

Mudslinging on Twitter During the 2014 Election

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Abstract

Following the work of Evans, Cordova, and Sipole, we examine the way that candidates for congressional seats in 2014 used Twitter during the last 2 months of their campaign. Using a content analysis of every tweet sent by all candidates for both the US House and Senate, we show that particular individual-level and campaign-specific characteristics are related to whether and how often candidates go negative on Twitter. In particular, we show that there are differences based on competitiveness, incumbency, gender, and partisanship.

Keywords

Twitter, Congress, 2014 election, negativity

Negativity in elections is nothing new. Beginning with the Daisy Girl advertisement by Lyndon Johnson in 1964, negative advertising has infiltrated political campaigns. During the presidential election of 2012, for instance, 64% of the political ads aired were considered attack ads (Fowler & Ridout, 2013). That is the high-water mark for the percentage of negative ads aired during a presidential election.¹

Along with this growth in negativity on television, there has been a growth of political candidates using social media websites (especially Twitter), and many have noticed a growth in negativity there as well, especially during elections (Franz, 2013). Earlier work has also shown that attack/negative tweets were sent by candidates for the US House in the months leading up to the 2010 and 2012 election (Evans, Cordova, & Sipole, 2014; Gainous & Wagner, 2014).

Political science research regarding who goes negative suggests that there are particular characteristics of the race and of those running that make individuals more likely to attack their opponents. Challengers, those in competitive races, men, and those in the out-party are more likely to go negative on traditional media advertising. What we do not know, however, is whether these characteristics affect whether candidates go negative on social network sites like Twitter.

In this piece of research, we add to the existing literature on Twitter behavior by examining the personal and electoral specific characteristics that are related to whether a candidate goes negative on Twitter. We will test whether the same types of candidates “go negative” on Twitter as they do on traditional media. We explore negative advertising, aptly called mudslinging in some research, on Twitter using a complete

hand-coded dataset of 140 candidates for the US Senate and 1,125 candidates for the US House during the last 2 months of the 2014 election. We examine the effect of gender, incumbency, competitiveness, winning, partisanship, and whether the candidates are running in open seat contests to test whether particular candidates are more likely to go negative on social media.

In the next section of our article, we offer a summary of past research on negativity, as well as theoretical reasons why certain groups may be more likely to go negative. We then describe our data and explore our results. The last section of our article moves our findings forward, describing their implications and our next steps.

Negativity in Elections

One would be hard-pressed to have a discussion about elections in the United States and not mention the increase in the use of negativity during campaigns (West, 2014). Political communication researchers have spent ample time discussing the effects of negativity in elections (Ansolabehere & Iyengar, 1995; Ansolabehere, Iyengar, Simon, & Valentino, 1994; Dowling & Wichowsky, 2015; Finkel & Geer, 1998; Geer, 2006, 2012; Goldstein & Freedman, 2002; Krasno &

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Green, 2008; Y. Krupnikov, 2011, 2014; Lau & Pomper, 2004; Wattenberg & Brians, 1999). Some research suggests that people are demobilized by negativity (Ansolabehere & Iyengar, 1995; Ansolabehere et al., 1994), while other work shows that negativity increases turnout (Goldstein & Freedman, 2002; Wattenberg & Brians, 1999). Other work shows that there are no effects (Finkel & Geer, 1998; Krasno & Green, 2008), while others show that it depends on when the negativity is viewed (Y. Krupnikov, 2011) and whether citizens have strong party affiliations (Fridkin & Kenney, 2011). It seems, therefore, that the question to whether negativity affects the electorate is “it depends.”

All the researches performed so far on the effects of negativity have used traditional media sources, like television, newspaper, and radio advertisements. No one has examined the effects of negativity on social media, and we do not attempt to do that in this article either. What we do, rather, is begin a discussion regarding (1) whether candidates for US House and Senate races went negative on Twitter in 2014 and (2) examine what characteristics, either personal or race-specific, were associated with candidates going negative. We will determine whether the same characteristics associated with candidates going negative on traditional media hold for going negative on Twitter. Once we know more about what is actually happening on social media, we can begin unpacking the potential effects in future research.

The advice that most political candidates receive is to “attack from the start and never let up” (Peterson & Djupe, 2005, p. 45). Going negative, however, is risky. Negativity has the potential to backfire on political candidates as voters may view candidates who attack their opponents more negatively. Previous research has shown that there are certain characteristics that are related to the likelihood that a candidate will go negative in traditional advertising, and there are some newer results about going negative on social media. Most of this research focuses around characteristics of the individuals running, as well as the electoral context. It is to those factors that we now turn.

