



# Norms and rage: Gender and social media in the 2018 U.S. mid-term elections☆☆

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## ABSTRACT

Previous research shows women candidates face double-standard with regard to fitness for office: women ought to be kind but leaders ought to be aggressive and agentic. At the same time, there is traditional division of what constitutes “women’s” issues (e.g. health-care) vs “male” (e.g. economy). Do these norms about what women politicians ought to be and talk about hurt or help them during elections? We investigate the case of U.S. 2018 mid-term elections on Twitter. Our findings suggest that engaging with “women’s” issues by female candidates as well as tweeting angrily is associated with higher likelihood of being elected. However, women candidates who use angry speech on Twitter, are more likely to also receive tweets with abusive language, in particular by other women. Thus, we show that social media could help female candidates to break stereotypes, and present themselves as nuanced candidates who can both stand for women’s issues but also be aggressive and leader-like.

## 1. Introduction

In recent decades, the standing of women in politics has improved tremendously around the globe. Thanks to extensive political campaigns, countries have introduced female suffrage and are electing women to public office in greater numbers than ever. Yet, parity is far from achieved as in the beginning of 2019 the average share of women in legislatures reached only 24.3%, in cabinet - 20.7%, and there were only 20 women heads of state and government (IPU and U.N. women, 2019). Social norms and stereotypes about the ‘traditional’ role women should play in society are among the causes for the under-representation of women (Krook, 2017). At the same time, the Internet has revolutionized communication both by elites and masses. Politicians increasingly use social media to communicate with voters during electoral campaigns (Jungherr, 2016), while citizens directly address politicians and organize offline activism - one groundbreaking example being the #MeToo movement (Manikonda et al., 2018; Mechkova et al., 2019). This has allowed scholars to study these interactions in a new context and test how established theories travel to social media.

This paper combines these two lines of research — on the one hand, social norms and women’s representation, and on the other, Internet and politics. We address the question of whether gender stereotypes about what women politicians ought to be and talk about hurt or help them during electoral campaigns. Previous research shows that the under-representation of women is partly due to the double-standards women face with regard to fitness for office. Women ought to be kind and warm but leaders ought to be efficient and aggressive (Alexander and Andersen, 1993; Eagly and Karau, 2002). Thus, female candidates face a dilemma of whether to present themselves as being more ‘masculine’ and thus more fit for office (Lee, 2013; Lee and Lim, 2016) while risking being perceived as too cold and insufficiently nice (Rudman and Glick, 2001). Substantive strategies in terms of what issues women prioritize present their own challenge. Talking about traditional women’s topics could be advantageous (Herrnson et al., 2003), as due to norms female candidates could easily ‘own’ important issues, typically perceived to be ‘feminine’ issues such as health-care, sexual assault (especially in the wake of #MeToo movement), school shootings, and the environment, and as they do so, candidates could advance the progress on these existing societal problems. However, focusing on

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these issues could also play into the negative stereotype that women are unable to deal with larger societal problems but can only focus on women's group interest (Diekman et al., 2002).

To address these two sets of issues, this paper examines the evidence for stereotyping across gendered lines. This presents an important research question as recent studies suggest that gender stereotypes are fading and do not affect the electability of women (Dolan, 2014a,b). Yet, despite these promising findings, women are still dramatically under-represented in politics. Contributing to this debate, we study the response electorally and through online harassment for conforming to (or deviating from) previously established norms about how female candidates should present themselves. We analyze the most discussed topics by candidates and their communication style on Twitter and how they relate to women's electoral performance and the likelihood of being harassed online. Based on previous research from political science and psychology, we develop and test a theory that staying within gendered lines typically would be electorally beneficial for women, and defying the norms would trigger aggression towards them. Further, being assertive and aggressive online could play out negatively for women, as it defies the stereotypes of what women ought to be like.

We examine the 2018 American midterm elections, a context in which social media sees wide campaign use (LaMarre and Suzuki-Lambrecht, 2013; Lee and Lim, 2016). We analyze the Twitter activity of all candidates for congressional or gubernatorial office, as well as the messages directed to those politicians by other Twitter users. The convergence of gender issues and social media in the 2018 midterms make them a vital case to explore. In particular, these elections are important because of the central place that gender issues played, following the #MeToo movement, and the Kavanaugh confirmation a month before the election. The 2018 elections were also pivotal for women as candidates, with the highest number of women ever running (and winning) in a national American election.

We find that the 2018 election campaign on Twitter was consistent with previous elections in that female candidates championed the traditional "women's issues" (health-care and social protection) (Evans and Clark, 2016), while male candidates talked more often about traditional "male issues" (economy and foreign policy). Importantly, the age of the candidates, the gender equality in electoral districts, and the presence of other women candidates interacts with the extent to which there is a gender gap in topics. However, there are also significant differences when compared to the 2012 elections (Evans, 2016; Evans and Clark, 2016). In the 2018 elections women political candidates talked less about masculine issues compared to men. Further, we do not find statistically significant evidence that female candidates were more aggressive on Twitter when compared to men. How do these patterns affect women candidates' quest for office?

We find only partial support for the double-standard proposition. Engaging with "women's" issues by female candidates is associated with higher likelihood of being elected. Conversely, women talking about stereotypically male issues are less likely to be elected. Further, in refutation to the proposition that being angry should play against women, we do not find evidence of such negative electoral effect. On the contrary, tweeting angrily by women is a significant predictor of being elected and getting a higher vote share. Yet, this electoral victory comes at a cost. Women candidates who use angry speech on Twitter, are more likely to also receive tweets with abusive language, in particular by other women. At the same time, the type of issues women talk about are not associated with the likelihood of being targeted by angry speech online. Finally, the male public is aggressive towards female candidates no matter the politicians' style.

More generally, the paper contributes to the literature on gender based violence in politics, issue framing during elections, and how gender norms affect candidates' electoral performance. Our findings have important implications, in particular due to the unequal representation of women in politics — despite record numbers, only a quarter of candidates in the midterms were women. Finally, previous

research has shown that media is instrumental in curbing stereotypes and presenting female candidates with nuance (Bligh et al., 2012). Extending that research, the ability to leverage social media could allow female candidates to break those stereotypes, presenting themselves as nuanced candidates who can both stand for women's issues but also be aggressive and leader-like.

## 2. Theory

### 2.1. The stereotypes

The saying 'women belong at home' is part of the larger traditional understanding that women should be mainly occupied by taking care of the private sphere (children and family), while men are those who should dominate the public sphere (Krook, 2017). Because of that, the literature has long argued that women face a specific set of constraints to enter politics (for early work see for example Mezey (1978)). Here we are concerned with two sets of stereotypes women politicians face: first, the issues they are expected to stand for in elections, and second, the personal characteristics they should exhibit to be successful. We discuss each of these sets of stereotypes below. Importantly, here we are not concerned with the issue why women behave the way they do. That is, we do not engage with the question whether the studied issues constitute women's objective interest or whether they feel pressured to cover them as part of an electoral strategy, nor do we investigate whether women are more or less aggressive than men. Rather, we are interested in the consequences of this decision.

What are the 'women's' issues? Previous work has convincingly shown that gender matters for politics. Women tend to develop policy preferences distinct from men due to their specific experience as a group (Khan, 2017; Sapiro, 1981b; Phillips, 1995). Empirical research has demonstrated these differences persisting across party lines, particularly in attitudes towards gender equality (Barnes and Cassese, 2017). Furthermore, women are socialized to be more concerned than men with taking care of others (Hutchings et al., 2004), while being disproportionately tasked with household work and child-care (Box-Steffensmeier et al., 2004). As a consequence, women are more likely to be in favor of policies reducing the burden of care-taking obligations (Bhalotra and Clots-Figueras, 2014), and equality in general (Ranehill and Weber, 2017; Almås et al., 2010). Further, women favor wealth redistribution more than men, even after accounting for the individuals' political ideology (Alesina and Giuliano, 2011; Iversen and Rosenbluth, 2006; Finseraas et al., 2012). Thus, women are more likely to support social welfare programs (Kaufmann and Petrocik, 1999), including those focusing on poverty alleviation, health-care, and education programs (Page Benjamin and Shapiro, 1992; Duflo, 2012). As such, a norm has developed considering social, equality, and family issues as being "women's".

