News had 707 stories that mentioned Barack Obama, 290 that mentioned Harry Reid, and 176 that mentioned Nancy Pelosi. By contrast, only 210 mentioned Mitch McConnell and only 54 mentioned John Boehner.
4. Our information about this retreat draws on an interview we conducted with the communications director for an anonymous House Republican.
5. We used information from TweetCongress.org as well as our own searches to create our list of Congressional Twitter accounts.
6. Lower cutoffs yield results closer to those obtained from our first dependent variable. Slightly higher cutoffs (e.g., 35 tweets) yield results similar to those found with the 30 tweet cutoff. Substantially higher cutoffs (e.g., 50 tweets) begin to yield inconsistent, unpredictable estimates as a product of low variance in the dependent variable. Another potential approach recently used in a similar context by Lipinski, Neddenriep, and Kedrowski (2007) is an event count model (such as negative binomial) to predict each member's total number of tweets. Doing so yields results substantively similar to those reported here.
7. These quotations about Klout's methodology are from the Klout's official website. Note that Klout is a for-profit business independent of Twitter that calculates scores for all Twitter users, not just for members of Congress. Details about Klout scores are available online: <http://klout.com/kscore/>.
8. We first increment each member's score to ensure that all logs will be defined. We assign non-Twitter users a score of zero.
9. We obtained district-level presidential votes from the National Journal's *Almanac of American Politics*. Their data include only McCain's vote share in each district, not Obama's. In districts where Obama won, we use McCain's share of the vote. In districts where McCain won, we infer Obama's share by subtracting McCain's share from 100.

10. Others have used Cook's competitiveness ratings when evaluating district competitiveness. Our scores are essentially the same as Cook's—they correlate at  $-.92$  ( $p < .0001$ ). We use our scores rather than Cook's in the interest of using a transparently constructed measure.
11. Our coding follows the definition of "leadership" used by Project Vote Smart, from whom we obtained these data.
12. Age and Congressional tenure are correlated ( $r = -.619, p < .0001$ ), but not so highly that multicollinearity is a concern.
13. With the exception of partisanship, other variables are held at their means. These estimates are for Republicans; for Democrats, the predicted probabilities are too low to produce a meaningful cross-chamber comparison.
14. Several modern thinkers have called for increased member–constituent interactivity online (Jarvis & Wilkerson, 2005; Tedesco, 2007), though members have been reticent to provide it (Owen, Davis, & Strickler, 1999; Stromer-Galley, 2000).
15. On February 1, 2009, Pete Hoekstra posted the following tweet: "Service at its finest? If they can book Diane from Detroit to Grr because there's 1 seat why can't they put me on standby? NWA says because?"

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