Incumbency

Generally speaking, negative campaigning is used by candidates who are looking to get ahead of their opponents. In congressional elections, this means that challengers are more likely to use this form of campaigning than incumbents. Incumbents are less likely to go negative since they have more funding, an established record in Congress, a longer relationship with their constituents, and name recognition (Peterson & Djupe, 2005). Since incumbents have all these advantages, challengers should be more likely to use negative campaigning tactics to gain votes. Campaigning negatively can be advantageous for challengers in conveying the “impression that they are ‘tough enough’ to be a leader” (Lau & Pomper, 2002). Technically, challengers have to attack the incumbents to “call for change” (Trent & Friedenber, 1995).

Research has shown that challengers do use negative campaigning more than incumbents (Benoit, 2001; Lau & Pomper, 2002).

When it comes to Twitter, previous research has shown that challengers are more likely to go negative. Challengers were seven times more likely to tweet an attack than an incumbent running for a US House seat in 2012 (Evans et al., 2014). While this work is very new and only focuses on one election, it is in line with previous research on traditional campaign advertising and discussions of who goes negative. Challengers then, it seems, are more likely to go negative.

Competitiveness

In competitive races, citizens are exposed to significantly more information about the candidates, especially negative rhetoric. Candidates in these elections, incumbents or not, should be more likely to use negative campaigning. It is in these contests where negative campaigning, which is somewhat risky, should be employed. Voters are more likely to pay attention and vote on the basis of campaign rhetoric (Kahn & Kenney, 1999). Research shows that traditional negative campaigning is more likely in competitive elections (Lau & Pomper, 2004).

When it comes to online media, Druckman, Kifer, and Parkin (2010) find that competitiveness is a significant predictor of going negative on candidate campaign websites. On social media, especially on Twitter, researchers have found that those in competitive races send significantly more tweets, especially those with a negative tone (Evans et al., 2014; Haber, 2011). In 2012, for instance, those in competitive races sent approximately 7.75 attack tweets, while those in safe races sent 4.75 on average during the last 2 months of the campaign (Evans et al., 2014). Both online and offline, it seems as though competitiveness is correlated with the frequency of mudslinging.

Winners

There are various reasons to theorize that winners should be less likely to use negative campaigning. In congressional elections, incumbents are generally returned to office. Since incumbents are less likely to go negative, it follows that winners should therefore be less likely to go negative. Candidates who are polling lower have more of an incentive to use negative campaigning, whether through traditional or online forms of media. Haber (2011), for instance, found in his analysis of the 2010 Senate elections that winners were less likely to attack than challengers on Twitter.

Gender

When it comes to gender differences and negativity, most research up until the late 1990s showed that women attacked their opponents less (Kahn & Kenney, 2000). As Proctor and

Schenck-Hamlin (1996) summarized the work from that period, women used negative advertising less because “negative advertisements violate cultural expectations of women as deferential, soft, and nurturing” (p. 148). Female candidates are expected to be “warmer and more compassionate” than male candidates (Dolan, 2010). Some evidence exists that shows that women may be harmed by such behavior as well, with voters discounting female candidates who attack their opponents (Fridkin, Kenney, & Woodall, 2009; Kahn, 1996; Rudman, 1998; Trent & Friedenberg, 2008).

However, some work has revealed that women are no less likely to use negative advertising than men (Lau & Pomper, 2001, 2004; Proctor et al., 1994). Other work has found that women have become more likely to attack their opponents since the 1990s (Bystrom, 2006).

When it comes to online campaigning, women appear to be engaging differently. Druckman et al. (2010), for instance, show that women sent more negative messages on their campaign websites from 2002 to 2006. Work on Twitter use among congressional candidates also reveals that females sent significantly more attack/negative tweets during both the 2010 and 2012 election (Evans & Clark, 2016; Evans et al., 2014; Evans, Ovalle, & Green, 2016; Wagner, Gainous, & Holman, 2014). All the work on Twitter suggests that women may send more attack tweets because of their status in the legislature, being part of the out-party on the basis of gender alone (Evans & Clark, 2016; Evans et al., 2016; Wagner et al., 2014).

Partisanship

Generally speaking, when it comes to partisanship, members of the minority party have to go negative to convince voters to change the leadership (Druckman et al., 2010). Since the majority party in Congress is formulating policies, the out-party has to oppose those policies publicly to garner support from voters. This means that whichever party does not have a majority in each chamber should be more likely to “go negative.”

In the US context, research has found that candidates in the 1990s were more likely to go negative when they were conservative (Lau & Pomper, 2001). The reasons for this are under-theorized, but it seems as though Republican consultants were more likely to report that they would attack their opponents in elections during the early 1990s (Perloff & Kinsey, 1992). Negative campaigning is also viewed as more acceptable by Republican voters (Lau & Pomper, 2004). Research regarding presidential primaries, however, has shown that Democrats were more likely to attack Bush during 2004 than Republicans were to attack Clinton in 2008 (Ridout & Holland, 2010). This may be due to the fact that Bush had a presidential record to attack, whereas Clinton did not, but this result means that conservative candidates are not always more likely to use negative campaigning.

