

The Gendered Politics of Congressional Elections*

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ABSTRACT

Are female candidates less likely than male candidates to attract votes or win elections? We conduct a large-n longitudinal analysis employing survey and observational data from every two-party congressional race over a 12-year period (2006–2018) and connect individual-level theory and evidence with aggregate-level results. We demonstrate that candidate gender significantly influences congressional vote choice and election outcomes. Holding other variables constant, we show that male Republican and male independent voters are significantly less likely to vote for female Democratic candidates, but do not assess a similar penalty on female Republican candidates. Perceived ideological distance does not explain the lack of support for female Democrats—however, variation in candidate quality does: Female Democratic candidates can attract the support of male Republican and male independent voters when they have a qualifications advantage, but are penalized when they are merely “as qualified.” At the aggregate-level, female Democratic candidates with a qualifications advantage are as likely as males to win elections; but are significantly less likely than males to win when qualifications are held constant. The proportion of male Republicans and male independents in a district determines the extent of the penalty, with women’s electoral prospects declining as this proportion increases. Women can win, but they need to be highly qualified and strategic about the races in which they emerge. These findings contribute to our understanding of the micro and macro-level factors that shape women’s electoral fortunes; and advance the goal of representational equality by helping candidates and campaigns concentrate their efforts on the most winnable voters and districts.

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Controversies Surrounding the Effect of Gender in Elections

A substantial literature in American politics argues that because voters lack knowledge about politics (Converse, 1964), they turn to heuristics to shape their political decision-making (Popkin, 1991). The preeminent cue that voters recognize and use to guide their preferences is partisanship (Campbell et al., 1960). Partisanship is an essential social identity (Green, Palmquist and Schickler, 2002), that not only affects voting behavior, but also leads voters to follow the policy preferences of co-partisan elites (Lenz, 2012), resist information that runs counter to their partisan loyalty (Rahn, 1993) and hold enmity towards out-partisans (Abramowitz and Webster, 2016). Moreover, the role of partisanship in vote-choice is heightened in contemporary elections, in which scholars have noted substantial polarization both at the elite and citizen-level (Levendusky, 2009). In this highly polarized political context, we might not expect individual characteristics of the candidates to affect voter evaluation.

Partisanship does not perfectly determine vote-choice and candidate evaluation, though, and a separate strand of literature examines the limitations upon which partisan cues shape vote-choice and candidate evaluation – suggesting that the information environment conditions voters’ reliance on partisanship in evaluating candidates (Nicholson, 2011; Peterson, 2017). When voters are exposed to additional information about the candidates, the role of partisanship in candidate evaluation diminishes.

Scholars of women in politics have long considered how individual characteristics like candidate gender shape voters’ evaluations (Alexander and Anderson, 1993; Barnes, Branton and Cassese, 2017; Kahn, 1994, 1996; Koch, 2000, 2002; McDermott, 1997, 1998; Sanbonmatsu, 2002b). Candidate gender is readily observable to voters, is conveyed by a simple photograph, and is usually reflected in the candidate’s name which appears on every ballot on Election Day. When activated, candidate gender can conjure up stereotypes about the candidate’s suitability for office, their ideology, traits, and issue positions (Bauer, 2015; Eagly and Karau, 2002; Huddy and Terkildsen, 1993a,b; Holman, Merolla and Zechmeister, 2016; Ondercin and Fulton, 2019). These stereotypes provide an opportunity for voters to make inferences about a variety of candidate char-

acteristics: competence, liberalism, issue preferences, priorities, and personality.

The extent to which such stereotypes affect vote-choice is a matter of significant academic debate. Much of the scholarship arrives at the conclusion that women are as successful as men at winning voter support (Seltzer, Newman and Leighton, 1997; Darcy, Welch and Clark, 1994; Burrell, 1994; Darcy and Schramm, 1997; Lawless, 2015). The conventional wisdom is that sexism is no longer a significant barrier to women in politics, and that partisanship and incumbency matter much more to vote-choice than gender.

However, other research finds evidence of a female disadvantage (Fox and Smith, 1998; Alexander and Anderson, 1993; Ambrosius and Welch, 1984). Recent scholarship reports that gender bias can be masked by a gap in candidate qualifications (Barnes, Branton and Cassese, 2017; Pearson and McGhee, 2013). This research builds upon theory and evidence that female candidates are subject to a more rigorous competitive process, leading women to be more qualified than their male counterparts. Compared to men, women have to devote more time and energy to currying the favor of their constituents, and work harder to win elections (Lazarus and Steigerwalt, 2018; O'Brien and Rickne, 2016; Anzia and Berry, 2011; Volden, Wiseman and Wittmer, 2013).