As an extension, women politicians are expected to stand for issues that women citizens prioritize, and importantly, they would promote policies that have to do with development (Mechkova and Carlitz, 2020). Indeed, these patterns are well-grounded in decades of observation of candidates electoral campaigns. For instance, in the 1984 and 1986 U.S. Senate campaigns, male candidates disproportionately discussed the economy, while women focused on social issues (Kahn, 1993). This distinction seems to have transitioned robustly into the online world. In the 2012 U.S. House elections, Evans and Clark (2016) find that on average women still cover "women's issues" more than men. Similarly, when comparing the websites and Twitter presence of Clinton and Trump in the 2016 campaign, Lee and Lim (2016) show that Clinton focused more on feminine issues than Trump, mentioning feminine issues at twice the rate of masculine ones. Evans et al. (2017) also demonstrate that Clinton tweeted more often about policy issues than Trump did, including women's issues, and the authors suggest that this is because women need to put more effort in asserting their fitness for office (p. 120).

While consistent, this finding is not universal. For instance, Dolan (2005) finds that female candidates for Congress in 2000 and 2002 did not present distinct issues from men. Further, Evans (2016) emphasizes that women candidates do not talk only about women's issues, and in fact, compared to men, they talk more about *all issues*, even traditionally male issues, although the last difference is not statistically significant.

Further, gender stereotypes are pervasive when evaluating the personal characteristics of candidates. Typical masculine traits are perceived as being strong, assertive, efficient, goal-oriented, while being kind, warm, compassionate, and family-oriented are typical feminine traits (Lee and Lim, 2016; Huddy and Terkildsen, 1993; Banwart, 2010). Importantly, research has found that these stereotypes are present among voters as recently as the 2008 elections (Banwart, 2010). These stereotypes punish female candidates, as voters consider aggression more important than compassion to succeed in politics (Banwart, 2010; Lee and Lim, 2016; Dolan, 2005), informing their tendency to consider men categorically more emotionally suited for office (Alexander and Andersen, 1993). Yet, similar to what constitutes typical talking points for female candidates, recent research has also shown that majority of American voters do not automatically ascribe masculine characteristics (such as being decisive, leader-like) or typically feminine characteristics (such as being compassionate and honest) to either men or women politicians (Dolan, 2014b).

These conflicting findings leave an open research question about the influence of gender stereotypes in politics. This leads us to the central query we interrogate in the present manuscript: *How do gender stereotypes affect the prospect of women who wish to enter political office?* Next, we lay out the expectations about the ways in which, if existent, stereotypes can first, hurt or help women electorally, and second, cause violent backlash against them.

## 2.2. The response

### 2.2.1. Elections

As an interaction between what is perceived to be acceptable behavior on part of candidates and what issues they should stand for during election campaigns, gender stereotypes significantly influence how voters perceive candidates in terms of what they can achieve in office. Typically, voters believe male candidates can handle masculine issues such as foreign policy, crime, economic issues, better than women, who are better at handling social issues — for example, health-care and education (Alexander and Andersen, 1993; Sapiro, 1981a, 1983; Kahn, 1993). This is because women are perceived to be more compassionate and thus better at handling issues related to caring for others (Fridkin and Kenney, 2009), while men are stereotypically more aggressive and efficient, thus are better equipped to deal with military and economic issues (Huddy and Terkildsen, 1993; Lammers et al., 2009). Van Acker (2003) points out that “motherhood” is a label often used to describe the role of women in politics, implying that women bring ‘nurturing and supportive’ behavior.

How can these stereotypes affect women candidates? Their negative consequences is that female candidates for office are often perceived as defending only the issues of women and not society overall (Diekmann et al., 2002). Further, female issues receive relatively less attention by the mainstream media, which might hurt women candidates, as voters will hear less about their campaigns (Kahn and Fridkin, 1996).

However, playing to the stereotyped strengths of their gender could also be beneficial for politicians as electoral strategy. Importantly, Sanbonmatsu (2002) finds that at an individual level, gender stereotypes explain the preference to vote for a man or a woman. In particular, women are more likely to vote for women, as believe they will be better at handling traditionally female issues (Sanbonmatsu, 2002). On the other hand, individuals preferring a male candidate also believe in the statement that men are emotionally better suited for politics, and think that men are better at handling traditional masculine issues

and women traditionally female issues (Sanbonmatsu, 2002; Falk and Kenski, 2006). Thus, a successful strategy to attract those voters would be to conform to this line of thinking.

By contrast, there is also evidence in the literature that gender stereotypes are fading and matter less for vote choice (Dolan, 2014a,b). In her survey of U.S. voters (Dolan, 2014b) finds that when asked about abstract policy issues, respondents say that women politicians can handle childcare and abortion better than men (but not education and health-care). However, in real elections, Dolan shows that gender stereotypes do not influence vote choice but rather voters decide who to vote for mostly based on political party affiliation, together with traditional for the vote choice literature characteristics such as incumbency, campaign spending and competitiveness of the candidates. Similarly, in experimental setting, Brooks (2013) shows that voters do not perceive differently women's and men's ability to handle domestic, economic or international issues.

How to resolve these conflicting findings in the literature? We argue that the context and salience of issues in a particular election matters. Thus, if crime is particularly important in one election, male candidates might be in a relatively advantageous position as they are seen as better able to deal with that problem (Kahn and Fridkin, 1996). Lawless (2004) finds that after the events of September 11, 2001, the willingness to vote for a woman candidate for president drop to record low levels due to voters' perception that men are better able to handle issues with defense and the military. On the contrary, a prominent explanation for the 1992 wave of elected women is the surge in voter interest in traditionally female oriented domestic issues following the end of the Gulf War and collapse of the Soviet Bloc (Dolan, 1998, 2005).

How do we expect the discussion of male vs. female issues by candidates to play out in the 2018 midterms? The key issues during these elections were overwhelmingly traditionally female: sexual violence (pushed to the forefront by #MeToo and the Kavanaugh nomination), as well as gun control and school shootings, climate change, and the continuing battle over Obamacare. The #MeToo movement went viral in 2017 as thousands of individuals shared personal stories of sexual abuse on social media. As of October 2018 the hash-tag MeToo had been mentioned more than 19 million times on Twitter (Pew Research Center, 2018). In addition, the sexual assault accusations leveled at Supreme Court nominee Brett Kavanaugh sparked enormous public response. The subsequent public hearing was watched live by 20.4 million people (Golum, 2018). Both events significantly stirred the public discourse and were a major point of attention during the political campaigns. On the day of Kavanaugh's hearing, 1 in 22 tweets from America mentioned him by name, a rate comparable to mentions of the Super Bowl on Super Bowl Sunday (Wilson and Gelman, 2018). Thus, we expect that campaigning on women's issues would in fact be a strategic advantage for women when they decide to “own” these issues (Herrnson et al., 2003). Failing to focus on them could be seen as failing to stand with women, with dire electoral consequences. This reasoning informs us to formulate the following expectation:

**Hypothesis 1.** Female candidates who follow the gender stereotypes in terms of covering “women's” issues will be rewarded electorally.

Further, women's behavior as candidates for public office could be sanctioned when gendered behavioral preferences are at odds with perceived qualifications for office. ‘Perceived incongruity’ occurs in people's minds when mutually exclusive stereotypes clash, namely how women are (caring, soft, kind) and how leaders should behave (aggressive, efficient) (Eagly and Karau, 2002). This is exacerbated when prescriptive gender stereotypes dictate that women should not be forceful or aggressive, the very qualities valued most in leaders and least in women (Prentice and Carranza, 2002). This results in prejudice against female candidates because demonstrating effective leadership simultaneously implies being a ‘bad’ woman according to traditional gender norms (Lee, 2013; Lee and Lim, 2016). Further, when analyzing



Australia and New Zealand, Van Acker (2003) argues that the media portrays in a negative light women politicians who deviate from the traditional feminine image. Part of the problem is the lack of women role models in positions of power, which leads the media to being preoccupied with what makes women different than men, namely their feminine characteristics (ibid). Finally, Cassese and Holman (2017) show that due to gender stereotypes, female candidates are particularly hurt by negative campaigning when attacks are aimed at traditionally strong female traits rather than male ones.