As Ridout and Holland (2010) explain, in a three-candidate race that includes an “underdog” (third-party candidate), the

candidate who is less likely to win is more likely to engage in positive campaigning so that there will not be a backlash to their campaign. However, other work suggests that third-party candidates should be more likely to engage in negative campaigning simply due to the fact that they face insurmountable odds when it comes to the general election (Kahn & Kenney, 1999). They are, in a sense, always the out-party, and so they will do whatever they can to show that they deserve a seat in Congress.

When we turn to social media research, some authors have found that Democrats are more likely to attack (Haber, 2011), while others have shown that Republicans are more likely to attack (Russell, 2014). Both these authors attribute their different findings to the status the candidates had in the polls. For instance, Haber (2011) shows that Democrats were more likely to attack in the Senate contests during the 2010 election, but that was also at a time when Democrats were trailing their Republican counterparts. Russell (2014), on the other hand, finds that Republicans in the Senate were more likely to use negative partisan rhetoric on Twitter during the 2012 election and at the time were the minority party in the Senate. On balance, recent work by Evans et al. (2014) of the 2012 elections shows that Republicans and Democrats were sending similar percentages of attack tweets, whereas third-party candidates were sending significantly more negative tweets. No other study has examined the likelihood of third-party candidates to go negative on Twitter.

Research Expectations

Twitter is a very different type of platform for political candidates. Unlike the traditional media, where candidates have to wait for media gatekeepers to allow them to get the word out about their policy positions or where they have to pay to advertise, Twitter is essentially free. Candidates can talk about whatever they want as much as they want. As Evans and Clark (2016) point out, this is a good tool for those who might lack the resources necessary to put out television advertisements. Dave Karpf (2012) also suggests that social media like Twitter is adopted quicker and used most frequently by those in the out-party, who use the site to try and gain an advantage over the majority party.

Given these stark contrasts with traditional media, we should expect those in the out-party to use Twitter to highlight the negative aspects of their opponent’s backgrounds. This means that those who are not in majority control should use Twitter to post attack-style messages about their opponents. Our five hypotheses are as follows:

H1. Challengers will be more likely to go negative on Twitter than incumbents.

H2. Those in competitive races will be more likely to go negative on Twitter than those in safe races.

H3. Winners will be less likely to go negative on Twitter than those who lose their elections.

H4. Women will be more likely to go negative on Twitter than men.

H5. Third-party candidates will send more negative messages about their opponents than major party candidates.

Method

We examine the presence of negative campaigning on Twitter in the Senate and House races in 2014. Recently, there has been a growth in this research area, but most of this research examines the likelihood of candidates having a Twitter account or the number of times they tweet. Very few researchers have spent considerable time examining the tone of the tweets sent by candidates for political office (Evans & Clark, 2016; Evans et al., 2014; Gainous & Wagner, 2014; Haber, 2011; Russell, 2014).

While some research distinguishes negative ads between attack, comparison, and response (Proctor & Schenck-Hamlin, 1996), or even attack and comparative (Jamieson, Waldman, & Sheer, 2000), we opted for a dichotomous measure of negativity per tweet that was then summed across the entire dataset. Borrowing from Lau and Pomper (2001), we define negative tweeting as “talking about the opponent—the (deficient nature of his or her programs, accomplishments, qualifications, associations, and so on” (p. 73).² If a candidate’s tweet said anything negative about their opponent, it was coded as an “attack” tweet. We are trying, in this sense, to measure the negativity expressed about their opponent as a whole. The unit of analysis that follows is the legislator, so we are examining the count of all negative tweets sent.³

We hand-coded each tweet for negativity for the last 2 months of the 2014 election, which resulted in a dataset of 116,966 tweets for the US House races and 36,796 tweets for the US Senate races. Our inter-coder reliability was extremely high on this measure, for it was not difficult to pick out tweets that were negative about a candidate’s opponent.⁴ For instance, on October 28, Dave Brat, a Republican running for Virginia’s 7th district, wrote, “My opponent is running false attack ads scaring seniors—if he were in my class I’d make him write an ethics paper and report him to the Dean.” This was coded as an attack tweet.⁵



Since we are interested in the factors that relate to whether candidates go negative, we include dummy variables for incumbency, competitiveness, winning, gender, and party identification. We also include a variable for whether the person is running in an open seat.⁶ Most of the data for these dummy variables are collected from *Ballotpedia*. Our competitiveness measure is taken from the Cook Political Report on September 5, 2014, for the Senate races and from September 12, 2014, for the House races. Races listed as

“toss ups” and “leaning” were coded as competitive. After the elections were over, we coded for whether a candidate won or lost their bid. For more information on the coding of these variables, please see the Appendix. All statistical analyses below use the number or count of attack tweets, not the percentage of attack tweets as a proportion of total tweets sent.