Moreover, if party leaders, campaign contributors, and voters are either biased themselves, or anticipate that others will be biased, then only the most qualified female candidates will earn their party's backing—producing a gender gap in qualification. A gender gap in qualification is further manufactured if female candidates who anticipate discrimination, self-select out of the running until they reach a higher level of qualification than their male counterparts (Ashworth, Berry and de Mesquita, 2020; Black and Erickson, 2000; Milyo and Schosberg, 2000).

Across a limited set of elections, Fulton (2012, 2014) finds evidence that women candidates are evaluated as more qualified than men, and that the qualifications gap explains the gender parity in congressional election outcomes. Fulton argues that women do as well as men when they are more qualified; but when qualifications are held constant, women candidates are penalized. Although this research finds a 3% vote disadvantage for female candidates, it is limited to a small number of congressional races and select election years which may not be representative of broader

relationships.

In contrast to previous research, which is over a single election, or a limited set of congressional races, we conduct a large-n longitudinal analysis that employs survey and observational data from every two-party U.S. congressional race over a 12-year period (2006–2018) to lend additional insights into the real-world implications of candidate sex on congressional vote-choice and election outcomes. Our design allows us to generalize broadly across time and space—to evaluate the extent to which gender influences vote-choice and election outcomes independent of exogenous events and a wide range of contextual circumstances (Hughes and Paxton, 2007; Bos, Schneider and Utz, 2018). We are interested in the broad patterns that emerge from a diversity of political climates, issues, candidates, levels of turnout, recruitment, and differential partisan fortunes.

We demonstrate that candidate gender significantly influences congressional vote-choice and election outcomes. Holding other variables constant, we show that male Republican and male independent (MR + MI) voters are significantly less likely to vote for female Democratic candidates, but do not assess a similar penalty on female Republican candidates. Perceived ideological distance does not explain the lack of support for female Democrats—however candidate quality does: Female Democratic candidates can attract the support of MR + MI voters when they have a qualifications advantage, but are penalized when they are merely “as qualified.” At the aggregate-level, female Democratic candidates with a qualifications advantage are as likely as males to win elections; but are significantly less likely than males to win when qualifications are held constant. The proportion of MR + MI in a district determines the extent of the penalty, with women’s electoral prospects declining as this proportion increases. Women can win, but they need to be highly qualified and strategic about the races in which they compete.

The pattern of results we observe allows us to speculate as to the nature of the gender penalty for female candidates. Because our models control for perceived ideological distance, the penalty appears as though it is not rooted in inaccurate perceptions of female candidate liberalism. Because the penalty only appears to be levied on female Democrats—not female Republicans—it seems not to be related to a general perception that women are broadly viewed as “incompetent,” “unfit,” or

“unsuited” for political office (Eagly and Karau, 2002). That MR+MI voters favor male Democratic candidates over females is suggestive of a “gender affinity” effect (Sanbonmatsu, 2002a); however, gender affinity cannot explain why male Democratic voters do not express a similar preference for male Democratic candidates, or why female voters of any partisan stripe do not appear to show a preference for female candidates of their own party.

Having considered alternative explanations as to why male Republican and male independent voters might be less likely to vote for a female Democratic candidate, our results are more consistent with the interpretation that modern sexism is at play. Sexism occurs when members of a dominant group feel that their privileged status is being threatened and seek to protect the status quo (Jackman, 1994).¹ Modern sexism stems from hostility towards women’s demands for economic and political equality (Becker and Swim, 2012; Swim et al., 1995). Recent research shows that voters high in modern sexist attitudes discount the qualifications of women (Carey and Lizotte, 2019), and are less likely to vote for female candidates (Ditonto, 2019). In recent elections, sexism is reported to have played a prominent role (Schaffner, MacWilliams and Nteta, 2018; Cassese and Barnes, 2018; Cassese and Holman, 2019). Modern sexism reflects an animosity towards policies aimed at leveling the playing field for women – such as anti-discrimination laws, equal pay, paid family leave, anti-sexual harassment laws – policies which Democrats in general, and female Democrats in particular have championed more than female Republicans (Deckman, 2016; Schneider and Bos, 2016; Swers, 2018). Because gender egalitarian policies are more closely aligned with the Democratic than the Republican Party, we do not expect male or female Democratic voters to object to male or female Democratic candidates’ advocacy of these positions. Rather, we expect that male Republicans and unaligned male independent voters would feel the most threatened by those whom they perceive to be the strongest advocates of such policies – female Democrats – and any backlash would be aimed towards them.