Experimental work has demonstrated that task-oriented women are perceived more negatively than other leaders (Forsyth et al., 1997). In particular, women perceived to be competent are seen as lacking warmth (Fiske et al., 2002), and are insufficiently ‘nice’ when acting agentic (Rudman and Glick, 2001). Each of these criticisms were ascribed to Hillary Clinton when running for office (Bligh et al., 2012), and Helen Clark during her tenure as prime minister of New Zealand (Van Acker, 2003). Turning to campaign management, experiments also suggest that emotionally neutral advertisements presented by women are perceived to be most socially desirable, while emotionally charged appeals (in particular, negative campaigning) hurt female candidates more than men (Hitchon et al., 1997). Of note is that experiments have shown that Americans consider anger in particular as less appropriate for women to express than men (Brooks, 2011).

Despite this distaste for showing emotions, Brooks (2011) suggests that women do not experience electoral disadvantage when they are emotional. The explanation for this finding is that women politicians are judged “as leaders, not ladies”, meaning that although ordinary women might be penalized for being too emotional, high-status individuals can get away with showing emotions, in particular anger (Brooks, 2013; Hess et al., 2005).

How could we expect for gender stereotypes to play out on Twitter in the 2018 elections? Similar to the decision whether to embrace “women’s” issues as key talking points, deciding whether to be more or less aggressive can be seen as an electoral strategy that might help or hurt women in elections. As evident from the research discussed above, being aggressive (and thus not being feminine) might play out particularly negatively for women but this process is not automatic. Women political candidates are not automatically seen as caring traditionally feminine characteristics (Bauer, 2017; Brooks, 2013; Dolan, 2014b). Bauer (2015) demonstrates that gender stereotypes can play negatively for women only when these are activated during electoral campaigns. Triggering stereotypes about women being communal or caring will activate incongruity for what women ought to be (kind) versus what leaders ought to be (aggressive), which in turn will diminish women’s support for high office as they will be perceived as being weak. Thus, candidates might decide to combat the negative perceptions for women’s unfitness to office due to gender, and purposefully emphasize masculine traits in their campaigns. The work by Dittmar (2015) demonstrates that female candidates and their campaign teams are indeed aware of gender stereotypes and are actively working towards neutralizing any potential harm done by them. Lee (2013) finds empirical evidence for that when analyzing the biographies of congresswomen on their personal websites. Hillary Clinton decidedly emphasized masculine traits such as being strong, forceful, fighting, determined, effective (rather than caring, warm, understanding) both on her website and on Twitter during the 2016 campaign (Lee and Lim, 2016).

Furthermore, in the 2012 elections, female candidates were *more* aggressive online than their male counterparts, as they were more likely to attack their opponents (Evans et al., 2014; Evans and Clark, 2016). Also when analyzing language used in Twitter, Wagner et al. (2017) theorize and show that women candidates in the 2010 congressional elections were more likely to use negative language as means to fight gender stereotypes and overcome their disadvantaged position as ‘new-comers’ compared to male candidates. Similarly, Clinton was more likely to post negative comments about Trump than he did so about

her (Evans et al., 2017). This is a strategic response to the stereotype, but also a function of female candidates being more likely to be challengers, and thus more likely to use aggression to get noticed. This is intensified on social media, on which resource-constrained dark horses can distinguish themselves from traditional candidates (Christensen, 2013).

However, on balance, we expect that defying gender norms has the potential to hurt women, given the extensive research showing that voters might view women ever more negatively if they are perceived to be too aggressive. Therefore, we formulate the following hypothesis:

**Hypothesis 2.** Female candidates who do not follow the gender stereotypes in terms of being more aggressive will be punished electorally.

One caveat is development of gendered patterns in partisanship itself, with the Democratic party taking partisan ownership of the more traditionally ‘feminine’ topics, and the Republican party with the masculine (Winter, 2010). As a result, women candidates from either party face specific sets of constraints in their attempt to appeal to voters. While the Democratic candidates might benefit from embracing traditionally feminine topics, for Republican candidates, the alignment of their party with ‘tough’ issues such as the military or national security, a more successful strategy would be to focus on masculine issues (Bauer, 2018). Disentangling this behavior is problematic due to the empirical constraints of who runs for office. Nearly 80% of woman candidates in 2018 were Democrats, and of the Republican women who did run, nearly half of them were running against Democratic women, pointing to candidate selection itself being a gendered and strategic process, especially on the Republican side of the aisle. Our results will largely be driven by Democratic candidates, because of the extreme dearth of Republican women candidates. However, because the partisan theoretical expectation of Democratic behavior aligns with the gendered theoretical expectation of women candidates’ behavior, the breaking of norms has a theoretical consistency. That is, the expectation is that the candidates’ gender should intensify a single effect, rather than being a muddled part of a multidimensional effect of the same behavior breaking one set of norms while reinforcing another set. Even so, for robustness, we run all regressions both with and without a dummy variable for party in order to disentangle partisanship from our findings, and discuss those findings in a separate summary section.

### 2.2.2. Online harassment

The division of the public sphere being reserved for men, and the private (home and family) for women, has caused a lot of backlash and hostility to the entry of women in politics (Krook, 2017; Eagly and Karau, 2002; Mansbridge and Shames, 2008). Maintaining patriarchy and upholding traditional gender norms for women’s role in society are described as the main barriers standing in front of the meaningful participation of women as a group in politics, and can even cause violent backlash against those that dare to break the norms, and participate in the public life (Krook, 2017; Krook and Sanín, 2016). ‘Violence’ in this case can include a range of tactics intended to intimidate and prevent women from participating in politics including online and in-person bullying, and mocking to threats for, or actual murder and rape (Krook, 2017).

Violence against women in politics is shown to be a major problem. A report by IPU of 55 women MPs across 39 countries shows that 81.8% of those interviewed report having experienced psychological violence and 25.5% physical violence (2016). Importantly, the report points to social media as the main place where harassment takes place. A comparative study of mayors in the U.S. also finds that women are more often target of violence than their male counterparts (Herrick et al., 2019). This reflects a general trend in the online space where women face disproportionate amount of aggressive behavior, a phenomenon referred to by the literature as “gendertrolling” (Mantilla, 2013, 2015), and “networked misogyny” (Banet-Weiser and Miltner, 2016).

Further, men and women are subject to different types of violence. Women are three times more likely to be victims of psychological violence compared to men, often on social media (Bardall, 2013). Some common tactics for psychological violence online include libel, rumors with sexual connotation, sexual harassment and questioning of their intellectual and professional capacity. These findings are borne out of research in the Maldives and Myanmar (Bjarnegård, 2018), Sweden (Håkansson, 2019), and Chile (Rein-Venegas et al., 0000).

However, as Kuperberg (2018) argues women do not necessarily experience violence based solely on their gender, but there are factors such as race, ethnicity, religion that can aggravate the frequency of abuse. Similarly, being part of the opposition, young and part of a minority group exposes women to more violence (IPU, 2016). Speaking out against sexism and expressing support for feminist causes also attracts even more aggressive behavior (Mantilla, 2013; Filipovic, 2007). Finally, specifically for women politicians, occupying a higher ranked post attracts more negative messaging too (Håkansson, 2019).

In this paper we examine whether in the case of the mid-term elections women were subject to higher levels of online harassment, and whether that was aggravated by the extent to which women candidates followed gender norms. To the extent that violence against women comes from hostility towards women leaving the traditional female arena, we expect the backlash against women to be greater when women are defying traditional norms. Therefore, we formulate the following two hypotheses:

**Hypothesis 3.** Female candidates who do not follow the gender stereotypes in terms of covering “women’s” issues will be harassed online to a greater extent.

**Hypothesis 4.** Female candidates who do not follow the gender stereotypes and are more aggressive will be harassed online to a greater extent.

### 2.2.3. Punished by whom?

Finally, we consider which group, men or women, would be more likely to punish female candidates for non-conforming with gender stereotypes. First, we turn to formulating the expectations about the behavior of men. Scholarship suggests that online harassment and abuse is mostly perpetrated by men (Mantilla, 2015). Importantly, this online behavior is not a unique phenomenon happening only in social media platforms but a reflection of the “real world” where patriarchal norms continue to thrive (Mantilla, 2015; Banet-Weiser and Miltner, 2016; Turton-Turner, 2013). As an extension to the previous hypotheses, we can reasonably assume that women who break with stereotypes and norms will continue to be abused and with greater strength by the main perpetrators of this type of violence — men. However, there are reasons to be believe women might engage in in-group policing.