Results

When we look specifically at Senate candidates ($N=140$), almost 25% did not have Twitter or did not send a single tweet ($N=33$). After dropping those candidates from the analysis, those running for Senate seats and tweeting during the election sent 344.03 tweets on average, including retweets. Since we are most interested in the negativity actually expressed by candidates themselves toward their opponents, retweets are excluded from our analysis. When we remove retweets, candidates sent on average 278.89 tweets. One candidate, Steve Carlson from Minnesota, sent 8,649 tweets, 8,645 of which were original tweets (133 per day on average). His total number of tweets sent is seven times that of the next highest tweet-sender. When he is excluded from the analysis, candidates sent on average 199.96 tweets. In the rest of the analysis that follows, those who did not have a Twitter account, retweets, and Steve Carlson are removed, leaving a dataset of 21,197 original tweets for the Senate races.

On average, Senate candidates sent 17.97 tweets where they attacked their opponent in some way. That means that approximately 9% of Senate candidates’ total time on Twitter was spent sending negative messages about their opponents.⁷ In a first sweep of these data, we see that women attacked more often than men, as did those in competitive races. Those in competitive races sent significantly more attack tweets than those in safe races.⁸ Incumbents, surprisingly, sent significantly more attack tweets than challengers, and major party candidates sent significantly more attack tweets on average than third-party candidates.⁹ Winners also sent more attack tweets than losers. The averages are given in Figure 1.¹⁰

To see the cumulative effect of these variables, we calculate a negative binomial regression model (NBREG), and our results are shown in Table 1. Our results show that competitiveness continues to be strong predictor of sending attack tweets. Those in competitive races sent almost four times as many as those in safe races.¹¹ Third-party candidates also sent significantly fewer attack tweets than major party candidates, which is not what we expected given the out-party theory. Incident rate ratios show that major party candidates sent 87% more attack tweets than third-party candidates.

While incumbency was significant with a difference of means test, its effect fails to reach significance in the negative binomial regression model (NBRM). Winners and those

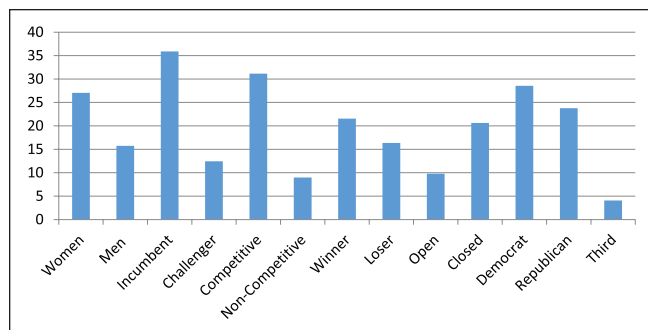


Figure 1. Average number of attack tweets—Senate.

Table 1. Negative Binomial Regression Model for Number of Senate Attack Tweets.

	Coefficients
Female	−0.25 (0.49)
Incumbent	0.19 (0.55)
Competitive	1.35** (0.43)
Open	−0.91* (0.47)
Winner	−0.92* (0.55)
Third	−1.80** (0.46)
Constant	2.99* (0.38)
Log-likelihood	−334.71
Pseudo R ²	0.04

Standard errors listed in parentheses. $N = 106$.

** $p \leq .01$; * $p \leq .05$; + $p \leq .10$.

in races with an incumbent, however, sent significantly more attack tweets. Those in open seat contests only sent 40% as many attack tweets as those in non-open seat races, and winners also sent only 40% as many attack tweets as losers. When we examine the incumbents included in our tweet analysis, only 58% were returned to their seats.

When we turn to the House candidates, there were 1,125 people running for the seats in 2014. Almost 25% of the candidates running for House seats did not have a Twitter account ($N = 281$). Those who used Twitter during the last 2 months of the election sent approximately 103.99 tweets on average, including retweets (25.58 on average). Richard Charles, a Libertarian candidate running for Nevada District 1, sent the most tweets at 3,252 tweets (50 tweets per day). After retweets are removed, Richard Charles sent 1,200 original tweets, which is the second most sent by any candidate. Coming in first place was Rose Izzo, a Republican candidate running in Delaware (1,239 original tweets). Richard and Rose were the only two candidates who sent more than 1,000 tweets during this time period. In the analysis that follows, those who did not have a Twitter account, retweets, Richard Charles, and Rose Izzo are excluded, which gives us a total dataset of 63,739 original tweets.

On average, candidates for the US House seats during the last month of the election sent approximately 101.84 original

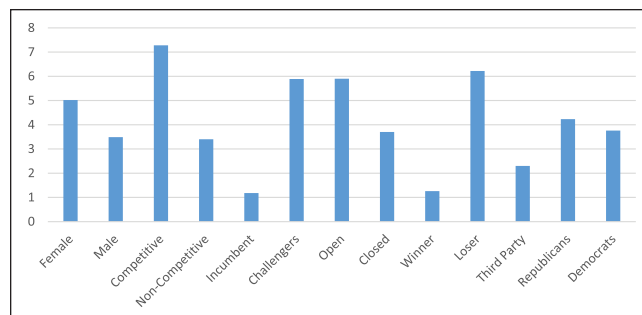


Figure 2. Average number of attack tweets—House.

