Running as a Woman?: Candidate Presentation in the 2018 Midterms

Maura McDonald
mgm92@live.unc.edu

Rachel Porter
rachsur@live.unc.edu

Sarah Treul
streul@unc.edu
Department of Political Science
University of North Carolina at Chapel Hill

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Abstract

The record high number of women who ran for the U.S. Congress during the midterm elections led many journalists to proclaim 2018 as another “Year of the Woman.” Although not every female candidate was successful, this large number of women running for office provides the opportunity to advance our understanding of the ways in which women present themselves to their voters. Using the “Biography” pages of over 1,500 2018 congressional campaign websites, we utilize a structural topic model to examine how these candidates present themselves to their constituencies. In doing this, we find great variance in the presentation styles of women running for Congress in 2018. We also find that prior political experience, more so than gender, is the primary driver in influencing how candidates (both men and women) present themselves. Experienced candidates utilize similar styles that highlight their past political work while amateur candidates are more likely to use “values-driven” language.
The 2018 midterm elections marked a historic occasion for female representation in the United States. Since 1992, a mere 160 female candidates, on average, ran for the House in any given election cycle. However, in 2018, a record-breaking 476 women ran for the House of Representatives, and 36 women were newly elected to office. The year was also unique as women’s issues, such as gender equality and workplace harassment, were frequently at the forefront spurred by the Women’s March and the #MeToo movement. Taken together, this increase in female candidate emergence and the centrality of gender issues on the national stage provide us with a unique opportunity to study the role of gender in how a candidate presents herself to voters (i.e. the candidate’s “presentation of self” (Fenno, 1978)). In particular, the presence of a large number of female candidates allows us to examine how women may differ, not only from men, but also from other women as they develop a style that determines how they tailor communication towards their voters and potential constituents. As more women enter races across the country, they must make themselves distinctive not only from men, but also from other women. Furthermore, the salience of gender issues in the 2018 election cycle makes these elections an even more unique test case. Emphasizing one’s gender by running “as a woman” seems like a highly advantaged strategy in a year that many called another “year of the woman.” Therefore, if there ever was an election to expect pronounced differences in gendered self-presentation, it would be in this election. On the other hand, as more women enter politics, it is no longer enough to be the woman candidate; women must now distinguish themselves from each other.

An increasingly crowded field of women illustrates the necessity for women to develop distinctive self-presentation strategies as a way to distinguish themselves from one another and to attract support from voters, donors, and party elites. This is particularly true in primary elections, where voters are not able to use party as a cue. This need for distinctiveness raises important questions about what candidates choose to emphasize and deemphasize over the course of a campaign. If, as Dolan (2014) argues, factors that
traditionally influence elections, such as political party, do so “regardless of the sex of the candidates,” then do women respond to such factors in a uniquely homogeneous way as women? Or is it more likely that women, like men, are heterogeneous in their presentation styles? Should we then expect to see more homogeneity between men and women who share other characteristics (i.e. Democratic women are more similar to Democratic men than they are to Republican women). If so, how do differences in party and also experience influence what candidates choose to emphasize?

To answer these questions, we turn to campaign websites. Throughout the course of the 2018 primary election, we collected the text from the “About” pages of all candidates who ran in the 2018 primary elections—totaling 1,510 candidate biographies of which 24% were women.¹ The “About” pages of candidate websites are the ideal place to examine self-presentation. According to Druckman, Kifer and Parkin (2009, p.345), candidate campaign websites are a uniquely ideal form of data for studying campaign communication because they are “unmediated (i.e., directly from the campaign), complete (i.e. covering a full range of rhetorical strategies), and representative of the population of campaigns.” In other words, if a candidate focused on a particular experience, trait, or qualification on her website, it was likely something that she focused on elsewhere during her campaign. Additionally, Sulkin, Moriarty and Hefner (2007) find that the typical candidate presents a campaign agenda on her website that covers nearly twice as many issues when compared to her advertisements, indicating that these websites contain a more comprehensive view of a candidate’s positions, containing information that likely shows up throughout the campaign. Since candidates are not limited to the same time and space restrictions they might be in campaign advertisements, press releases, or social media posts, they can emphasize everything that they think might be important to potential supporters, including copies of advertisements or links to speeches or articles (Druckman, Kifer and Parkin, 2009; Schneider, 2014). Though the audiences for these websites are more homogeneous

¹This number includes only candidates who had a campaign websites, as we could not use an automated approach to collect off of Facebook or LinkedIn.
than those for campaign ads (Sulkin, Moriarty and Hefner, 2007), we expect that candidates use these websites to present a strategic picture of themselves. The “About” page of a candidate’s website is a picture of the candidate as she wishes to be seen by voters and how she hopes the media will portray her.

Thus, the campaign websites provide us with an unmediated snapshot of the candidate, or “the aggregation of campaign communications that reflect a campaign’s overall rhetorical strategy” (Druckman, Kifer and Parkin, 2009, p.345). In this paper, we specifically focus on the candidate’s biographies or “About” pages. These pages are more than just a place for candidates to paste their resumes. Candidates use these pages to make a case for why they are the best for the job—we think of them as “Why Me” pages. These “Why Me” pages are a place where “different aspects of personal history are adjusted in accordance with a strategic plan” making them an ideal place to investigate how candidates piece together different elements of their campaign to make the most compelling case to voters for their election. (Schneider, 2014, p.281).

**Gender, Experience, and Party in Political Campaigns**

In order to understand the decisions women make regarding the presentation of their gender, it is first necessary to understand the role that gender plays in modern day elections. Though women make up 51% of the national population, they still are significantly underrepresented in Congress. Much of the past literature surrounding female candidate emergence and success suggests that this is not because women cannot be successful at the ballot box. On the contrary, men and women are elected at comparable rates. What is likely more responsible for the dearth of women running is that women are more likely to wait to run until they have accrued a substantial amount of experience, passing some “quality threshold,” often making them more qualified than their male counterparts once

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2 A sample of these pages can be found later in the paper.
3 For a review of the literature about the history of women’s electoral fortunes see Palmer and Simon (2012) and Lawless and Fox (2010).
they decide to run (Fulton, 2012). Reinforcing this theory, Pearson and McGhee (2013) demonstrate that women are even more likely to hold elected office before seeking a House seat, showcasing their perceived need for previous experience before running for Congress. Relatedly, Lawless and Fox (2010) argue that women are underrepresented because they do not run as often as men do. The authors point to several possible reasons for this: women are less likely to receive early encouragement to run for office, more likely to put off running due to family considerations, and more likely to devalue their own experiences than men are. In summary, there are fewer women running because they, as a group, are unconvinced that they are ready to run—let alone ready to win.

Beyond personal decision making, women also face significant obstacles in the political environment. In fact, most of the literature surrounding gender and elections from the 1990s and 2000s argues that “gender parity on Election Day occurs in spite of gender disparity on the campaign trail” (Hayes and Lawless, 2016, p.15). Indeed, much of the literature points to several different ways in which the electoral playing field is uneven. Sanbonmatsu (2006) finds that women are less likely to be recruited by political parties because party leaders in many states believe that women are less electable than men. Lawless and Pearson (2008) find that female candidates, including female incumbents, face higher levels of primary competition meaning that they have to do better than their male counterparts in order to fare equally well.