Specifically, the literature on group behavior suggests that individuals are more likely to be sanctioned for transgression by members from their own group, ignoring similar behavior from out-of-group members (Habyarimana et al., 2007), and they do that due to the expectation that the transgressors would be punished by their own group (Fearon and Laitin, 1996). Although this research has largely focused on ethnic groups, we argue that the logic holds for gender as this is also a category easy to identify, and therefore, sanction in cases of transgression. Supporting its applicability to gender is the research showing that women and girls are more interested in politics when female role models participate in politics (Campbell and Wolbrecht, 2006; Jones, 2014).

Building on this social group literature, Brooks (2011) hypothesize that women are more likely to punish other women when they conform with negative stereotypes that women are more emotional. This hypothesis is based on collective threat theory developed in psychology, according to which members of groups that already have negative stereotypes around them, are fearful that certain behavior of in-group

members could reinforce the stereotypes about the whole group (Cohen and Garcia, 2005). As a reaction, members will seek to distance themselves from those conforming to the negative stereotype, potentially also by criticizing the person. Brooks (2011) finds partial support for her hypothesis: female candidates for office are electorally punished for crying, though they do not find that women punish female candidates disproportionately for anger.

Given the strong arguments that both women and men have reasons to engage in more intense harassment towards women breaking with stereotypes, we decide to leave this issue as an open empirical question without formulating a specific hypothesis.

## 3. Data & operationalization

To test our hypotheses, we collected three sets of tweets in order to capture different aspects of Twitter activity leading up to the 2018 midterms. First, we collected all tweets posted by candidates for office, which provides the basis for the measures of candidate behavior. Second, we collected all tweets with text that matched a set of political keywords, giving us measures of how the public at large spoke. Third, we collected all tweets that had geocodes from within the United States, providing a baseline for what the public’s speech looks like on Twitter across all subject areas, in addition to giving measures of the level of Twitter activity in each state and congressional district.

### 3.1. The candidates

For the 2018 midterms, Twitter created a special subset of their verified account system such that candidates for office could register their Twitter accounts. Between this system and hand-coding of any missing accounts via Ballotpedia data and judicious Google use, we constructed a comprehensive listing of all Twitter accounts associated with major party candidates for the Senate, House, and Governors races. Most candidates had multiple Twitter accounts, which we labeled variously as personal, press, campaign, and officeholder, for a mean of 2.7 accounts per candidate. As a rule, we only collected data for Republican and Democratic candidates for each office, with the exception of the pair of third-party candidates who won office (Angus King and Bernie Sanders).

We found a total of 984 candidates for office in the midterms, only 26 of whom did not have active Twitter accounts. The 26 candidates without Twitter accounts were all losing House candidates, running against a heavily favored incumbent. On average, these 26 candidates received only 26% of the vote in their respective House races. This basic pattern shows that Twitter is a nearly universal component of the campaign toolkit in American politics.

In order to collect Twitter data we built a custom system using the Tweepy Python library. We downloaded the full timelines for all 2646 Twitter accounts, initially in mid-September and updated it once per week until the election. By downloading the data throughout the campaign we made it more likely that we would not miss tweets that were deleted after the fact. We built a Postgres database that contained tables for all candidate Twitter handles and tweets, with the latter including the full text of each tweet in addition to meta data such as the number of likes and retweets. For the purposes of this article, we limited our study to tweets by candidates for the eight weeks leading up to the election (from September 14th, 2018 until election day on November 6th, 2018). Candidates tweeted 237,387 times during this period.

### 3.2. The public

We built a separate system in Java using Twitter’s Streaming API in order to download keyword and geocoded matches from the population

at large during the campaign. For the keyword streamer, we created a dictionary of 113 terms relevant to the issues and stories of this particular electoral cycle (listed in full in Table 5 in the appendix), in order to capture a picture of what American political speech in general looked like leading up to the election.<sup>1</sup> During the eight week timeframe of the study, this process collected the full text and metadata for approximately 190 million tweets, posted by 14 million different Twitter accounts.

For the geocoded tweets, we set up a separate streamer that collected *all* tweets within a latitude/longitude box encompassing North America. Note that only about 2% of tweets have attached geocodes, and those come in two varieties: precise latitude and longitude provided by the GPS of a smart phone, or approximate area of origin (generally at the city/town level) algorithmically determined by Twitter from other technical context. We developed custom GIS code to identify the state and congressional district of origin for each tweet. This amounted to an additional 74 million tweets.

For each user account, we extracted the ‘name’ field from the user metadata and took the first word as the likely first name. We estimated the likely gender of each user using a Python library (gender-guesser 0.4.0) that maps frequency of first name with gender based on several decades of US Census records. The result was an identifiable gender for 43% of users (of which 57% were male and 43% were female).<sup>2</sup> This allows us to disaggregate measures of public speech into gender.<sup>3</sup>

In addition, we searched all 190 million political tweets for instances where a user included one of the candidates’ twitter handles in the text. Called ‘mentions’, these instances are visible to the mentioned account and as such are the primary way that people talk to each other via Twitter. That is, when someone mentions a candidate’s twitter handle, they are explicitly making a statement to that individual. Of the political tweets, 9.3 million mentioned a candidate, for an average of 9496 mentions per candidate.

Since we know the genders of the candidates and the public, we can disaggregate mentions into the four permutations of male at male, male at female, female at male, and female at female, capturing the multidimensional nature of gender dynamics in political speech.

### 3.3. Operationalizing aggression

In order to measure aggression in tweets both by candidates and the public, we leveraged existing work by Colneric and Demsar that adapted Plutchik’s classic model of different emotional states into an algorithm for identifying the dominant emotion present in a tweet (1980). Plutchik’s work classified emotion into eight broad categories of paired but contrasting emotion: joy and sadness, trust and disgust, fear and anger, and surprise and anticipation (1980). Colneric and Demsar’s subsequent work trained a recurrent neural network (RNN) on the content patterns of 73 billion English language tweets, classifying their dominant emotion based on hashtags related to Plutchik’s labeling scheme. For example, they used the presence of “angry”, “furious” and the like to indicate that a tweet was expressing anger, and trained the neural net on the rest of the text in those tweets (with the same process for other emotions, though anger is the classification of interest in this paper). The result is a pre-trained algorithm that takes as an input the text of a tweet and provides as an output the statistical likelihood of the tweet’s dominant emotion being each of Plutchik’s eight categories. While other work has focused on hand-coding bodies of tweets

for aggression, our approach has two advantages. First, it allows an exogenously determined measure of anger and aggression, removing potential researcher-induced bias to the coding process. Second, it allows the application of the measure en masse to large quantities of the public’s tweets in a consistent manner.

We applied this algorithm to our collections of tweets, flagging tweets identified as ‘angry’. We analyzed all candidate tweets, all mentions, a 1% random sample of all political tweets (1.9 million), and a 1% random sample of all geocoded tweets from the United States (740,000). The latter two were done on samples due to resource constraints, but this was deemed acceptable since the results are only used illustratively in aggregate, and the *n* is quite large anyway. Overall, only 1.1% of candidate tweets were angry, compared with 1.9% of geocoded tweets, 2.9% of political tweets, and 3.1% of tweets mentioning candidates. This makes intuitive sense: compared to the baseline (established by the geocoded tweets, which encompass any and all speech on American Twitter), Americans tweet angrier when they are talking about politics, and more so when they are directly tweeting at politicians. On the other hand, candidates tweet with *much* less anger than the public, reflecting their speech being official, professional, and subject to public scrutiny. In terms of operationalization, depending on the regression specification we use either the absolute number or percentage of angry tweets by/at a candidate.

In Table 1, we show some representative examples of tweets classified as angry by this algorithm, indicating the party, gender, and name of the candidate.<sup>4</sup>

### 3.4. Operationalizing male and female issues

In order to operationalize male and female issues, we build heavily upon Evans and Clark (2016), who identified specific topic areas traditionally relegated to the male or female sphere of political discussion on Twitter during the 2012 House elections. Using their typology, we identified which of our political keywords would be male, female, or neither. Further, we used their existing list of keywords as additional signifiers of male vs. female topics, and added updated terms for the specific context of the 2018 elections (for instance, words associated with the Kavanaugh hearing). We provide a full listing of these male and female dictionaries in the Appendix in Tables 6 and 7. Note that only about half of the 190 million political tweets (and a similar proportion of the candidate tweets) in our dataset match either the male or female keyword list, so the two categories should not be considered as having a zero sum relationship. Fig. 1 illustrates the proportion of all political tweets that matched either the male or female keyword lists over the course of the campaign. Note the enormous proportion of tweets matching the female list in the first half of the time period, which then drops to roughly equal proportions with the male list following Kavanaugh’s confirmation.