Table 2. Negative Binomial Regression Model for Number of House Attack Tweets.

	Coefficients
Female	0.28 (0.22)
Incumbent	−0.77* (0.32)
Competitive	0.78* (0.31)
Open	0.12 (0.52)
Third	−1.33** (0.28)
Winner	−1.36** (0.31)
Constant	1.96** (0.15)
Log-likelihood	−1444.05
Pseudo R ²	0.04

Standard errors reported in parentheses. $N = 838$.

** $p \leq .01$; * $p \leq .05$.

tweets, 3.78 of which attacked their opponent. This means that approximately 3.7% of the tweets sent by candidates for the US House attacked their opponent. This is significantly fewer attack tweets than those in the Senate.¹² This is also fewer tweets sent than during the previous election, though not significantly so (Evans et al., 2014).¹³ Women, challengers, Republicans, those in competitive districts, those in open seat contests, and those who did not win their elections sent more attack tweets than their counterparts (see Figure 2¹⁴). These comparisons are exactly what we expected. Using a simple comparison of means t -test, we find that challengers sent significantly more attack tweets than incumbents ($p \leq .01$, $t = 4.18$), those in competitive elections sent significantly more than those in safe races ($p \leq .10$, $t = 2.63$), and winners sent significantly fewer attack tweets than losers ($p \leq .01$, $t = 4.46$).

When we calculate an NBRM, we find that incumbency, competitiveness, winning, and partisanship continue to be significant predictors of the number of attack tweets sent during the last 2 months of the 2014 election. Our results are displayed in Table 2. Incident rate ratios reveal that incumbents sent less than half as many attack tweets as challengers, losers sent 75% more attack tweets than winners, and third-party candidates sent only 26% as many as major party candidates. Those in competitive races sent 2.19 times as many attack tweets than those in safe races.

Discussion and Conclusion

Overall, our analysis reveals some interesting correlations and contradictions between the Senate and the House contests in 2014. First, the Senate races were more negative on Twitter. This is possibly because there was a greater proportion of competitive races in the Senate (33%) than in the House (8.7%). Furthermore, only 58% of the incumbent candidates included in this dataset were returned to their seats in the Senate, which signifies just how competitive those seats were in 2014. It may also be a characteristic of Senate races in general. Druckman et al. (2010), for instance, found that those in Senate contests exhibited a greater likelihood to go negative online than those in House races during 2002, 2004, and 2006. We do not have the data to test whether this was the case with Senate races on Twitter in 2012, but we suspect this was the case then as well. There were 15 Senate races listed as either toss ups or leaning by the Cook Political Report in September of 2012 (45% of the races). Since competitive races are traditionally more negative than safe races, we should expect more negativity in the Senate races on Twitter.

Further comparisons illustrate that incumbents and winners sent more attack tweets in the Senate, while the House results were exactly the opposite. The House results are what we thought we would find given results from traditional media, but we are unable to confirm H1 and H3 for the Senate races. The findings here are somewhat puzzling since it makes little sense for incumbents to spend the political capital they have to attack their challengers (Peterson & Djupe, 2005). However, previous research on traditional media has shown that candidates are more likely to employ negative campaigning tactics when their likelihood of reelection decreases (Harrington & Hess, 1996; Kahn & Kenney, 2004). As incumbents become more likely to lose their seats, their use of negative tweets should increase. Since overall the Senate seats were more competitive during the 2014 election, and 48% of the incumbents included in our data were not returned to their seats, it would explain the greater use of negative tweets by incumbents and winners.

Our second hypothesis is confirmed. Competitiveness was important across both chambers. Like previous scholars who have examined both traditional and social media, we find that the likelihood of going negative increases with competitiveness. In both chambers, competitiveness has the largest effect on the likelihood that a candidate will send an attack tweet.

Women sent more attack tweets than their male counterparts in both the House and the Senate. H4 is confirmed. This is in line with previous research that shows that women were more likely to send negative tweets during 2010 and 2012 (Evans & Clark, 2016; Evans et al., 2014, 2016; Wagner et al., 2014). While not reaching statistical significance, this suggests that women are engaging on Twitter in ways that we would expect the out-party to behave. This is very different

than the results from traditional media, which show that women “go negative” at the same rate as men. There is something different about social media in the way female candidates campaign.

Finally, when it comes to partisanship, third-party candidates were less likely to attack their opponents than major party candidates. While this is opposite to our original expectations (H5), this may be due to the “backlash” that Ridout and Holland (2010) theorized about in their research. Third-party candidates, at least in 2014, were engaged in less negative tweeting than major party candidates.