That gender exerts a significant effect on voting behavior and election outcomes even under

¹Previous research suggests that women voters can also be sexist (Cassese and Barnes, 2018). For instance, white women may adopt sexist beliefs in order to gain acceptance, privilege and protection from men. Our argument is not that women voters will not be sexist at all, but rather, that they are less likely than men to be sexist due to personal experiences with discrimination and self-interest in gender egalitarian policies.

extreme partisan polarization – and across time, space, and electoral context – is surprising, but attests to the salience and durability of gender as a voting cue (Kahn, 1996). These findings contribute to our understanding of the micro- and macro-level factors that shape women’s electoral fortunes; and advance the goal of representational equality by helping candidates and campaigns concentrate their efforts on the most winnable voters and districts. We conclude by offering a new, theoretically-driven, and easily replicable measure of women’s electability that applies to a variety of electoral units.

Theories of Gender Penalty

A vast literature studying women’s electoral fortunes overwhelmingly concludes that women are not disadvantaged (Seltzer, Newman and Leighton, 1997; Darcy, Welch and Clark, 1994; Burrell, 1994; Darcy and Schramm, 1997; Lawless, 2015). For certain, one of the most cited claims in women in politics research is “women win as often as men.” Yet, studies show a variety of ways in which women are disadvantaged by voter attitudes. Women are perceived as less knowledgeable about politics (Mendez and Osborn, 2010). Voters prefer men to constitute a majority in government (Dolan and Sanbonmatsu, 2009). Compared to men, women are perceived as lacking the traits necessary to successfully fill the role of a politician (Schneider and Bos, 2016). Voters are quick to arrive at judgments about women candidates (Fulton and Ondercin, 2013). And, voters have been shown to have a “baseline” gender preference (Sanbonmatsu, 2002a). Recent nationally-representative polls demonstrate significant voter resistance to women in politics: approximately 40% of men and 60% of Republicans said that they hoped not to see a female U.S. president in their lifetime (*Economist/YouGov*, 2018).

How can women be as likely as men to win, while voters hold attitudes that disadvantage female candidates? We contend that a key problem with most existing work examining the effect of candidate sex on voting behavior is that only a limited set of controls are included in most model specifications (for instance: incumbency, party, and seniority). The lack of additional controls implicitly assumes that men and women are identical in every way that is electorally-relevant, with

the exception of gender and the included controls. But what if there were omitted variables, which were both correlated with gender and influential to elections? If such a variable were omitted, then our substantive interpretations would be biased. We argue that candidate quality is such a variable.

Gender and qualifications are correlated due to differential competitive pressures faced by male and female candidates, and gendered self-selection.² Previous research shows that in a variety of ways, women face a more difficult path to office. Whether it is recruitment from party leaders, fundraising, or challenger emergence, women candidates confront higher barriers. Studies show that men are more likely than women to receive encouragement from party leaders to run (Burns, Schlozman and Verba, 2011; Fox and Lawless, 2005), whereas women are more likely to receive *discouragement* (Niven, 2006; Hennings and Urbatsch, 2015). Women raise as much money as men, but view fundraising as more difficult (Burrell, 2003; Jenkins, 2007). Moreover, women candidates are more likely than men to attract competition from challengers in elections (Lawless and Pearson, 2008; Palmer and Simon, 2006; Milyo and Schosberg, 2000). Together, these differential competitive pressures from gatekeepers, fundraisers, and challengers (not to mention voters) mean that women have to work harder and be stronger in order to survive – a “performance premium” is placed on them (Anzia and Berry, 2011; Lazarus and Steigerwalt, 2018; Pearson and McGhee, 2013).

Additionally, women believe that they are held to higher standards, and resist running for office until they can reach those standards. Women are more likely than men to underestimate their qualifications and express doubts about their abilities (Fox and Lawless, 2005). Women tend to view themselves as less capable in the world of politics (Mendelberg and Karpowitz, 2016) and are more likely than men to “shy away” from competition (Niederle and Vesterlund, 2007). Even highly ambitious women tend to hold themselves back as candidates until they view themselves as having favorable chances of winning (Fulton et al., 2006). This process of self selection means that only the most ambitious, qualified, and capable women will emerge to run, manufacturing a

²To be clear, our argument about women’s quality advantage stems not from any kind of “natural superiority” of women candidates. Rather, our theory is rooted in differential competitive pressures faced by male and female candidates, and gendered self-selection.

gap in qualifications on the supply side (Black and Erickson, 2000; Milyo and Schosberg, 2000).