Table 2 illustrates the differences in behavior and attributes of male and female candidates on Twitter. Female candidates tweet at a higher rate than male candidates, accounting for 35% of tweets among candidates although only comprising 29% of candidates. This is likely an artifact of the surge in young women candidates in the 2018 midterm elections as well as their out-group status (Evans et al., 2014; Christensen, 2013). The bottom half of the table shows the percentage of tweets posted by male and female candidates broken down by the operationalization discussed above. Women candidates tweet at a higher rate of anger than male candidates (1.4% vs. 0.9%). In addition, male candidates tweet about male topics more than female candidates, and female candidates tweet about female issues at a much

<sup>1</sup> Thanks to Dr. Jeremy Gelman for his development of this list.

<sup>2</sup> The well-documented hostility faced by women online makes the lower number of identifiable women expected.

<sup>3</sup> Where appropriate, we ran separate regressions in the subsequent data analysis sections using the ‘unknown’ gender tweets. The results tended to split the difference between the male and female results, suggesting that both the genders are present in roughly equal proportions in the unknown group, without anything systematic biasing our results.

<sup>4</sup> We do not include an example of the public tweets that are angry in order to avoid any privacy implications of non-aggregated data. In addition, the most angry public tweets are filled with extensive profanity and would need censored for publication.

**Table 1**

Examples of tweets classified as angry.

Candidate	Gender	Party	Tweet
Alexandria Ocasio-Cortez	F	D	RT @latinovictoryus: We're angry. You're angry. We need to channel our anger into action. Come support @Ocasio2018 at a meet and greet her...
Corey Stewart	M	R	Watch our new TV AD! Today's Democratic Party is an unhinged, angry mob.
Marsha Blackburn	F	R	Our nation has been well served by robust, respectful political debate. That is something that strengthens our public discourse and democracy. This angry mob and the Democrat leaders, who encourage this rhetoric, are detrimental to our civil discourse. @foxandfriends <a href="https://t.co/fgfuKmeehr">https://t.co/fgfuKmeehr</a>
Patty Murray	F	D	When the Senate failed Anita Hill & confirmed Justice Thomas in 1991, I got mad, I ran for Senate, I wouldn't let anyone tell me I had no shot-and I won. Be angry. Organize. Put some more cracks in the wall-today, tomorrow, & for the fight ahead.
Cory Booker	M	D	May our outrage get us out working. #Midterms
Morgan Murtaugh	F	R	I'm about to go on a rant of things I'm tired of in politics. So brace yourselves...

**Table 2**

Candidate behavior/Attributes on Twitter.

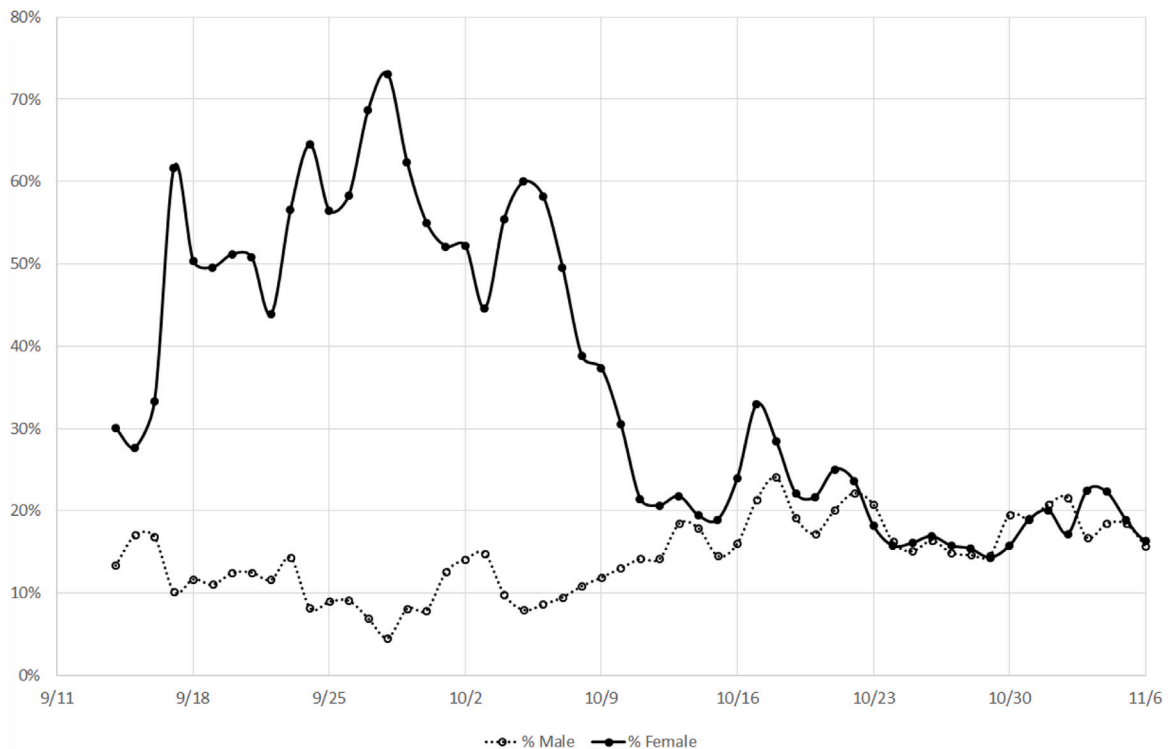
	Male candidates	Female candidates
# Candidates	683	275
% of candidates	71.4%	28.6%
% of Tweets	64.8%	35.2%
% Angry Tweets	0.9%	1.4%
% Tweets about male topics	18.3%	15.2%
% Tweets about female topics	26.9%	35.6%

higher rate. This is further shown in Table 3(a) and (b), which show the breakdown of stereotypical male and female subtopics along with the proportion of tweets matching them from male and female candidates. Note that female candidates speak at a higher rate than male candidates about every female subtopic, and male candidates speak at a higher rate about six of their eight subtopics.

Further, in line with previous work (Bauer, 2018; Winter, 2010) we find that female democrats tweet about female topics at significantly higher rate than female republicans, and the opposite is true for traditionally male topics.

### 3.5. Other variables

We include several race-level variables in most subsequent regressions. First, *electoral ease* is how easy a generic candidate of the candidate's party should find the election based on the Cook's PVI rating for the district or state as appropriate. For instance, if the district was rated a Democrat+14 district, then this value is 14 for a Democrat running in the district and -14 for a Republican (the two third party candidates were treated as Democrats for the purposes of this measure since both lean heavily left). Second, to control for economic factors, we also use the logged median household income (labeled *income*) in each state or district (Bureau, 2017). Third, we include dummy variables for gubernatorial and senatorial races in order to capture systemic

**Fig. 1.** Time series of percentage of political tweets matching male or female topics.



**Table 3**  
Percentage of candidate Tweets fitting subtopics.

(a) Female subtopics			
	All candidates	Male candidates	Female candidates
General female	3.10%	2.21%	4.73%
Education	2.79%	2.67%	3.02%
Environment	0.80%	0.74%	0.93%
Family	6.58%	6.10%	7.46%
Health	3.19%	2.88%	3.76%
LGBT	0.35%	0.32%	0.42%
Reproductive health care	0.29%	0.26%	0.35%
Sexual assault	2.09%	1.92%	2.40%
Social	4.12%	3.86%	4.59%
(b) Male subtopics			
	All candidates	Male candidates	Female candidates
Agriculture/Infrastructure	1.13%	1.21%	0.97%
Economy	6.41%	6.86%	5.57%
Foreign policy/Trade	0.27%	0.25%	0.31%
Guns	0.50%	0.47%	0.55%
Immigration	1.37%	1.40%	1.30%
Marijuana	0.09%	0.10%	0.07%
National security	1.75%	1.85%	1.57%
Veterans	2.82%	3.04%	2.41%

differences in those state level races.<sup>5</sup> Fourth, we include a dummy variable for party (where zero is Democrat, and one is Republican) in order to control for the effects of partisanship in alternate specifications for each regression. Fifth, we measure the general level of gender equality (labeled *gender gap*) in each state/district by calculating the wage gap between men and women, defined as:  $1 - \frac{\text{Income}_M}{\text{Income}_F}$  (ACS, 2019).