Taken together these personal and environmental factors lead women to believe that they must be extraordinarily qualified candidates in order to run for Congress. As a result, women, regardless of previous electoral experience, party, or race type, are likely to focus on and play up their experience, in whatever form they have, as they tend to have a lot of it and it provides the foundation for their sense of qualification. It is here that we expect to see a gendered difference in campaign presentation. Women will be more likely than men to emphasize their political and other types of experience as a function of proving their qualifications to their potential voters and donors.
Turning to the campaign environment, many studies find that women receive unequal media coverage, with more attention paid to their appearance and personality traits than their qualifications (Duerst-Lahti, 2006; Miller and Peake, 2013). This likely encourages women to play up their experience even more in order to counterbalance this uncontrollable media coverage. Additionally, women must be more strategic about their tone, receiving advice to avoid emotion, negative ads, and other strategies that will help them minimize the potentially negative effects of gender stereotypes (Bystrom et al., 2005; Hitchon, Chang and Harris, 1997; Lansing, 1991; Witt, Matthews and Paget, 1995). On the other hand, several studies have also found that women have a distinct advantage when they choose to run “as women” by focusing on issues and traits that voters associate with female candidates (Bystrom et al., 2005; Herrnson, Lay and Stokes, 2003; Fridkin and Kenney, 2009; Windett, 2014). These competing strategies suggest that female candidates will likely choose the strategy that best fits their electoral context. That is, women will emphasize their gender if they feel that doing so will appeal to voters or enhance their self-presentation, but if they feel that their gender will detract from their qualifications they are likely to avoid drawing attention to it. Women without previous experience may be particularly likely to play up their gender if they think that this emphasis will make up for their lack of legislative experience.

These strategic decisions also likely differ by party. Previous literature shows that gender stereotypes tend to advantage Democratic women more than Republican women (Sanbonmatsu and Dolan, 2009). This is particularly true in primary elections, where Lawless and Pearson (2008) find that Republican female candidates have a more difficult time finding success than Democratic women. Dolan (2014) finds that voters who prefer female candidates are more likely to vote for Democratic candidates overall, making them less likely to vote for Republican women. She argues that “voters do not simply want more women in office; they want a particular kind of woman in office” (Dolan, 2014, p. 193). Additionally, there is evidence that members of the Democratic Party are
more likely to consider diversity as at the core of their party, while Republican coalition members are less likely to embrace “identity-based appeals for the expansion of women in office” (Thomsen, 2019; Grossmann and Hopkins, 2015). Furthermore, Thomsen and Swers (2017) find that partisan donor pools are more likely to support Democratic women over Republican women. This indicates that Democratic women will be more likely to play up their gender than Republican women, as it is likely to be more of an asset as it does not detract from their ability to fund their campaign, and meets the expectations of their partisan voters.

Finally, there is increasing evidence that these gender disparities on the campaign trail are diminishing, or may even no longer exist. Several recent studies have found very few gender differences in candidate communication content (Dolan, 2014; Hayes and Lawless, 2016; Evans, Cordova and Sipole, 2014; Sapiro et al., 2011). In today’s political environment, party and political experience are more influential in forming voter attitudes and vote choice than gender cues (Dolan, 2010; Hayes, 2011; Huddy and Capelos, 2002; Philpot and Walton Jr, 2007). In fact, Dolan (2014) finds that voters are likely to vote for a female candidate, as long as she shares their party. Additionally, while gender disparities certainly have occurred in the past, Hayes and Lawless (2016, p.134) find that the “congressional campaign environment is very similar for male and female candidates, and that [what is] holding women back is not discriminatory or more challenging electoral language.” As a result, though the literature suggests that there may be some advantages to running “as a woman” and focusing on particular issues or personality traits, it seems likely that playing up these factors is less advantageous if it detracts from key elements of party membership or electoral experience.

Understanding what candidates choose to emphasize and deemphasize depending on these differences is a valuable contribution to determining how candidate communication can influence electoral outcomes. Furthermore, while Hayes and Lawless (2016, p.23) find that gender disparities no longer exist in general elections, they suggest that “it
is possible that gender could play a stronger role in shaping the dynamics of primaries or non-partisan elections, where voters are unable to rely on partisanship as a decision making shortcut.” Here our extensive collection of primary election candidate websites will allow us to examine what candidates of different genders choose to emphasize and deemphasize in primary elections and further extrapolate the ways in which candidates may perceive gender disparities during primary campaigns where they cannot appeal to party alone.

Examining Female Candidate Self-Presentation

Much of the literature has examined the campaign strategies and presentation styles of women compared to men, and recent studies have found few differences between genders. However, very few studies have examined potential heterogeneity between female candidates. This is likely because until 2018, there have been a relatively small number of female candidates in a given election, making it difficult to study. In this way, 2018 is a particularly unique case as the increase in female candidates leads to important variation in experience, and—to a lesser extent—party, that allows us to examine the ways in which women choose different campaign messages across experience, party, and, of course, gender.

Overall, we expect to find that women tailor their biographies based on factors—not just gender—that are important to a candidate’s strategic calculus. In particular, we expect that women may build their “Why Me” pages based upon party and their political experience. Focusing first on experience, as discussed above, the candidate emergence literature finds that women only emerge as candidates when they feel as though they have checked all the boxes and are qualified to hold office. As a result, women are likely to emphasize their experience more so than men in order to prove that they are qualified to hold public office. Because most women tend to wait to emerge as candidates until
they feel that they are qualified to hold public office, female candidates often have a lot of experience to advertise. However, not all women who emerge as candidates have political experience or have held elective office. For these inexperienced women, focusing their attention on other aspects of their background is likely a more successful strategy than focusing on their lack of experience.

Hypothesis 1: Experienced female candidates will emphasize their political experience and qualifications more than their male counterparts.

Hypothesis 2: Experienced female candidates will emphasize their political experience and qualifications more than amateur (inexperienced) female candidates.

Beyond differences in experience, we also expect there to be systematic differences in the ways in which female candidates choose to emphasize their gender. In particular, much of the previous literature indicates that being a female candidate is far less of an asset for Republican women than it is for Democratic women. As a result, we expect that Democratic women candidates, regardless of their past experience, will be more likely to emphasize their gender than their Republican counterparts because such identity-based appeals are more likely to be well received by Democratic donors and voters. Within the Democratic party, however, we expect to see differences by experience level. We anticipate that amateur—or inexperienced—Democratic women are far more likely to emphasize their gender in their self-presentation strategies than experienced Democratic women. We expect this to be the case because, as noted above, experienced Democratic women are far more likely to emphasize their political experience and will prioritize this over emphasizing their gender. Amateur Democratic women, however, will be looking for ways to appeal to voters and may prioritize highlighting their gender as a way to appeal to voters and donors that draws attention away from or provides justification for their

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4Here the term “inexperienced” is being used for someone who previously never held elected political office (i.e. a “non-quality candidate” (Jacobson, 1989)). The word “amateur” is used to describe someone without prior experience in elected office.
lack of experience. This is not to say that we do not expect experienced Democratic women to play up their gender at all. In 2018, gender issues were particularly salient, so an experienced Democratic woman may strategically highlight her gender as a way of making herself distinctive from other candidates in the pool. However, we expect that amateur Democratic female candidates will be more likely to emphasize their gender than their experienced counterparts.

Hypothesis 3: Democratic women candidates will emphasize their gender more than Republican women candidates.

Hypothesis 4: Amateur Democratic women candidates will emphasize their gender more than experienced Democratic women candidates.

**Data and Method**

To test these hypotheses, we embarked on a substantial data collection effort. We collected the biographical text for all candidates who had a campaign website and ran in the 2018 congressional primary election—amounting to a total of 1,510 candidates. To collect these data, we first identified the names of all major party candidates running in 2018. We then searched for these candidates’ campaign web-pages by following links from Politics1.com, which provided a near complete inventory of sites. We also visited candidate social media pages and conducted a simple Google search in our attempt to identify the complete population of congressional campaign websites. We successfully found campaign websites for 83% of candidates who appeared on a primary ballot in 2018.\(^5\) Next, we determined whether a given candidate had a biography on her website. For many candidates this was

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\(^5\)A small number of candidates had no official campaign website. Our sample included only those candidates with official campaign websites, excluding candidates who only had official congressional (non-campaign) websites, web-pages sponsored by other groups, blogs, or social media pages. For a small minority of candidates, there was no dedicated biography web-page and no biographical information included on the campaign homepage. These candidates were excluded from our analysis. Around 100 websites did not provide any biographical information about the candidate running for Congress.
a simple process. Most websites had a dedicated biographical page titled “My Story,” “Meet the Candidate,” or “About Me.” For those websites that did not have a dedicated biography page, we defaulted to any descriptive language provided about the candidate on her website’s homepage. Using a mixture of web and hand scraping, we pulled the text from these campaign websites for our analysis.