What our analysis shows is that candidates do go negative on Twitter, and certain individuals are more likely to go negative. Given that our analysis is specific to one social media platform, we also are left to wonder whether in an age where the average Twitter user follows over 100 accounts (Gilbert, 2013), these negative tweets are actually seen by other users. Furthermore, since recent studies have shown that “Twitter is full of haters,” does sending negative messages about one’s opponent have any impact even if it is viewed (Oremus, 2013). On Twitter, you select who you want to follow and what you want to see. Since some work shows that those with stronger partisanship are less likely to be affected by negativity, that might be the case on Twitter as well (Fridkin & Kenney, 2011). Y. Krupnikov’s (2011) work also shows that traditional forms of negativity can affect turnout depending on when those ads are viewed. She shows that those who are most affected by negativity are those who have selected a candidate but have not made it to the polls yet. This means that we might be affected by tweets before we cast our ballots. Of course, if our Twitter feeds are echo chambers, as some suggest (Miller, 2014), tweets that we see may serve to only deepen our positive feelings toward our own preferred candidate. Future work should examine whether tweets really matter in the evaluation of candidates. Some work suggests that negative campaigning is more effective for challengers (Fridkin & Kenney, 2004; Lau & Pomper, 2002). Whether that is the case on Twitter has yet to be investigated.

Since females are also more likely to go negative on this platform, which is against traditional gendered stereotypes, whether this increase in negativity can affect their turnout or voter evaluations is something left for future research. Recent research suggests that females can be harmed by negative campaigning if the female is perceived to be an instigator and of the opposing party (K. Krupnikov & Bauer, 2014). In the world of social media, it is unclear whether females are more often viewed as the instigators of negativity.

Simply put, there is more work to be done in this area. While this research gives us a snapshot as to which candidates are more likely to go negative on Twitter, we are left wondering why they use Twitter in the ways that they do, and how their behavior on Twitter affects voters. If our elections become more competitive in the future, we will see more mudslinging on Twitter.

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Notes

1. The data for the 2016 presidential election are not yet available.
2. We also coded for whether the candidate made unflattering remarks about the political parties, leadership, and government. Those analyses will be included in a future project.
3. We decided to use the count of tweets instead of a percentage of tweets since we are looking at how many times candidates “go negative” online. Tweets are very similar to campaign ads, so in essence we are examining how many times a candidate publicized something on Twitter that was negative toward their opponent.
4. We had 98.23% agreement between us. The four authors split the data, coding approximately 40,000 tweets each, and then the lead author randomly selected and coded 10% of the tweets (15,000) a second time ($Kappa=0.52$).
5. And a funny one at that.
6. Research has shown that candidates for open seats are also more likely to behave as challengers since there is no incumbent in the race (Kahn & Kenney, 1999).
7. We are unfortunately unable to compare this to the 2012 race due to the availability of data. This is, however, proportionally more attack tweets than in the House contests in 2012. House candidates tweeted attacks in approximately 5.6% of their tweets during the last 2 months of the 2012 election (Evans et al., 2014).
8. Difference of means t -test, $p \leq .01$; $t=3.11$.
9. Difference of means t -test: between incumbents and challengers: $p \leq .01$ ($t=2.81$); between Republicans and third-party candidates: $p \leq .01$ (2.42); and between Democrats and third-party candidates: $p \leq .01$ (3.74).
10. For a list of the averages and standard errors, please see the Appendix.
11. Incident rate ratios.
12. Difference of means t -test, $p \leq .01$; $t=4.31$.
13. Approximately five attack tweets were sent on average in 2012. Candidates also sent approximately 88 tweets total on average during the last 2 months of their campaign in 2012, which means that proportionally candidates were sending fewer attack tweets in 2014 as well.
14. For a list of the averages and standard errors, please see the Appendix.

References

- Ansolabehere, S., & Iyengar, S. (1995). *Going negative: How political advertisements shrink and polarize the electorate*. New York, NY: Free Press.