We capture electoral outcomes with two metrics: *vote share* is the percentage of the vote that the candidate won, while *won* is a variable indicating if the candidate won their election.

We have each candidate's age *age* from the Biographical Directory of the US Congress for any candidate who held office, and hand-coded for the remaining several hundred based on news articles, personal websites, and other databases such as VoteSmart. Twenty candidates (all of whom lost) had no information available that could be found.

In addition, we include variables indicating if the candidate was the *incumbent* (427 of 985), whether they ran *unopposed* by a major party candidate (38 of 985), whether they were a *quality candidate*<sup>6</sup> (581 of 985), whether they faced a *quality opponent* (530 of 985).

Finally, we also include dichotomous variables indicating whether they were a *female candidate* (278 of 985), and whether they had a *female opponent* from the two major parties (253 of 985). The interaction of the latter two dichotomous variables produces a flag identifying woman against woman elections, of which there were 33.

## 4. Empirics

### 4.1. Is there a gender difference?

First, we examine whether there is a robust difference between male and female candidates in their communication on social media. We regress three different dependent variables of interest derived from candidate behavior on Twitter: the number of male topical tweets, female topical tweets, and angry tweets. Each is a negative binomial count regression, with the independent variables being a dichotomous flag indicating a candidate is female, and the vector of control variables



**Fig. 2.** Estimated effect of candidate gender on Twitter behavior.

defined in the last section, in addition to an offset variable of the total number of tweets posted by the candidate. Fig. 2 shows the coefficient of 'is female' in each of these regressions, along with 95% confidence intervals (full regression tables are available in the appendix).

Similar to the 2012 elections as found by Evans and Clark (2016), we find that being a female candidate has a positive and significant association with tweeting about female topics. However, unlike what previous research shows (Evans, 2016), we see that a negative and significant association for male topics for female candidates. That is, women talk more often about female topics, such as health-care, family issues, and education, and less about male topics, such as crime or the economy, even when controlling for common electoral covariates. Holding all other variables at their mean (or most common value for dichotomous variables), being a female candidate increases the expected proportion of female topical tweets by a candidate from 15% to 23%, and decreased the expected proportion of male topical tweets from 25% to 15%. However, gender was not a significant predictor of anger on social media in the least, breaking with that stereotype entirely.

In addition, Fig. 3 shows just how starkly gender plays a role in level of discussion of stereotypically female topics. In each graph, the full range of each of the continuous covariates is on the horizontal axis, while the vertical axis is the modeled effect on the number of female topical tweets posted by the candidate. In each graph, all other covariates are kept at their means or most common dichotomous value, and the predicted effect of gender designated by the two labeled lines. The shaded areas represent 95% confidence intervals.

The slopes of the lines in each graph reveal additional patterns. The lines are essentially flat in the *tweets per capita* graph, indicating that the level of social media activity in a district has little interaction with the level of a candidate's discussion of female topics. This is perhaps indicative of social media's ubiquity meaning that its level of usage is not a predictor in and of itself. *Electoral ease* and *age* both trend upwards, with female topics being discussed more in older and more electorally secure candidates. The former is a generational distinction, while the latter points to candidates facing difficult elections being more willing to take risks and break with the potentially safe strategies of stereotypes. Further, as the gender gap grows in a district, female issues are *less* likely to be discussed. Finally, in line with previous research (Evans and Clark, 2016), having a female opponent decreases the likelihood of women talking about traditionally female topics, while it increases the likelihood of discussing male issues.

To sum up the descriptive patterns, during the 2018 U.S. elections the candidate most likely to talk about women issues would be an older woman, incumbent, running against a male candidate, which represents a richer electoral district. Our findings predict that for this woman to switch talking about male issues more often, she would run in an election facing a female opponent, be a candidate with significant previous

<sup>5</sup> The primary expectation of difference here is that 'higher' level races such as the Senate will tend to be more professionalized, and thus vary in terms of social media content, even though we do not expect our hypotheses to function differently between the different race types.

<sup>6</sup> Defined as having ever held public office, data hand-coded by the authors based on biographies of all candidates (Jacobson, 1989).



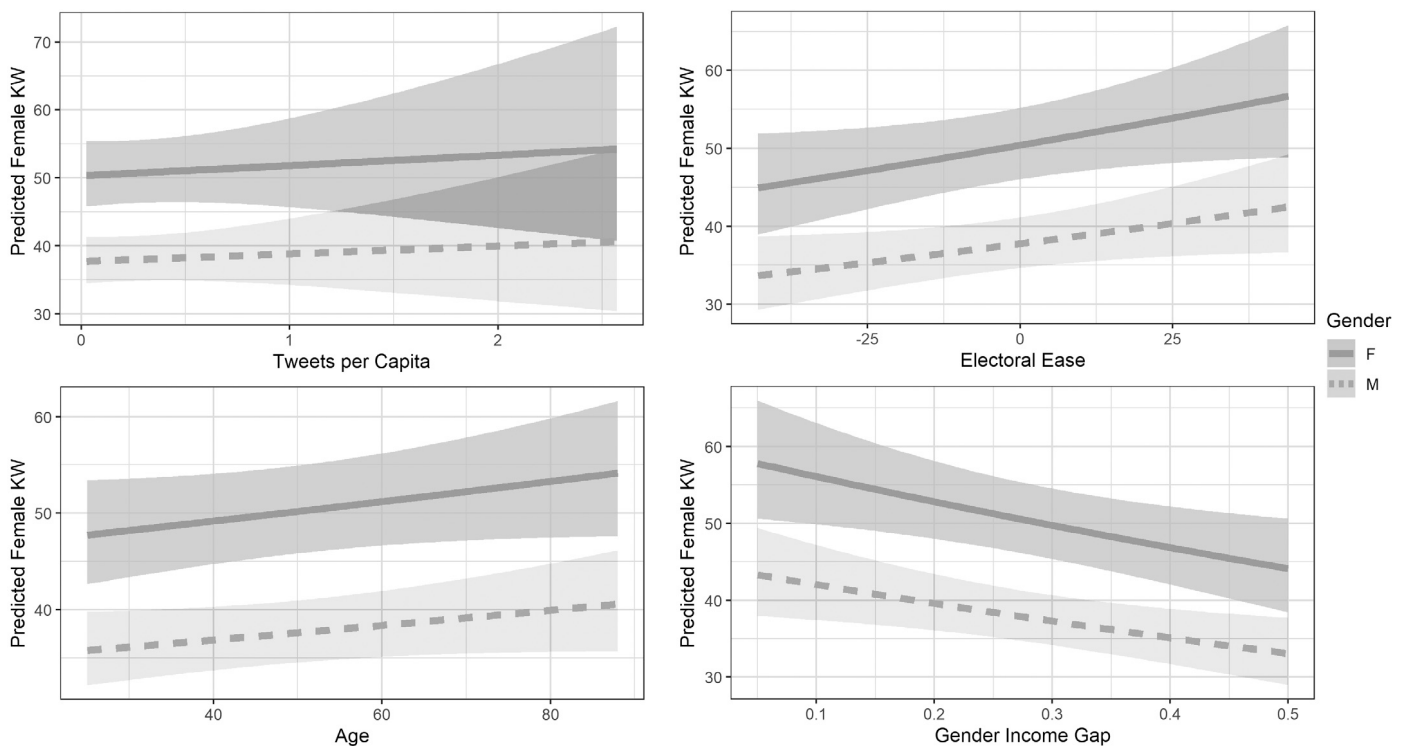


Fig. 3. Estimated effects of covariates on female topic tweets.

government experience, and come from electoral district with a big gap in income between men and women. Male candidates are more likely to discuss female issues when they are running against another man, they are the incumbent or candidate with previous government experience, come from an electoral district with high income and relatively bigger pay gap between men and women when compared to other districts.

Finally, the number of angry tweets is negatively (but weakly,  $p < 0.1$ ) associated with being younger, a candidate with previous government experience, and with having a female opponent. The latter finding diverges from what Evans and Clark (2016) show that during the 2012 elections female–female races saw more negative-style tweeting. Lastly, as the gender gap grows in a district, we see less aggressive language from political candidates.