To our knowledge, this is the first data collection effort to harvest text from congres- sional campaign websites for all available candidates running in a given election year. Because of the sheer amount of work involved in compiling and cataloging campaign web- sites, previous analyses examined only a sample of campaign websites or restricted their scope to the general election (e.g. Druckman, Kifer and Parkin 2009; Sulkin, Moriarty and Hefner 2007). This makes our data set unique as it provides a near complete pic- ture of the types of candidates who ran for Congress in 2018. We chose to characterize candidate self-presentation using website biographies because, unlike newspaper profiles or television advertisements, it provides a complete, unmediated narrative of the candi- date. Additionally, these web-pages are where the media, people introducing candidates at events, or interviewers are likely to turn for information about the candidates. For these reasons, candidates and their campaign staff spend a substantial amount of time carefully crafting their campaign websites.

Candidates are conscious about their self-presentation; they may play up or play down certain characteristics about themselves based on the district. As previously mentioned, biography pages are a particularly good place to examine candidate self-presentation because these pages go beyond a mere resume. They compile the elements of a candidate’s personal history, experience, and issue positions that are the most salient to the electorate. As a result, these “Why Me” pages are a strategic compilation of information, where a candidate makes the best possible case for herself without the space restraints inherent in other media sources (Druckman, Kifer and Parkin, 2009).
Campaign biographies vary from website to website because their content is tailored to win over voters unique to a candidate’s district. However there are also similarities, with most bios featuring information about the candidate’s upbringing, education, notable accomplishments, and connections to the district. Figure 1 depicts two examples of typical campaign biography pages on candidate campaign websites. In Figure 1 (a), Chip Roy (R-TX) emphasizes that he is a “genuine conservative” and “true patriot,” following these characterizations of himself with a list of notable positions in public service, such as Chief of Staff to Ted Cruz (R-TX) and senior advisor to Texas Governor Rick Perry. Alexandria Ocasio-Cortez (D-NY) in Figure 1 (b), on the other hand, begins her biography by establishing her deep roots in the Bronx and emphasizing her Puerto-Rican heritage. These contrasting examples demonstrate how candidates tailor their narratives to elevate themselves and their campaigns.

In order to better assess how candidate self-presentation in the 2018 congressional election varied across individual candidate characteristics and race conditions, we linked our text data to meta data on each candidate. Specifically, we employed a primary elections data set by Porter and Treul (2019). This data set includes standard information on a candidate’s campaign along with data on gender and previous political background or electoral experience. As previously discussed, we posit that in an election year with a record number of female candidates, a candidate’s self-presentation may be defined
by more than just her gender. Using these data on candidate characteristics will allow us to test this hypothesis. In order to combine these two data sets into one, we use a probabilistic record linkage model by Enamorado, Fifield and Imai (2019) in lieu of unique identifiers for each candidate.

To prepare the text for modeling, we took several pre-processing steps standard in text analysis (Grimmer and Stewart, 2013). First, we cleaned the text of any HTML tags and extraneous source code. Second, we removed any stop words — commonly used words such as “the,” “a,” or “in” that have no substantive meaning but rather serve a purely grammatical function. Further, we discarded punctuation, numbers, and removed capitalization. To ensure we did not discard important information in the form of acronyms or abbreviations we converted these occurrences into full words. We also chose to remove city and state names.

Third, we simplified biography vocabulary by stemming words, which removes word endings to reduce the dimensionality of text. For instance, using stemming, words like congressperson, congressman, congresswomen, and congressional would simplify to congress-. Finally, we removed infrequent words, dropping any terms that did not appear in at least 30 candidate biographies. After pre-processing, the corpus for our analysis includes 1,510 documents, 1,584 terms and 217,899 tokens.

We use a structural topic model (STM) to gain a better understanding of the content that candidates include in their campaign biographies. Additionally, we use this model to investigate whether the substance of biographies varies based on individual candidate characteristics. At its core, an STM defines topics in a text using an unsupervised machine learning approach. Topics are distributions of semantically cohesive words deter-

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6 For instance, abbreviations like PhD, JD, and MD convey important information about a candidate’s educational background and attainment.

7 While these words may hold substantive meaning, we found in our initial analyses that larger states and big cities were over-represented in our results because a larger number of candidates run in these locations. These words do not lower the semantic coherence of our topics in modeling because they do not directly relate to a candidate’s self presentation.

8 In other words, a term had to appear in at least 2% of our sample of campaign biographies to be included in our analysis. For a full review of documents, words, and tokens removed by threshold see Figure A.1 in Section A.1 of the Appendix.
mined by the topic model and are based on word co-occurrences. Put differently, an STM is able to determine the types of topics or “themes” talked about within a text, grouping words into topics based on how often they are used together. Structural topic modeling is ideal for our purposes because it allows for documents to be expressed as a mixture of topics, rather than just a single topic (Roberts et al., 2014). After reading a sample of campaign biographies, it became clear to us that candidates describe themselves using a variety of personal characteristics and campaign themes. A mixed-membership statistical text model, like an STM, captures this important texture in candidate self-presentation. Furthermore, one of the principle innovations of the STM is its use of covariates in the definition of prior distributions for document-topic proportions and topic-word distributions (Roberts et al., 2014). For our application, this means that attributes like a candidate’s gender or past political experience can be used to help inform where we might expect to see variance in topical content across campaign biographies. The inclusion of covariates in topic modeling is integral to our analysis, allowing us to determine similarities and differences in self-presentation across a variety of cleavages.

Using an STM, we examine the topic prevalence—or how much each topic is discussed—in candidate campaign biographies as a function of gender, past political experience, and partisanship. These three characteristics are included in the structural topic model as an eight-level factor covariate (i.e. experienced Democratic female, amateur Republican male, etc.), which is outlined in Table A.1 of the Appendix. To maximize the number of cases included in each factor level, we grouped incumbents running for reelection with other experienced candidates. As previously discussed, including this covariate in the STM allows us to compare variability in the prevalence of topics across factor levels. For example, if gender is a central determinant of a candidate’s self-presentation, we would

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9Because politically experienced candidates and incumbent members of Congress both have elected experience, we expect that these candidates will present themselves similarly. Disaggregating these groups so that incumbents, experienced, and inexperienced are evaluated separately produces weaker but substantively similar results to those in the following section. For the purposes of this analysis, all references to “experienced” candidates also include incumbents running for reelection.
expect to see few differences in topic prevalence across campaign biographies for women Democrats despite differing levels of political experience. We specified twenty-seven topics in this STM, a number chosen using the best practices outlined by Roberts, Stewart and Tingley (2014). A full account of our topic selection strategy can be found in Section A.1 of the Appendix.

The STM topic labels for this model are presented in the first column of Table 1. In order to label the twenty-seven topics, we reviewed the model summary of stems associated with each topic. In determining a topic label, we evaluated in what ways these stems may be similar or how they built toward a common theme. Topic labels were determined using the top FREX words associated with each topic, which are presented in the second column of Table 1. These FREX words are determined by an equation that weights words by their overall frequency in the text and how exclusive they are to each topic (Roberts, Stewart and Tingley, 2014). We employed the FREX metric because these topic summaries are often more interpretable than those generated by simple word frequencies (Airoldi and Bischof, 2016). Topic summaries using highest frequency words can be found in Section A.2 of the Appendix. Using these high frequency stems yields nearly identical topic labels. To validate our topic labeling, we randomly selected and read five campaign biographies that included a relatively high proportion of words associated with each of the twenty-seven topics. This allowed us to ensure that our topic labels reflected the content of the biography text. The overall prevalence of each topic in campaign website biographies is presented in the third column of Table 1.