It becomes problematic when this advantage in qualifications is neglected in statistical models because then it appears that “women do as well as men when they run” but this only holds when women have a qualifications advantage. To the extent that candidate quality is distributed unequally across the sexes, this poses an alternative explanation for the gender parity in American elections. If women select-out of the running until they are ultra-qualified, and if a more rigorous competitive process produces stronger female candidates, then women should win *more* often than men if voters are devoid of gender bias. That women are more qualified, but only win at equal rates, suggests an electoral penalty in and of itself. More generally, controlling for this gap in qualifications should reveal the extent of the penalty.

Who Penalizes, and Why?

We posit that there are three factors – voter partisanship, voter gender, and candidate partisanship – that shape the nature and the extent of the penalty against female candidates.

Voter Partisanship

We argue that the degree of the penalty against women candidates is shaped by voter partisanship. We expect Republican and independent voters to penalize women candidates more than Democratic voters. Compared to other partisan groups, Democratic voters have been stronger advocates for gender egalitarianism in government (Swers, 2018; Dolan and Sanbonmatsu, 2009), whereas Republican voters have been shown to hold sexist attitudes (Shames, 2018). Although there has been recent movement in the Tea Party towards greater inclusiveness towards women (Deckman, 2016), as well as increased opportunities for women to participate in conservative grass-roots organizations (Schreiber, 2008), historically the Republican Party has represented more traditional gender values and has been less supportive of gender equality than the Democratic Party (Mansbridge, 1986; Schneider and Bos, 2016).

Moreover, because independents lack a partisan attachment, party-based cues provide little direction for them; thus, they will seek more individuating information – like candidate’s gender –

before making their vote-choice (Ono and Burden, 2019; Bauer, 2015; Basinger and Lavine, 2005). Recent research demonstrates that independents are more likely to penalize female candidates than partisans (Ono and Burden, 2019) —thus, we expect that Republican and independent voters are the most likely to penalize women candidates.

Voter Gender

In regards to voter gender, we expect that men are more likely than women to penalize women candidates because men have incentives to protect the status quo (Jackman, 1994). To the extent that modern sexist factors are at play, males are more likely to hold sexist attitudes because their privileged status is potentially threatened by gender equity. In contrast, women voters are more likely than men to have experienced sexism firsthand, and stand to benefit from policies that promote economic and political equality. Moreover, we expect that partisanship interacts with voter gender, such that male Republicans and male independents (MR + MI) are more likely to penalize women candidates than male Democratic voters. We expect that women in each partisan category are less likely than men to penalize women candidates.

Candidate Partisanship

Lastly, candidate partisanship should condition the extent of the penalty against women candidates. The core of the Republican ethos emphasizes individual responsibility over government action; whereas Democrats are more likely to believe that disadvantage stems from external power asymmetries and seek governmental remedies (Deckman, 2016; Schreiber, 2008). Over the past 40 years, female Democrats have been more vocal than female Republicans about gender inequality, and have been more powerful advocates of policies aimed at alleviating inequality, like anti-discrimination laws, equal pay, paid family leave, and anti-sexual harassment laws (Swers, 2018; Sanbonmatsu, 2002a; Wolbrecht, 2000). Indeed, female Democratic candidates are viewed as having capacity on these issues (Schneider and Bos, 2016). If modern sexism is at work, then complaints about inequality ought to spark a backlash against female Democrats among MR + MI, who tend to be less supportive of – and more skeptical about – gender egalitarian issues. Because female Democrats have articulated their complaints more powerfully than female Republicans, these

demands should lead to a greater penalty assessed on female Democrats than female Republican candidates.

Individual-Level Analysis: Vote-Choice

Our primary data source is the Cooperative Congressional Election Study (CCES),³ which is conducted during midterm and presidential elections from 2006 to 2018⁴ and is representative at the congressional district-level. We compiled CCES data from the available seven election cycles during this period,⁵ and merged it with data on election and candidate characteristics provided by Gary Jacobson and the Center for American Women in Politics (CAWP).⁶ The unit of analysis is the individual respondent. All told, we have more than 220,000 respondents who voted in congressional elections in our dataset. The dataset contains 774 female Democrat and 321 female Republican candidates. All of our analyses include year fixed-effects, are clustered at the district level to deal with any heteroskedasticity and nonindependence of observations from the same district, and include respondent survey weights.⁷