#### 4.2. Electoral consequences

After describing the patterns how candidates talked online, we move to test our first two hypotheses, that breaking with gender norms in topics and expressing anger will have electoral consequences for female candidates. We test our hypotheses in two regression specifications: logistic regression of whether the election was won, and OLS regression of vote share won. We ran three different variants of each, using percentage of male topic tweets, female topic tweets, and angry tweets, in addition to the same control variable vector specified earlier. The population in this analysis is restricted to female candidates ( $n = 272$ ). The full regression tables are available in the appendix, but Fig. 4 shows the coefficients of each of the explanatory variables along with 95% confidence intervals.

We find strong support for Hypothesis 1. Talking about male topics is negatively associated with chances to win as hypothesized, with a statistically negative influence on female candidates winning their election, and an effect just shy of statistical significance ( $p = 0.17$ ) on vote share. As predicted, talking more about female topics had the opposite effect, with strong positive and significant association on both female candidates' chance of winning and their vote share. In substantive terms, a one standard deviation increase in discussing male

topics on Twitter decreased a female candidate's probability of winning the election by 11.3%, and decreased their expected vote share by 0.8 percentage points. A one standard deviation increase in discussion of female topics increased a female candidate's probability of winning by 13.4% and increased her vote share by a full two percentage points.

However, contrary to theory, we find strong evidence *against* Hypothesis 2: being more angry helps female candidates get elected, with significant positive association both in vote share and win probability. In terms of substantive impact, anger increased by one standard deviation increased expected vote share for female candidates by 1.6 percentage points and probability of winning by 12.1%.

#### 4.3. Gendered backlash

As a next step, we test Hypotheses three and four, which predict that female candidates will be harassed more online in response to their breaking with gender norms.

First, we describe the patterns in the data. Table 4(a) and (b) break down public behavior towards female candidates by the gender of the user (the rows) and disaggregated by the gender of the topic (the columns). The numbers represent the percentage difference between female and male candidates for each permutation, weighted by the total number of tweets by each gender of candidate. That is, if male and female candidates experienced proportionately identical behavior directed at them in their mentions, these numbers would all be zero percent. However, there is a staggering difference in most cases between women and men. First, in Table 4(a) note that female candidates are tweeted at about female topics at a rate about 25% higher among both male and female members of the public. Compare that to Table 4(b), in which *angry* mentions are directed at female candidates about female topics at approximately 40% a higher rate than at male candidates. Further, note that when discussing female topics, the rate of anger between male and female members of the public is essentially equal, but that changes drastically when talking about male topics. Men direct anger towards female candidates about male topics at a 9.6% higher rate than they do against male candidates, while the female public is

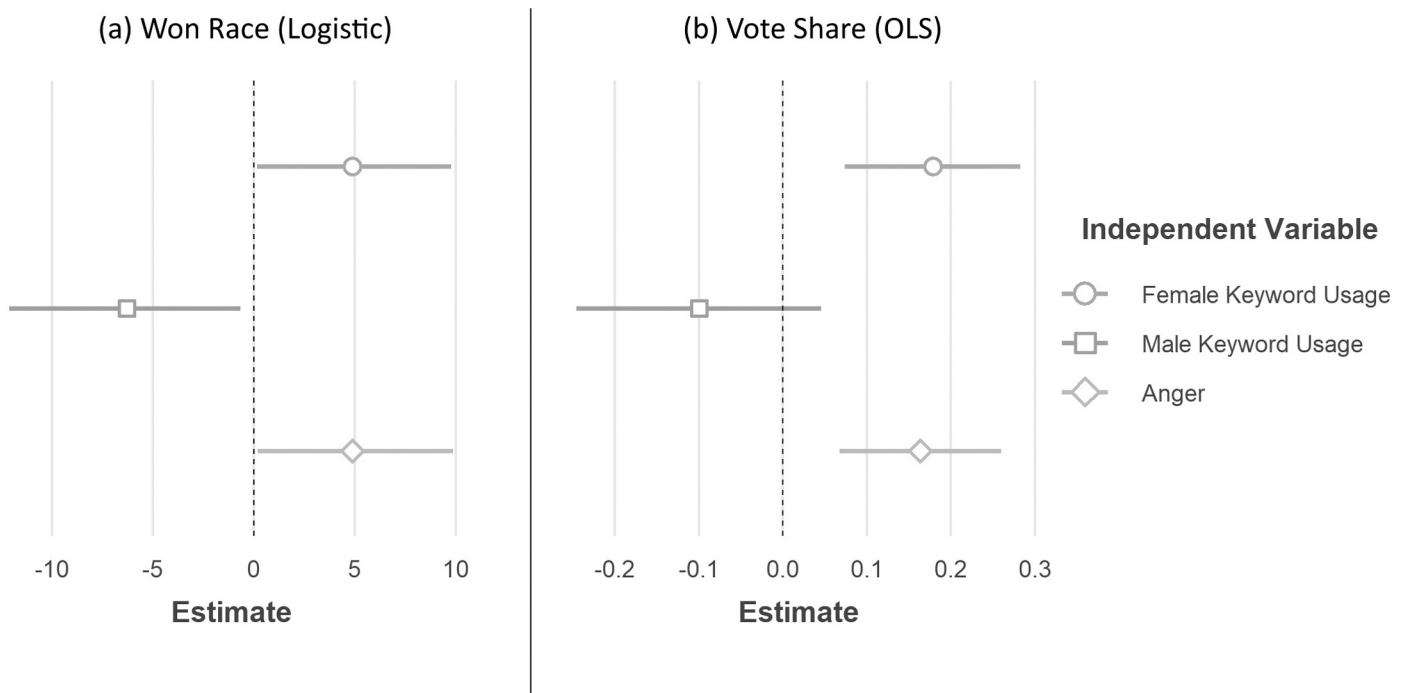


Fig. 4. Estimated effects of covariates on female topic tweets.

**Table 4**  
Differences in Mentions Between Female and Male Candidates.

	(a) All mentions		(b) Angry mentions	
	Male topics	Female topics	Male topics	Female topics
By men	-5.8%	+23.6%	+9.6%	+39.9%
By women	-14.6%	+25.6%	-6.8%	+43.0%

less likely to do so. Thus, female candidates are subjected to a great deal more anger than their male counterparts.

Next, we use negative binomial count regressions with the population of female candidates, with two different independent variables (tweets on male topics and angry tweets by candidates), with the vector of control variables, and three permutations of dependent variable: total angry mentions by the public, angry mentions by male users, and angry mentions by female users. The coefficients and statistical significance of each of these six specifications is shown in Fig. 5, with 95% outer and 90% inner confidence intervals.

The results are encouraging, but not definitive, with relationships consistently in the predicted direction but just shy of a 0.05 threshold of statistical significance. Candidate anger is associated with increased angry tweets at them, but discussing male topics does not have the same effect. Note the behavior of female candidates does not predict male behavior towards them online at all, and that the general relationship between candidate behavior and public anger is being driven almost entirely by the behavior of the female public. In substantive terms, a one standard deviation increase in candidate anger is associated with about 10 per cent increase in angry tweets at them.<sup>7</sup>

This reinforces two conclusions: the male public is aggressive towards female candidates online regardless of their actual conformance to gender norms, while the female public is heavily engaged in in-group policing of behavior. That is, when female candidates transgress group norms, it is the group itself that responds aggressively.

<sup>7</sup> Note that the angry response our model is capturing could be due to angry support, and not punishment. We are not able to test this but we believe that it is less likely for twitter users to direct their angry messages at candidates they support.

Intriguingly, the dichotomous flag for having a female opponent is consistently significant and negative in all specifications. The candidates in woman vs. woman elections face consistently less anger online from both the male and female public. In addition, if we run the earlier regressions of candidate behavior on just the female candidates, we find that the *female opponent* flag is also consistently significant, and in the *opposite* direction of the overall trends. That is, in woman vs. woman elections, the candidates speak significantly less about female topics, significantly more about male topics, and with less anger. One could argue that this is due to a sort of regression to mean effect as the gender of candidates is removed as a factor. However, it is important to reiterate that there are only 31 woman vs. woman elections in the data, and so conclusions should be tempered by their idiosyncrasy.