**Results**

We analyze the campaign website biographies for 576 Democratic men, 277 Democratic women, and 90 Republican women.\(^{10}\) Our sample of candidates is fairly balanced according to gender, with a similar proportion of men and women candidates running in

\(^{10}\)This excludes an additional 567 websites of Republican men that we did not analyze here.
Table 1: Model Topics as a Function of Gender, Party, and Political Experience

<table>
<thead>
<tr>
<th>Description</th>
<th>Stems</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family / Education</td>
<td>school, went, colleg, teach, mother, teacher, father, attend, taught, dad, rais</td>
<td>7.8</td>
</tr>
<tr>
<td>Awards / Prestige</td>
<td>award, associ, board, univers, master, bachelor, degre, member, advisori, club</td>
<td>6.7</td>
</tr>
<tr>
<td>Representation</td>
<td>peopl, want, believ, need, listen, deser, better, solut, voic, struggl, understand</td>
<td>6.6</td>
</tr>
<tr>
<td>American Dream</td>
<td>hard, dream, small, grow, busi, valu, start, opportun, parent, american, job, owner</td>
<td>6.1</td>
</tr>
<tr>
<td>Military</td>
<td>armi, marin, corp, medal, command, air, navi, militari, duti, deploy</td>
<td>5.4</td>
</tr>
<tr>
<td>Think-Say-Do</td>
<td>thing, just, go, say, think, even, like, enough, never, tri, someth, lot, get, politician</td>
<td>5.2</td>
</tr>
<tr>
<td>Business / Industry</td>
<td>develop, consult, manag, execut, technolog, industri, sector, busi, region, project, employe, market, experi, downtown, econom</td>
<td>4.5</td>
</tr>
<tr>
<td>Legislative</td>
<td>committe, cancus, hous, subcommitte, legisl, chair, appropri, congressman</td>
<td>4.5</td>
</tr>
<tr>
<td>Tax / Spending</td>
<td>conserv, tax, budget, taxpay, amend, cut, fiscal, spend, govern, regul, limit, balanc</td>
<td>4.5</td>
</tr>
<tr>
<td>Bipartisanship</td>
<td>job, improv, infrastructur, strengthen, economi, creat, veteran, ensur, priorit, help, safe, keep, benefit, across, bipartisan</td>
<td>4.2</td>
</tr>
<tr>
<td>Elect. Experience</td>
<td>elect, citi, mayor, district, repres, council, resid, counti, congression, senat</td>
<td>4.1</td>
</tr>
<tr>
<td>Healthcare</td>
<td>afford, access, healthcare, qualiti, wage, care, health, equal, medicar, ensur, protect</td>
<td>3.8</td>
</tr>
<tr>
<td>Religion</td>
<td>faith, god, church, bless, radio, ministri, book, host, pastor, liberti, man, cultur</td>
<td>3.8</td>
</tr>
<tr>
<td>Diversity</td>
<td>women, advoc, neighborhood, organ, student, educ, program, advocaci, communiti, divers, congresswoman, obama, nonprofit, latino, champion</td>
<td>3.4</td>
</tr>
<tr>
<td>Blue Collar</td>
<td>engin, compani, obtain, music, manag, industri, electr, construct, commerci, licenc, truck, financi, start, mechan</td>
<td>3.3</td>
</tr>
<tr>
<td>Activism</td>
<td>progress, corpor, money, climat, worker, power, union, chang, clean, democraci, interest, demand, activist, energi, human</td>
<td>2.8</td>
</tr>
<tr>
<td>President / Party</td>
<td>republican, trump, democrat, parti, agenda, primari, presidenti, candid, navig</td>
<td>2.8</td>
</tr>
<tr>
<td>Legal / Lawyer</td>
<td>crimin, attorney, polic, prosecutor, crime, victim, lawyer, judg, legal, investig</td>
<td>2.7</td>
</tr>
<tr>
<td>Medicine / Doctor</td>
<td>medic, medicin, doctor, nurs, cancer, patient, health, research, hospit, care, physici, clinic, practic, scienc, diseas</td>
<td>2.7</td>
</tr>
<tr>
<td>Campaign Phrases</td>
<td>run, congress, now, privileg, thank, home, futur, america, time, concern, meet</td>
<td>2.5</td>
</tr>
<tr>
<td>Support / Donate</td>
<td>read, donat, pleas, vote, endors, contribut, news, share, email, voter, pledg, event</td>
<td>2.8</td>
</tr>
<tr>
<td>Homeland Threat</td>
<td>secur, foreign, terror, discuss, nuclear, defens, obama, threat, terrorist, israel, war</td>
<td>2.2</td>
</tr>
<tr>
<td>Agriculture</td>
<td>farm, agricultur, farmer, cross, western, river, rural, fish, valley, blue, lake, bureau</td>
<td>1.8</td>
</tr>
<tr>
<td>Coaching</td>
<td>coach, tough, play, scout, sport, team, basebal, boy, football, basketball, littl, youth</td>
<td>2.3</td>
</tr>
<tr>
<td>Nature / Land</td>
<td>resourc, face, open, third, sourc, water, servic, famili, land, natur, fourth, light</td>
<td>1.1</td>
</tr>
<tr>
<td>Immigration</td>
<td>issu, paid, post, border, divid, status, point, page, color, import, break, name</td>
<td>1.0</td>
</tr>
<tr>
<td>Partisan Issues</td>
<td>gun, cost, illeg, requir, drug, million, can, must, control, birth, percent, type, social, rate, use</td>
<td>0.9</td>
</tr>
</tbody>
</table>
incumbent-held districts and open seats. A detailed breakdown of these descriptive statistics can be found in Table A.2 of the Appendix. A slightly larger proportion of Democratic women have electoral experience compared to Democratic men—31% of Democratic women versus 28% of Democratic men. This is unsurprising given what we know about women preferring to run when they have experience (Fulton, 2012).

Using our STM model, we estimate a series of OLS regressions to assess variation in topic prevalence across partisanship, candidate gender, and past political experience. With this approach, we can determine whether there are statistically significant differences in topic prevalence across groups (i.e. experienced Democratic women vs. amateur Democratic women). In these models, the unit of analysis is a candidate biography, the covariate of interest is the partisan-gender-experience factor variable, and the outcome is the proportion of a candidate biography that is about each of the twenty-seven topics described in Table 1.

**Electoral Experience in Candidate Websites**

We first employ these regressions to test our experience hypotheses. We conduct difference of means tests to determine if experienced Democratic women reference their electoral background more or less than amateur Democratic women and experienced Democratic men. This analysis focuses on those topic categories that correspond with candidate electoral experience: *Awards & Prestige, Electoral Experience, and Legislative*.\(^{11}\) These topics are not only linked to electoral experience but are also especially prevalent in the campaign biographies of experienced Democratic women. Figure 2 displays the top eight topics in candidate website biographies by expected topic proportion. This plot allows us to evaluate the extent to which Democratic women candidates who have previously

\(^{11}\) The *Legislative* topic includes stems like chair, appropri-, introduc-. The *Electoral Experience* topic includes stems like elect-, serv-, constitu-, and incumb-. Both of these topics include terms clearly indicative of past experience as a legislator or elected official. The *Awards & Prestige* topic is less explicitly tied to electoral experience, including stems like associ-, board, advisor-, and presid-. This topic could be used by political amateurs to bolster their perceived experience and may be less indicative of electoral experience. We include it nonetheless to ensure a conservative test of our hypotheses.
held elected office talk about their electoral experience in their campaign website biographies. Out of the twenty-seven topics specified by our STM, *Awards & Prestige*, *Electoral Experience*, and *Legislative* are all among the most common topics in the biographies of experienced Democratic women. Figure 2 clearly demonstrates that those topics pertaining to electoral experience are an important facet of self-presentation for experienced Democratic women. To evaluate how the electoral topic prevalence in the bios of experienced Democratic women compare to experienced men and amateur women, we turn next to our difference of means tests.

**Figure 2: Expected Topic Proportions for Experienced Democratic Women**

We expect that experienced Democratic women will have a greater proportion of their campaign biographies dedicated to electoral experience topics than will experienced Democratic men. As previously discussed, women candidates often feel like they must accrue a substantial amount of experience before they can run for office (Lawless and Fox, 2010; Fulton, 2012). Similarly, women may feel like they must place more emphasis than men on their past political experience during the campaign in order to show they are qualified (Fulton, 2012; Pearson and McGhee, 2013). We also expect that the proportions of experience-related topics will be greater in the campaign biographies of experienced
Democratic women than in the bios of amateur Democratic women, as they have a political history to draw on.