- Ansolabehere, S., Iyengar, S., Simon, A., & Valentino, N. (1994). Does attack advertising demobilize the electorate? *American Political Science Review*, 88, 829–838.
- Benoit, W. L. (2001). The functional approach to presidential television spots: Acclaiming, attacking, defending 1952–2000. *Communication Studies*, 52, 109–126.
- Bystrom, D. (2006). Advertising, websites, and media coverage: Gender and communication along the campaign trail. In S. J. Carroll & R. L. Fox (Eds.), *Gender and elections, shaping the future of American politics* (pp. 168–188). Cambridge, UK: Cambridge University Press.
- Dolan, K. (2010). The impact of gender stereotyped evaluations on support for women candidates. *Political Behavior*, 32, 69–88.
- Dowling, C. M., & Wichowsky, A. (2015). Attacks without consequence? Candidates, parties, groups, and the changing face of negative advertising. *American Journal of Political Science*, 59, 19–36.
- Druckman, J. N., Kifer, M. J., & Parkin, M. (2010). Timeless strategy meets new medium: Going negative on congressional web sites, 2002–2006. *Political Communication*, 27, 88–103.
- Evans, H., & Clark, J. (2016). “You tweet like a Girl”: How female candidates campaign on Twitter. *American Politics Research*, 44, 326–352.
- Evans, H., Cordova, V., & Sipole, S. (2014). Twitter style: An analysis of how House candidates used Twitter in their 2012 campaigns. *PS: Political Science and Politics*, 47, 454–462.
- Evans, H., Ovalle, J., & Green, S. (2016). Rockin’ robins: Do congresswomen rule the roost in the Twittersphere? *Journal of the Association for Information Science and Technology*, 67, 268–275.
- Finkel, S., & Geer, J. (1998). A spot check: Casting doubt on the demobilizing effect of attack advertising. *American Journal of Political Science*, 42, 573–595.
- Fowler, E. F., & Ridout, T. (2013). Negative, angry, and ubiquitous: Political advertising in 2012. *Forum*, 10, 51–61.
- Franz, J. (2013, March 5). Twitter stats reveal surprising bias—Or lack thereof. *The Daily Dot*. Retrieved from <http://www.daily-dot.com/layer8/twitter-pew-research-statistics-negativity/>
- Fridkin, K., & Kenney, P. (2004). Do negative messages work? The impact of negativity on citizens’ evaluations of candidates. *American Politics Research*, 32, 570–605.
- Fridkin, K., & Kenney, P. (2011). Variability in citizens’ reactions to different types of negative campaigns. *American Journal of Political Science*, 55, 307–325.
- Fridkin, K., Kenney, P., & Woodall, G. (2009). Bad for men, better for women: The impact of stereotypes during negative campaigns. *Political Behavior*, 31, 53–72.
- Gainous, J., & Wagner, K. (2014). *Tweeting to power: The social media revolution in American politics*. Oxford, UK: Oxford University Press.
- Geer, J. (2006). *In defense of negativity: Attacks ads in presidential campaigns*. Chicago, IL: The University of Chicago Press.
- Geer, J. (2012). The news media and the rise of negativity in presidential campaigns. *PS: Political Science and Politics*, 45, 422–427.
- Gilbert, J. (2013, September 13). Twitter, by the numbers. *Yahoo News*. Retrieved from <https://www.yahoo.com/news/twitter-statistics-by-the-numbers-153151584.html?ref=gs>
- Goldstein, K., & Freedman, P. (2002). Campaign advertising and voter turnout: New evidence for a stimulation effect. *Journal of Politics*, 64, 721–740.