#### 4.4. Disentangling partisanship

A potential alternative explanation is simply that everything we are observing is a function of partisanship, not just because of the dominant role partisanship plays in contemporary American politics, but because of the statistical implications of there being so few Republican women who run for national office. In an ideal experimental universe, we would be able to test our hypotheses with a sample of candidates whose gender was independent of their partisan alignment. But due to the observational nature of this work, three-fourths of the female candidates are Democrats, and therefore our regressions testing whether being a woman matters are statistically closer to testing whether being a Democratic woman matters.

Simply controlling for party membership is problematic though, because in our universe of cases, party membership is thoroughly entangled with gender. Very few Republican women run, and those who do are disproportionately likely to be challengers running against

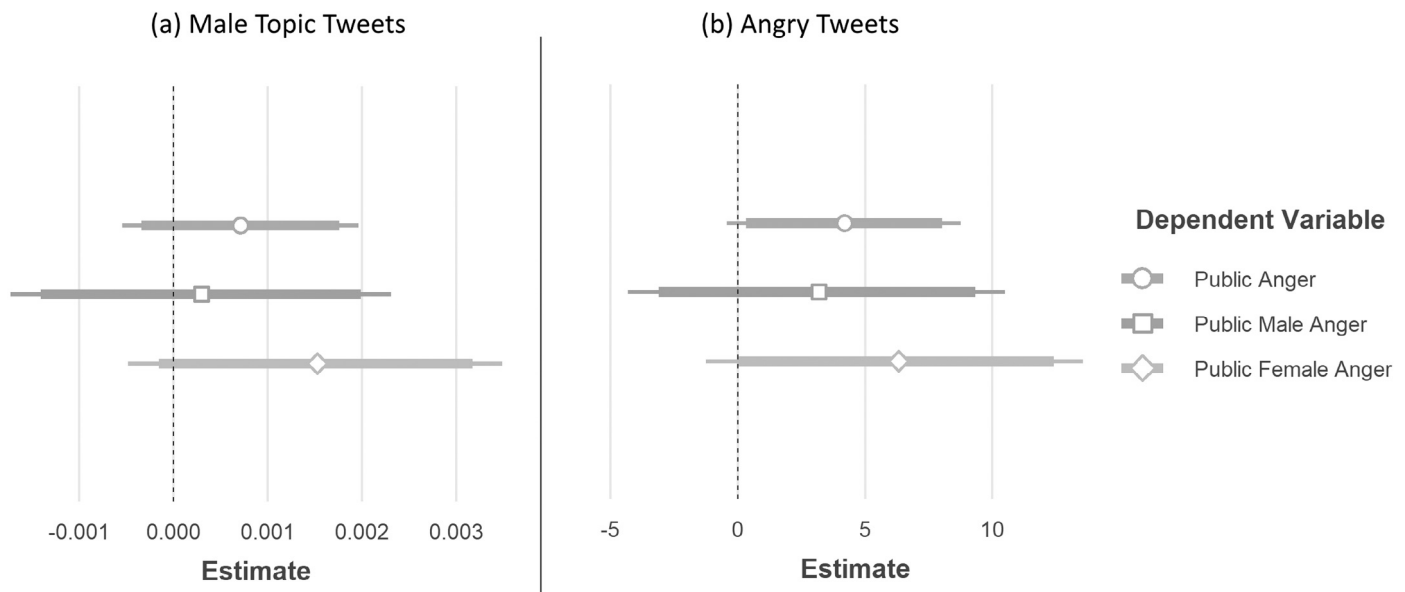


Fig. 5. Estimated effects of covariates on female topic tweets.

female Democratic incumbents, indicating that gender and party are not independently determined in our observable cases, but at least on the Republican side, are strategically intertwined. The strategic endogeneity problem is most theoretically problematic when it comes to the regressions on electoral outcome because the 2018 midterms were an overwhelming blue wave, with party over-determining outcome, especially for candidates running against Democratic incumbents.

Even so, if we control for party membership, our findings remain mostly intact (as shown in the complete regression tables in the appendix). Two of our three findings reported above for whether there is a gender difference hold, with level of discussion of male topics being the exception (although the direction of the remains the same). In addition, all six of the models of whether there is a gendered backlash retain their sign, statistical significance, and approximate substantive magnitude. However, our regressions on vote share and electoral victory are not robust to the addition of a party dummy in the case of topical discussion, while candidate anger still retains its sign and approximate substantive magnitude (though the statistical significance slips precariously to  $p = 0.26$  in the case of win probability). In the latter regressions, the party dummy is overwhelmingly statistically and substantively significant, and the best way to comprehensively disaggregate the effect of party and gender would be to perform this analysis across multiple elections when the wave nature of the election is not simply swamping any other independent effects. That is beyond the scope of the current paper, but promises to be exciting future work.

Finally, evidence from previous research also corroborates the argument that partisanship and gender do not necessarily go together. A useful summary of cases from varied contexts can be found in Paxton and Hughes (2007, Chapter 8). Importantly, the work by Swers (1998) on the U.S. Congress shows that gender, even when accounting for partisanship, explains voting for bills related to women's interests such as reproductive rights and women's health. Swers finds that in the 103th Congress Republican women defected from the party position on key issues relating to women. Although at smaller rates, some Republican women continued to do so also during the 104th Congress, when Republicans took over the legislature, the leadership took a conservative turn and party discipline was tightened (Swers, 2002; Hawkesworth et al., 2001).

## 5. Conclusion

Although both men and women support greater representation of women in politics (Bauer, 2013; Dolan, 2014b), women continue to

be severely under-represented. The present research contributes to answering the puzzle of how gender stereotypes affect women's electability and attitude from voters depending on how female candidates themselves respond to gender stereotypes. Previous research has shown that norms, in particular negative ones, have long stood in the way of electing more women to office. Notably, media has a strong role in shaping the perception of women politicians being cold or nice enough depending on the focus journalists take (Bligh et al., 2012). This is where Internet presence becomes increasingly important, thanks to the ability of women and their teams to lead the conversation, and take control of a previously gendered narrative.

While we acknowledge that Twitter users are not representative of the whole population (Jungherr, 2016), we argue that it is important to study their reactions precisely because those Twitter users are more vocal and interested in politics than the average voter. Future research could compare data from Twitter with other types of data, for example, coming from experiments or from representative public opinion surveys. In addition, Twitter's near universal usage by candidates dwarfs the individual usage of any other particular social media platform in American politics. And with nearly a quarter million tweets posted by candidates in the eight weeks before the election, represents a treasure trove of how candidates choose to present themselves to the public. Further, the ability of normal users to tweet at politicians means that we can directly measure how members of the public respond to candidates with a precision unavailable through other techniques.

We find that during the 2018 U.S. election, female candidates for office focused their discussion on issues we perceive as being traditionally female (such as health-care, sexual assault, LGBTQ rights, poverty, the environment, education and school shootings), but on average they were not angrier than men on Twitter. Senior female candidates from richer districts talked most about traditionally female topics. Women facing another woman as opponent and those running in less gender equal districts talked more frequently about the traditional male issues such as the defense, budget, infrastructure, and agriculture. The fact that women are the ones to bring up women's issues has important policy implications, as it demonstrates that representation matter, especially because women's issues continue to be severely under-represented among discussions overall (Evans and Clark, 2016). How do these patterns affect women's likelihood to be elected, and do they increase the already high levels of harassment women face online?

Contrary to the literature saying that women would be punished for showing emotions, female candidates who expressed more anger were

more likely to be elected. Focusing on female issues also seems to be a winning electoral strategy. In terms of online backlash from the public, we note that women are more likely to be the subject of angry tweets, in particular by men. However, these levels are enhanced as female candidates are angrier themselves, and are punished in particular by female users of social media in what could be interpreted as gender policing.

The #MeToo era has sparked enormous public discussion of the politics of gender, and candidate interactions with the public via social media provide an invaluable insight into both the gendered tactics of candidates and the gendered responses of the public. Our findings contribute to this debate, and show that while the norms of male and female topics seem to still have a large effect on political outcomes, anger has been untethered from gender. For female candidates, rage wins elections. At the same time, being champions for the so-called 'women's issues' helps female candidates electorally, allowing them to advance those key issues during elections. Thus, our research suggests that Internet and in particular social media is a good place for women to steer the political debate and bring forward important issues, irrespective of gender stereotypes.

## Appendix A. Supplementary data

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.electstud.2020.102268>.

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