Table 2: Difference of Means in Topical Prevalence Across Comparison Groups for Electoral Experience in Campaign Websites

<table>
<thead>
<tr>
<th>Comparison Group</th>
<th>Awards &amp; Prestige</th>
<th>Electoral Experience</th>
<th>Legislative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced vs. Amateur Democratic Women</td>
<td>−0.001</td>
<td>0.041*</td>
<td>0.147*</td>
</tr>
<tr>
<td></td>
<td>(0.012)</td>
<td>(0.005)</td>
<td>(0.010)</td>
</tr>
<tr>
<td>Experienced Democrat Women vs. Men</td>
<td>−0.005</td>
<td>0.000</td>
<td>0.014</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.006)</td>
<td>(0.010)</td>
</tr>
</tbody>
</table>

Values presented are differences in means with standard errors in parenthesis. Negative values indicate that experienced Democratic women had a lower proportion of a given topic in their campaign bios than the comparison group. p < 0.1

The results are presented in Table 2. The first row compares the average proportion of the Awards & Prestige, Electoral Experience, and Legislative topics in the bios for experienced versus amateur Democratic women. The second row compares experienced Democratic men and women. The values presented are differences in means with standard errors in parentheses. A negative difference in means indicates that, on average, experienced Democratic women dedicate a smaller proportion of their campaign biographies to a given topic than did the comparison group. Turning to the first row of Table 2, experienced Democratic women were significantly more likely to talk about the Electoral Experience and Legislative topics in their biographies than amateur Democratic women. This finding aligns with our hypothesis that experienced Democratic women will reference their electoral background more than their amateur counterparts who lack that same political experience. Comparing experienced Democratic women and men biographies, however, we find no significant difference in the average proportion of the Awards & Prestige, Electoral Experience, and Legislative topics. The prevalence of these topics
in campaign biographies for experienced Democratic men is remarkably similar to that of experienced Democratic women. The differences in means presented in the second row of Table 2 are very nearly zero. Contrary to our hypothesis, experienced Democratic women do not play up experience more than experienced Democratic men.

To tease out this finding and further investigate the role of electoral experience in candidate self-presentation, we plot contrasts in topic prevalence for all twenty-seven topics specified by our structural topic model. These full models are displayed in Figure 3. The left panel compares amateur Democratic women to experienced Democratic women. The right panel compares experienced Democratic women to experienced Democratic men. The dashed line denotes the null hypothesis that topic prevalence does not differ significantly across contrasted groups. Plotted points are the difference in means, or, in other words, the average change in topic proportion when shifting from one group to another. In Figure 3, topic point estimates falling to the right of the dashed line indicate that experienced women candidates talked more about that particular topic than did the comparison group. Point estimates falling to the left of the dashed line indicate that the comparison group talked more about that particular topic than did experienced women candidates. Point estimates are ordered by intensity, from most associated with experienced women candidates’ biographies (a positive point estimate) to most associated with the biographies for the comparison group (a negative point estimate). Topic labels included in Figure 3 correspond with those outlined in Table 1.

Several noteworthy patterns emerge in Figure 3. In the left panel, which compares experienced Democratic women and amateur Democratic women, there are ten topics where prevalences diverge. Turning to the right panel of Figure 3, which compares experienced Democratic men and experienced Democratic women, there are only two topics for which candidates diverge.\textsuperscript{12} Contrasting these two panels, we find that experienced Democratic women have topical prevalences in their bios more similar to experienced Democratic men.

\textsuperscript{12}This trend persists for experienced and amateur Democratic men for which there are fifteen topics where prevalences diverge. See the complete model in Figure A.5 of the Appendix.
Figure 3: Topic Prevalence for Experienced Democratic Women vs. Comparison Groups

Note: The left panel compares amateur Democratic women to experienced Democratic women. The right panel compares male experienced Democratic men to experienced Democratic women. The null hypothesis is no difference in topic prevalence between amateur and experienced candidates. Point estimates are generated with 90% confidence intervals.
than they do to amateur Democratic women. While women candidates may choose to run for Congress using a different decision-making schema than men, once they do decide to run, politically experienced men and women seem to adopt similar self-presentation strategies in their campaigns. This finding calls into question the commonly held perception that most women talk about similar things and present themselves in similar ways when running for office, and that this is different from how men present themselves. Our results suggest that past political experience may be the most salient cleavage in defining how a candidate presents herself to voters.

To illustrate how politically experienced Democrats employ their past electoral experience in their self-presentation, Figures 4 and 5 include several quotes from the biography pages of 2018 congressional candidates. As previously noted, we believe that candidates use their biography pages to directly appeal to voters. These bios are not simply a rehashing of the candidate’s resume but rather a testament to why they should be (re)elected to Congress. In line with expectations, candidates using the Legislative and Electoral Experience topics communicate their qualification through anecdotes about their prior experiences and accomplishments. For instance, in Figure 5, Kristen Gasper (R-CA) uses her mayoral experience to demonstrate a commitment to “conservative principles.” Congressman William Clay (D-MO) in Figure 4 displays his leadership by highlighting the sizable number of bills he has shepherded through Congress.
Figure 4: Examples of Legislative Topic Use in Candidate Biographies

**Congressman William “Lacy” Clay** (D-MO)

The Congressman is a senior member of the powerful House Financial Services Committee where he serves as the Ranking Member on the Subcommittee on Financial Institutions and Consumer Credit...He was able to advance two of his bills in the 114th and 115th Congresses...The Congressman also introduced the Preserving Capital Access and Mortgage Liquidity Act of 2015...

**State Senator Bob Huff** (R-CA)

The Senate Republican Leader Emeritus has served in a number of other key leadership positions within the Senate, including Republican Caucus Chair and Vice-Chair of the Senate Budget Committee. In the Assembly from 2004-2008, Bob Huff also held leadership positions of Whip, and Republican Caucus Chairman...

Figure 5: Examples of Electoral Experience Topic Use in Candidate Biographies

**State Representative Paul Cook** (R-CA)

Paul continued his service by seeking and winning a seat on the Yucca Valley Town Council, ultimately serving as Mayor. Paul became known for his commitment to conservative fiscal policies that protected working families from higher taxes. In 2006, Paul’s neighbors elected him to represent them in the California State Assembly...

**Mayor Kristen Gasper** (R-CA)

As mayor of a coastal Democratic city, she demonstrated how to listen, lead, and succeed with conservative principles. In 2016, Kristin defeated incumbent Democratic Supervisor Dave Roberts in a seat Hillary Clinton carried by 20 percentage points. The youngest woman ever elected to the Board, her victory marked the first defeat of an incumbent in 32 years. As Chairwoman of the Board of Supervisors...

Figure 6: Examples of Representation Topic Use in Candidate Biographies

**Ryan Krause** (R-TX)

I have a track record of raising the level of character...We need a Representative in Washington that exhibits great character, great values, great resolve and the experience to influence others. I am that person...you are voting for conservative leadership, impeccable character and a common-sense approach.

**Lisa Ring** (D-GA)

Together, we will make our district one that works for all of us, where no one gets left behind. Each person deserves to live with dignity, opportunity, security, and freedom. With integrity, strength, and vision, we will fight to protect the interests of all voters and their families. Stand with me to make your voice heard, and to shape public policy to reflect OUR values.
Without prior experience in elected office to emphasize in their biographies, we next assess the self-presentation strategies of amateur candidates. Looking to the left panel of Figure 3, the biographies of amateur Democratic women are more closely associated the Representation topic than are the biographies of experienced Democratic women. The Representation topic is also the most common topic for amateur women and the second most common topic for amateur men. Figure 6 illustrates excerpts from biographies with high proportions of words belonging to the Representation topic. In Figure 6, both Ryan Krause (R-TX) and Lisa Ring (D-GA) make appeals using words or phrases associated with the types of values that most Americans would like to see in their member of Congress, for instance strong character, leadership, strength, and integrity. Instead of relying on their experience, these amateurs demonstrate their ability to attain and succeed in elective office through values-driven language.