- Haber, S. (2011). *The 2010 U.S. Senate Elections in 140 characters or less: An analysis of how candidates use Twitter as a campaign tool*. Retrieved from <http://auislandora.wrlc.org/islandora/object/1011capstones%3A154/datastream/PDF/view>
- Harrington, J., & Hess, G. (1996). A spatial theory of positive and negative campaigning, games and economic behavior. *Journal of Economic Literature*, 17, 209–229.
- Jamieson, K. H., Waldman, P., & Sheer, S. (2000). Eliminate the negative? Defining and refining categories of analysis for political advertisements. In C. Nelson, J. Thurber, & D. Dulio. (Eds.), *Crowded airwaves* (pp. 44–64). Washington, DC: Brookings.
- Kahn, K. F. (1996). *The political consequences of being a woman*. New York, NY: Columbia University Press.
- Kahn, K. F., & Kenney, P. J. (1999). Do negative campaigns mobilize or suppress turnout? Clarifying the relationship between negativity and participation. *The American Political Science Review*, 93, 877–889.
- Kahn, K. F., & Kenney, P. J. (2000). *The spectacle of U.S. Senate campaigns*. Princeton, NJ: Princeton University Press.
- Kahn, K.F., & Kenney P.J. (2004). When do Candidates Go Negative? In L. K. Lynda & H.-B. Christina (Ed.), *No Holds Barred, Negativity in U.S. Senate Campaigns* (pp. 19–37). Upper Saddle River: Pearson.
- Karpf, D. (2012). *The move on effect*. New York, NY: Oxford University Press.
- Krasno, J., & Green, D. (2008). Do televised presidential ads increase voter turnout? Evidence from a natural experiment. *Journal of Politics*, 70, 245–261.
- Krupnikov, K., & Bauer, N. (2014). The relationship between campaign negativity, gender and campaign context. *Political Behavior*, 36, 167–188.
- Krupnikov, Y. (2011). When does negativity demobilize? Tracing the conditional effect of negative campaigning on voter turnout. *American Journal of Political Science*, 55, 796–812.
- Krupnikov, Y. (2014). How negativity can increase and decrease voter turnout: The effect of timing. *Political Communication*, 31, 46–466.
- Lau, R., & Pomper, G. (2001). Effects of negative campaigning on turnout in U.S. Senate elections, 1988–1996. *Journal of Politics*, 63, 804–819.
- Lau, R., & Pomper, G. (2002). Effectiveness of negative campaigning in U.S. Senate elections. *American Journal of Political Science*, 46(1), 47–66.
- Lau, R., & Pomper, G. (2004). *Negative campaigning: An analysis of U.S. Senate elections*. Oxford, UK: Rowman & Littlefield.
- Miller, C. (2014, November 20). Social media deepens partisan divides. But not always. *New York Times*. Retrieved from <http://www.nytimes.com/2014/11/21/upshot/social-media-deepens-partisan-divides-but-not-always.html>
- Oremus, W. (2013, March 4). Study: Twitter is full of haters. *Slate*. Retrieved from http://www.slate.com/blogs/future_tense/2013/03/04/pew_internet_survey_twitter_is_full_of_haters_and_negative_opinions.html
- Perloff, R., & Kinsey, D. (1992). Political advertising as seen by consultants and journalists. *Journal of Advertising Research*, 32, 53–60.
- Peterson, D., & Djupé, P. (2005). When primary campaigns go negative: The determinants of campaign negativity. *Political Research Quarterly*, 58, 45–54.
- Proctor, D. E., Schenck-Hamlin W.J., & Haase, K. A. (1994). Exploring the Role of Gender in the Development on Negative Political Advertisements. *Women & Politics*, 14(2), 1–22.
- Proctor, D., & Schenck-Hamlin, W. (1996). Form and variance in negative political advertising. *Communication Research Reports*, 13, 147–156.
- Ridout, T., & Holland, J. (2010). Candidates strategies in the presidential nomination campaign. *Presidential Studies Quarterly*, 40, 611–630.
- Rudman, L. (1998). Self-promotion as a risk factor for women: The costs and benefits of counterstereotypical impression management. *Journal of Personality and Social Psychology*, 74, 629–645.
- Russell, A. (2014). *U.S. Senators on Twitter: Party polarization in 140 characters* (Master's thesis). Retrieved from <https://repositories.lib.utexas.edu/bitstream/handle/2152/28543/RUSSELL-MASTERSREPORT-2014.pdf?sequence=1>
- Trent, J., & Friedenberg, R. (1995). *Political campaign communication: principles and practices*. Westport, CT: Praeger.
- Trent, J. S., & Friedenberg, R. V. (2008). *Political campaign communication: principles and practices* (6th ed.). Lanham, MD: Rowman & Littlefield.
- Wagner, K., Gainous, J., & Holman, M. (2014, January 9). *I am woman, hear me tweet! Gender differences in the use and effectiveness of Twitter among congressional candidates*. Paper presented at the Southern Political Science Association Meeting. New Orleans, LA.
- Wattenberg, M., & Brians, C. (1999). Negative campaign advertising: Demobilizer or mobilizer? *American Political Science Review*, 93, 891–899.
- West, D. (2014). *Air wars: Television advertising and social media in election campaigns 1952–2012*. Los Angeles, CA: SAGE.

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Appendix

Variable coding.

Female	1 = female; 0 = male
Competitive	1 = listed as a “toss-up” or leaning by the Cook Political Report early in September 2014; 0 = otherwise
Incumbency	1 = incumbent; 0 = challenger
Open	1 = open seat race; 0 = closed
Winner	1 = winner; 0 = loser
Third	1 = 3rd party; 0 = Democrat or Republican

Attack Tweets, Senate Races, 2014.

	Average number
Female (N=21)	27.05 (45.00)
Male (N=85)	15.73 (35.46)
Competitive (N=43)	31.16 (53.51)
Non-competitive (N=63)	8.97 (15.78)
Incumbent (N=25)	35.88 (66.75)
Non-incumbent (N=81)	12.44 (19.64)
Open (N=26)	9.81 (16.46)
Closed (N=80)	20.63 (41.98)
Winner (N=33)	21.54 (51.30)
Loser (N=73)	16.36 (29.69)
Third party (N=39)	4.08 (9.93)
Republicans (N=35)	23.77 (49.70)
Democrats (N=32)	28.56 (39.46)

Standard deviations are given in parentheses.

Sets in bold are significant at $p \leq 0.01$: difference of means t-tests.

Attack tweets, House races, 2014.

	Average
Female (N=160)	5.02 (29.37)
Male (N=682)	3.49 (11.46)
Competitive (N=83)	7.28 (12.05)
Non-competitive (N=759)	3.40 (16.80)
Incumbent (N=378)	1.18 (4.68)
Non-incumbent (N=464)	5.89 (21.50)
Open (N=30)	5.9 (8.78)
Closed (N=812)	3.70 (16.64)
Winner (N=418)	1.26 (4.61)
Loser (N=429)	6.22 (22.29)
Third party (N=108)	2.30 (4.42)
Republicans (N=363)	4.23 (22.17)
Democrats (N=366)	3.76 (10.99)

Standard errors are given in parentheses.

Sets in bold are significant at $p \leq 0.10$: difference of means t-tests.