Both experienced and amateur candidates use their biographies to communicate a sense of qualification and aptitude for holding office, however it is clear that they go about it in different ways. Literature on politically experienced candidates finds that these individuals may be more successful in elections because they have fundraising networks, have previously run a successful campaign, and have greater name recognition (Jacobson, 1989). From a self-presentation standpoint, these experienced candidates may want to play up their past electoral experience to demonstrate not just their political proficiency, but also to establish a connection to the community. In Figure 5, for instance, Paul Cook (R-CA) tries to make this kind of association, stating that his “neighbors” elected him to the California State Assembly. In doing this, Cook makes a compelling statement, both establishing a relationship with the people who elected him and communicating a political achievement. Amateurs, on the other hand, do not have a demonstrable record of political accomplishments and, therefore, may have no choice but to rely on a rhetorical strategy to communicate their ability to hold office. While we anticipated that gender would be an important factor in conditioning how much candidates talk about their electoral
experience, this first analysis makes clear that emphasizing one’s qualifications and ability to succeed in office is a priority among all candidates.

**Gender in Candidate Websites**

As previously discussed, amateur candidates cannot rely on their electoral background to convey their qualifications for holding office and record of representing constituents. Thus, amateur women may be more likely to emphasize gender in their campaign biographies. Demonstrating diversity through gender-based appeals may help elevate amateur candidates in lieu of political experience. This may be particularly true in 2018—a year hyperaware of gender—as we noted above. Unlike amateurs, politically experienced women can employ other attributes in their self-presentation, such as their political background, to win over voters, and therefore do not need to rely as heavily on their gender. While amateur women may be more likely than experienced women to highlight their gender in campaign biographies, we posit that this relationship will be conditioned by party. For Republican women, emphasizing gender may actually serve as a disadvantageous strategy because Republican women are often elected not because they are women, but because they are Republicans (Thomsen, 2019). Therefore, while we generally expect that amateur women will emphasize their gender more than experienced women, we hypothesize that both amateur and experienced Democratic women will talk more about their gender than Republican women.

To evaluate how women candidates employ gender in campaign biographies we focus on the Diversity topic. Referring to Table 1, top FREX stems for this topic include women, advoc, congresswoman, mother, equiti, girl, and champion. While this topic deals broadly with diversity, gender is clearly a central component. Figure 7 illustrates excerpts from biographies with high proportions of words belonging to the Diversity topic. In Figure 7, candidates in all three examples emphasize their gender and express a commitment to representing women’s issues. For instance, Sameena Mustafa (D-IL) signals that she
is the only Asian-Muslim woman running for federal office in Illinois demonstrating a uniqueness that she can bring to Congress. She also focuses on her personal history of advocating for women. Using the Diversity topic, we once again conduct difference of means tests to make comparisons across groups and test our hypotheses.

Figure 7: Examples of Diversity Topic Use in Candidate Biographies

Ayanna Pressley (D-MA)
Her election to the Boston City Council in 2009 marked the first time a woman of color was elected to the Council in its 100-year history...causes that Ayanna has always been most devoted to: stabilizing families and communities, reducing and preventing violence and trauma, combating poverty, and addressing issues that disproportionately impact women and girls.

Debbie Dingell (D-MI)
Debbie’s activism took root in her passion for issues important to women and children. She successfully fought to have women included in federally-funded health research, and advocated for greater awareness of issues directly related to women’s health, including breast cancer and women’s heart health...

Sameena Mustafa (D-IL)
She was the only Asian and Muslim woman running at the federal level in Illinois in 2018...starting a diverse political comedy collective and training program for women of color. She currently serves on the advisory boards of State Matters and Chicago Women’s Health Center and the Board of Directors of the League of Women Voters...

The results for our difference in means tests are displayed in Table 3, evaluating the prevalence of gender in campaign biographies for experienced and amateur female candidates from both parties. The first column compares the average proportion of the Diversity topic in bios for experienced versus amateur Democratic women. The negative difference in means presented indicates that, contrary to our hypothesis, experienced Democratic women dedicate a larger proportion of their campaign biographies to discussions of diversity and gender than did amateur Democratic women. To review, we hypothesized that amateur Democratic women would focus more on gender and diversity since they did not have a history of electoral and political experiences to focus on. However, we actually find that experienced women focused more on gender and diversity in their campaign websites.
Table 3: Difference of Means in Topical Prevalence Across Comparison Groups for Gender in Campaign Websites

<table>
<thead>
<tr>
<th>Topic Category</th>
<th>Comparison Group</th>
<th>Diversity</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dem. Female</td>
<td>Amateur vs. Experienced</td>
<td>0.037*</td>
</tr>
<tr>
<td></td>
<td>Experience Female</td>
<td>Dem. vs. Rep.</td>
<td>0.037*</td>
</tr>
<tr>
<td></td>
<td>Amateur Female</td>
<td>Dem. vs. Rep.</td>
<td>0.037*</td>
</tr>
</tbody>
</table>

Values presented are differences in means with standard errors in parenthesis. Negative values indicate that the first comparison group had a lower proportion of a given topic in their campaign bios than the second comparison group. $p < 0.1$

This may be because these candidates are responding to different electoral contexts (i.e. the type of race the candidate ran in). In 2018, 77% of amateur Democratic women ran in Republican incumbent-held districts and open seats. Conversely, 81% of experienced Democratic women ran in open seats and incumbent-held districts that were controlled by the Democratic Party.\textsuperscript{13} Based on existing literature that highlights the relationship between party and gendered campaign strategy, running “as a woman” may be more advantageous for Democratic women than it is for Republican women. For that reason, amateur Democratic women running in Republican districts may choose to downplay their gender to stand a better chance. Experienced Democratic women overwhelmingly ran in districts friendly to their own party and, therefore, may have been more apt to highlight gender in their self-presentation, especially given the prominence of gender in this year’s election. By examining an unbalanced sample of candidates, our analysis may be picking up differences in strategy across race type rather than disparities motivated by candidate political experience or lack thereof.

Therefore, to examine this initial finding further we conduct a second series of tests, calculating differences in mean Diversity topical prevalence in bios for experienced and amateur candidates conditional on district type (i.e. Republican incumbent-held dis-

\textsuperscript{13}This number includes incumbents. When excluding incumbents from our measurement of experienced candidates, this number drops to 59%.
Table 4: Difference of Means in Topical Prevalence Across Race Type for Gender in Campaign Websites

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversity &amp; Gender</td>
<td>−0.047* (0.013)</td>
<td>0.003 (0.015)</td>
<td>−0.006 (0.022)</td>
<td></td>
</tr>
</tbody>
</table>

Values presented are differences in means with standard errors in parenthesis. Negative values indicate that the first comparison group had a lower proportion of a given topic in their campaign bios than the second comparison group. \( p < 0.1 \)

We first compare amateur Democratic women running in Republican districts to experienced Democratic women running in Democratic districts. We consider Republican (Democratic) seats to be any district that had a Republican (Democratic) incumbent in 2018 or open seats that were vacated by a Republican (Democrat) before the 2018 primary election. Looking to the first column of Table 4, we find a statistically significant difference in average topic prevalence where experienced women employ the Diversity topic more often than amateur women. It is worth noting that the magnitude of this effect is 30% greater than the contrast presented in column one of Table 3. Turning to the second and third columns of Table 4, we compare amateur and experienced Democratic women who ran in Republican and Democratic seats, respectively. In both difference of means tests we find no statistically significant contrast between groups. Meaning, when comparing experienced and amateur Democratic women who ran in the same type of district, these candidates spent similar amounts of space in their biographies talking about gender and diversity.

These findings are significant for several reasons. First, Table 4 demonstrates that the negative and significant difference in means presented in column one of Table 3 is largely driven by the sample of candidates we examined. The majority of experienced Democratic women who ran in 2018 emerged in districts safe for their own party whereas
amateur female candidates tended to run in Republican-held districts. By breaking these women candidates down by district type instead of examining them collectively, we find no statistically significant difference in Diversity topic prevalence. Further, these results indicate that female Democratic candidates tend to customize their self-presentation based on electoral context. One of the benefits of being a candidate with experience is that she knows how to make better campaign decisions; our finding shows that amateur candidates may be just as strategic in their campaigning, employing their gender only when helpful based on race conditions.

Having examined the race conditions that influenced the result in the first column of Table 3, we now turn back to the second and third columns of Table 3. Here we explicitly test differences between the two parties in how frequently women talk about gender on their campaign websites. In the second and third columns of Table 3, we evaluate to what extent Democratic women talk about their gender in campaign bios compared to Republican women running for Congress in 2018. For both experienced and amateur women candidates, Democrats dedicate a larger proportion of their biographies to the Diversity topic than do Republican women, aligning with our expectations.

Although we find a difference for the Diversity topic, when drawing comparisons for all twenty-seven topics, there are relatively few partisan differences between Democrats and Republicans of the same experience level. In Figure 8 we present these differences, experienced candidate comparisons are displayed in the left panel and amateur candidate comparisons in the right panel. These plots are truncated to only include those topics where there was a statistically significant difference in topic prevalence between Democratic and Republican women’s biographies. Point estimates falling to the right of the dashed line indicate that Democrats female candidates talked more about that particular topic did Republican female candidates. Point estimates falling to the left of the dashed line indicate that Republican women talked more about that particular topic did Democratic women.
Figure 8: Topic Prevalence by Partisanship Conditioned on Electoral Experience for Female Candidates

A bevy of literature suggests that Democrats and Republicans are systematically distinctive in their campaign self-presentation, running on different types of issues and playing up different personal qualities (Petrocik, 1996; Petrocik, Benoit and Hansen, 2003; Hayes, 2005; Chong and Druckman, 2007; Levendusky, 2009). This dissimilarity can be seen in the example presented in Figure 1. In describing himself, Chip Roy (R-TX) uses language indicative of the Representation or Electoral Experience topics while Alexandria Ocasio-Cortez’s (D-NY) rhetorical choices are better aligned with the Diversity topic. Examining the kinds of topics for which Republican and Democratic women diverge in Figure 8, Democrats talk more about the Healthcare topic — a Democratic party-owned issue — and Republicans talk more about Taxes/Spending — a Republican party-owned issue. Republican amateurs also employ the President/Party topic more often.

Somewhat counter to this literature on gendered differences in campaign presentation, we find few differences in topic prevalences in both panels of Figure 8 than in the left panel...
Figure 3, which compares candidates from the same party who share the same gender but possess different levels of electoral experience. Recall, when comparing amateur and experienced Democratic women there were nine points of contrast between these comparison groups. In Figure 8, there are only four and five statistically significant topic contrasts for experienced and amateur candidates respectively. For this congressional election, partisanship does not seem to be the divider in campaign presentation style—the divider is past political experience.

**Discussion and Conclusion**

In our examination of candidate self-presentation in campaign websites, we found a larger number of differences within gender groups than across gender groups. In other words, there was great heterogeneity in the presentational styles women used to highlight why they were qualified to hold office in 2018. In particular, political experience divides candidates into two camps with experienced men and women focusing on their legislative experience while amateur men and women are more likely to use values-driven language that emphasizes the aspirational direction in which they would like to move policy. This focus on political experience is far more critical in determining a candidate’s campaign messaging than gender. We find that experienced Democratic women are more stylistically similar to experienced Democratic men than they are to amateur Democratic women. This “experience divide” in presentation is noteworthy, especially since inexperienced candidates are performing well in congressional elections as of late (Porter and Treul, 2019). If experienced candidates are emphasizing their political acumen, but then losing the election, it might be worth considering other presentation strategies.

Furthermore, though we found a great deal of heterogeneity among Democratic and

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14 A similar pattern also holds for Republican women, though there are fewer similarities across genders for Republican amateurs. This suggests that there may be something unique about perceived gendered expectations toward Republican men and women, but the small number of Republican women makes these differences more difficult to generalize as the differences may occur more at the individual level.
Republican women based on levels of experience, we found gendered similarities in comparisons across party. When accounting for experience, we found far more similarities between Democratic and Republican women than we did between Democratic and Republican men. This indicates that there are similarities in the campaign messaging themes that women utilize regardless of party. As the number of women running continues to increase in future elections, it will be interesting to see if women develop more distinctive presentation styles across parties as men do, or if there are certain topics that women—across parties—continue to see as valuable parts of their campaign style.

Overall, our research emphasizes the value of using website data to examine candidate presentation styles. Our work finds that candidate experience is a key factor in determining campaign messaging and something that candidates value as they look for ways to make themselves distinctive by emphasizing the experience that they have. This is particularly true for women. The literature suggests that women only run when they feel truly qualified to do so, and our findings suggest that this experience is what they choose to emphasize as they work to appeal to voters.

In the days and months since the historic 2018 midterm elections, there have been many important conversations about continuing to increase female representation both in Congress and in other electoral contexts. At the time of this writing, a record-breaking six female candidates have already announced their candidacies for the Democratic presidential nomination. With this historic number of women in the primary comes the inevitable media coverage about the potential of women candidates to mount successful campaigns at the national level. As major news outlets write pieces titled “Democrats Puzzle Over Whether a Woman Will Beat Trump,” the women running for office each take their own approach to incorporating gender into their campaign as they seek to appeal to a wide range of voters (Lerer and Chira, 2019). For example, from the moment she announced her candidacy, Kirsten Gillibrand put her gender and her role as a mother at the center of her campaign. During her announcement on The Late Show with Stephen Colbert,
she launched her campaign by saying “I’m going to run for president of the United States because as a young mom, I’m going to fight for other people’s kids as hard as I would fight for my own.” Meanwhile, Kamala Harris centered her campaign around her direct experience both as a U.S. Senator and as Attorney General in California. When asked about her stance on women’s issues, Harris is quick to respond with “all issues are women’s issues.” She argues that it is more important to examine the ways that a wide range of issues uniquely affect women. Harris argues, “I think it’s important that we not relegate women to just one set of issues as though they aren’t living full lives” (Strassner, 2017). This is significant because, as former Democratic Representative Donna Edwards notes, women, like any other large voting group, “are not a monolith,” and therefore, “All of these potential female presidential candidates are going to have to figure out how to appeal to women with their message” (Schneider, 2019). As more and more women enter the candidate pool, whether for a seat in the Oval Office or the US Congress, each candidate must find a way to distinguish herself from not only the men in the race, but also from other women candidates as well. Therefore, our research suggests that as the number of women running for office continues to grow so too does their presentational styles. The question remains though whether or not certain presentation styles are more successful. Further investigation is needed, inhibited for now by the relatively small numbers of women running for office, to understand if there are distinctive features for the presentational styles used by successful female candidates.
References


Schneider, Elena. 2019. “Gillibrand’s 2020 path: ‘Women are pissed off and they’re fired up’.” *Politico*.


A Appendix

A.1 Pre-Processing & Topic Selection Strategy

Figure A.1: Document, Word, and Token Removal as a function of Threshold

Results were replicated using several different thresholds: 15, 20, and 25. Topics produced and their word associations were nearly identical to those presented in the body of the paper.

We employ a document removal threshold of 30, meaning words that do not appear in at least 30 documents are dropped for computational efficiency. We assume that words appear in such a few number of documents will offer little information for our analysis. Modifying the document removal threshold threshold to 25, 20, and 15 produced substantively identical results in our subsequent analysis. After removing stop words, punctuation, numbers, and candidate names as well as stemming words to their root, we are left with a corpus of 1,507 documents and 217,536 tokens.

To run our initial STM we set the model initialization to "Spectral," which uses the connection of LDA with non-negative matrix factorization that provides theoretical guarantees that the optimal parameters will be recovered. We set the number of topics, $K$, to zero, which automatically uses an algorithm developed by Mimno et al. (2011) to select the number of topics. Roberts, Stewart and Tingley (2014) stress that this approach does
not select the “true” number of topics but rather is a useful place to start. This initial model produced a total of 48 topics.

Figure A.2: Diagnostic Values for STM Model (Sequence of Topics 10-60)

![Diagnostic Values by Number of Topics](image)

Model value $K$ varies across the sequence: 10, 20, 30, 40, 50, 60. Model specified with factor covariate from Table A.1 and successfully converged

After finding an initial number of topics, we ran several STMs, varying the number of topics across a sequence of values from 10 to 60 using the `searchK` function in the `stm` package. The results are presented in Figure A.2. Four metrics are provided to assess the model quality: held-out likelihood, residual dispersion, topic semantic coherence and the approximation to the lower-bound of the marginal likelihood. The goal is maximize the held-out likelihood, semantic coherence, and lower-bound while minimizing the dispersion of residuals. Referencing Figure A.2, we ran two more `searchK` functions narrowing our sequence of topics each time based on metric performance. Our final run included a sequence of $K$ topics from 20 to 40. The results are presented in Figure A.3. We settled
on specifying our model with 27 topics. Modifying the number of topics slightly, increasing and decreasing $K$ by one produced results nearly identical to those presented in the body of the paper.

Figure A.3: Diagnostic Values for STM Model (Sequence of Topics 20-40)

![Graphs showing diagnostic values](image)

Model value $K$ varies across the sequence of integers 20 through 30. Model specified with factor covariate from Table A.1 and successfully converged.

To determine the strength of our modeled topics we produced a plot of topic quality, which is displayed in Figure A.4. Topic quality is evaluated using semantic coherence — how often words within a topic co-occur — and exclusivity — the uniqueness of words to each topic — which are displayed on the x-axis and y-axis respectively. Using this approach is accepted as a reasonable surrogate for human judgment on the quality of topics (Mimno et al., 2011). The highest quality topics fall in the top right corner of Figure A.4. Based on the semantic coherence and exclusivity metrics, around six topic produced by our model, including Nature/Land, Immigration, Agriculture, and Partisan Issues could be considered “lower-quality.” However, reviewing topic prevalences in Table 1, these lower quality topics are also those that occur less often in the text, which lessens concern
that our interpretation of results is not meaningful.

Figure A.4: Partisan-Gender-Experience Model Topic Semantic Coherence and Exclusivity

Note: Semantic coherence, on the x-axis, refers to how often words within a topic co-occur. Exclusivity, on the y-axis, refer to the uniqueness of words to each topic. Topics falling in the upper right corner have the highest “quality” maximizing both exclusivity and semantic coherence.

A.2 Covariates, Sample & Results

The following section includes results that were discussed but not presented in the body of the paper. Topics presented in Table A.3 are produced with the exact same model as Table 1, the only difference is the second column where highest frequency word summaries for topics are presented in lieu of FREX word topic summaries.
Table A.1: Structural Topic Model Covariate Summary

<table>
<thead>
<tr>
<th>Factor Level</th>
<th>Gender</th>
<th>Party</th>
<th>Electoral Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Male</td>
<td>Republican</td>
<td>Experienced Candidate or Incumbent</td>
</tr>
<tr>
<td>1</td>
<td>Male</td>
<td>Republican</td>
<td>Political Amateur</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>Republican</td>
<td>Experienced Candidate or Incumbent</td>
</tr>
<tr>
<td>3</td>
<td>Female</td>
<td>Republican</td>
<td>Political Amateur</td>
</tr>
<tr>
<td>4</td>
<td>Male</td>
<td>Democrat</td>
<td>Experienced Candidate or Incumbent</td>
</tr>
<tr>
<td>5</td>
<td>Male</td>
<td>Democrat</td>
<td>Political Amateur</td>
</tr>
<tr>
<td>6</td>
<td>Female</td>
<td>Democrat</td>
<td>Experienced Candidate or Incumbent</td>
</tr>
<tr>
<td>7</td>
<td>Female</td>
<td>Democrat</td>
<td>Political Amateur</td>
</tr>
</tbody>
</table>

Table A.2: Percent of Candidates Across Each Race Type, By Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Republican Incumbent</th>
<th>Democrat Incumbent</th>
<th>Open Seat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>45.58% 521</td>
<td>25.02% 286</td>
<td>29.40% 336</td>
</tr>
<tr>
<td>Female</td>
<td>44.14% 162</td>
<td>25.89% 95</td>
<td>29.97% 110</td>
</tr>
<tr>
<td>Description</td>
<td>Stems</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------------------------------------------------</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>Family / Education</td>
<td>school, work, year, colleg, famili, graduat, univers, high, rais, children</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>Awards / Prestige</td>
<td>univers, serv, member, board, school, associ, award, degre, presid, state</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>Representation</td>
<td>peopl, work, need, repres, believe, communiti, govern, district, want</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>American Dream</td>
<td>work, famili, busi, american, hard, small, job, dream, help, valu, start, communiti, opportun, grow, compani, generat, live, parent, creat, rais</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>Business / Industry</td>
<td>busi, develop, manag, experi, communiti, local, year, career, industri, econom, includ, leadership, compani, servic, project, director, public</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Legislative</td>
<td>committe, hous, serv, legisl, member, congress, repres, also, congressman</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Military</td>
<td>serv, servic, militari, armi, forc, unit, air, veteran, offic, state</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Tax / Spending</td>
<td>tax, govern, conserv, busi, state, small, spend, budget, fight, right, nation</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Think-Say-Do</td>
<td>can, get, like, time, just, make, peopl, know, one, live, need, thing, want, life, back, take, politician, come, even, say</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Bipartisanship</td>
<td>job, work, help, congress, creat, veteran, improv, new, economi, make, secur, ensur, get, local, support, communiti, feder</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Elect. Experience</td>
<td>district, elect, repres, serv, counti, citi, congression, state, year, member</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Healthcare</td>
<td>health, care, educ, afford, healthcar, protect, access, right, qualiti, system</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Activism</td>
<td>right, progress, fight, polit, corpor, chang, money, work, campaign, peopl, interest, power, worker, democrat, climat</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Blue Collar</td>
<td>work, year, compani, manag, busi, engin, program, start, industri, time, experi, high, move, financi, mani, sever</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Campaign Phrases</td>
<td>congress, run, district, time, america, home, now, meet, futur, congression</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Diversity</td>
<td>communiti, educ, work, women, school, organ, advoc, program, student, pub- lic, help, children, support, first, state, democrat, polici, campaign, immigr</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Medicine / Doctor</td>
<td>medic, health, care, doctor, research, univers, hospit, medicin, cancer, nurs, practic, patient</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Legal / Lawyer</td>
<td>attorney, crimin, state, justic, offic, polic, counti, legal, crime, practic, serv</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>President / Party</td>
<td>republican, democrat, parti, polit, trump, presid, candid, campaign, american</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td>year, life, state, serv, church, children, america, faith, unit, also, god</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Support / Donate</td>
<td>vote, read, campaign, district, elect, donat, support, candid, pleas, repres</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>farm, counti, agricultur, volunt, farmer, cross, local, western, river, state, march, central, organ, valley, island, north, rural, involv, blue, fish</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Coaching</td>
<td>play, team, coach, high, scout, sport, success, boy, tough, help</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Terrorism</td>
<td>secur, nation, american, america, defens, presid, foreign, polici, war, world</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Nature / Land</td>
<td>servic, face, resourc, water, open, parti, land, third, natur, generat, sourc, fourth, valley, light, enjoy, protect, bold, behalf, raug</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Immigration</td>
<td>issu, paid, support, import, border, post, name, point, focus, top, congress, status, activ, divid</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Partisan Issues</td>
<td>state, can, america, year, peopl, school, gun, unit, program, cost, need, use, provid, social, million, educ, must, tax, american, make</td>
<td>0.01</td>
<td></td>
</tr>
</tbody>
</table>
Figure A.5: Topic Prevalence by Partisanship Conditioned on Electoral Experience for Male Candidates

Note: The panel compares amateur Democratic men to experienced Democratic men. Null hypothesis is no difference in topic prevalence between candidate comparison groups. Point estimates are generated with 90% confidence intervals. Topics where the difference in prevalence was statistically indistinguishable from zero were omitted for clearer interpretation.