The dependent variable is the CCES variable for congressional vote-choice,⁸ Democratic (1) or Republican candidate (0).⁹ Our primary explanatory variables are the candidates' gender and partisanship (Female Democrat = 0,1; Female Republican = 0,1), which we collected through CAWP. To control for the propensity to vote Democratic, we also include variables from the CCES

³(Ansolabehere, 2010a,b, 2012; Ansolabehere and Schaffner, 2012; Schaffner and Ansolabehere, 2015; Ansolabehere and Schaffner, 2017; Schaffner, Ansolabehere and Luks, 2019)

⁴It is worth noting that this period covers times of good and bad fortune for both parties. Democrats dominated the elections of 2006, 2008, 2012 and 2018; but Republicans fared better than Democrats in 2010, 2014 and 2016. Only for four years (2008–2010 and 2016–2018) was there unified party control of government. Across the period under study, neither party had a distinct advantage.

⁵Uncontested races where the incumbent ran unopposed, and races where two co-partisans ran against each other (e.g. California's "top-two" primary system occasionally produces general elections with either two Democrats or two Republicans running) are excluded from the analysis.

⁶CAWP (2019, <https://cawp.rutgers.edu/facts/elections/pastcandidates>)

⁷Online Appendix A provides the summary statistics for all of the variables included in our individual level models.

⁸We omit respondents who voted for third-party candidates, since we are interested in the two-party vote.

⁹Choosing to code the dependent variable in the direction of Democrats is arbitrary as the two-party vote share adds to 100. Changing the dependent variable to the Republican's vote-share simply flips the sign of the coefficients in the model, but does not alter the coefficient's size, significance or any of the other model statistics except for the intercept.

indicating respondent sex,¹⁰ partisanship,¹¹ age,¹² race,¹³ marital status,¹⁴ employment status,¹⁵ education,¹⁶ and ideology.¹⁷

Our measures for candidate qualification are derived from Gary Jacobson, which includes measures for expenditures and relative experience. In terms of expenditures, we assume that the ability to raise and spend money is a reflection of electoral prospects and underlying qualification (Green and Krasno, 1988; Jackman, 1994). Because donors are strategic, candidates are only able to attract money from donors when they have a reasonable chance of winning. Because incumbents are typically favored to win, they tend to raise more money than challengers. Because challengers are typically favored to lose, they tend not to be able to raise money unless they are well-qualified and/or running against a vulnerable incumbent. Thus, money is both a reflection of electoral prospects and the relative quality of the candidates. We construct a *relative expenditures* variable by taking the log of both the Democratic and Republican candidates' spending, and then taking the difference, such that greater values correspond to a relative spending advantage for the Democratic candidate.

Data on incumbency status and challenger office-holding experience also provide information about the relative qualifications of the candidates (Jacobson and Kernell, 1983). Because challenger entry is strategic, we assume that an incumbent who attracts a challenger with office-holding experience is more vulnerable than an incumbent who attracts an inexperienced challenger. Experienced challengers avoid risking their name recognition and reputation on races they are certain to lose. Instead, experienced challengers tend to wait until an incumbent becomes weak, or local or national tides turn in their favor. In contrast, inexperienced challengers have little name recognition or reputation to lose, and thus are more likely to launch a “hopeless” bid against a

¹⁰Male (0) or Female (1)

¹¹For ease of interpretation in our interactive models, we collapse the seven-point partisanship variable into three categories: -1=Strong/Weak/Lean Democrat, 0=Pure Independent, 1= Strong/Weak/Lean Republican. Our results remain unchanged if we include partisan leaners as independents.

¹²In years

¹³White (1) or non-white (0)

¹⁴Married (1) or not married (0)

¹⁵Employed full-time (1) or not (0)

¹⁶College-educated (1) or not (0)

¹⁷Extremely Liberal (1) to Extremely Conservative (7)

strong incumbent. It follows then, that the experience of the challenger an incumbent attracts is a reflection of the relative quality of the incumbent and his/her chances of winning. We construct a relative experience variable where 2 = Democratic incumbent running against an inexperienced challenger, 1 = Democratic incumbent running against an experienced challenger, 0 = open seat, -1 = Republican incumbent running against an experienced challenger, and -2 = Republican incumbent running against an inexperienced challenger.

Importantly, both of our relative qualifications measures are endogenous to a process of selection by donors and potential challengers. If our theory is correct, then women would have to “work harder” than men to raise equal amounts of money, an expectation that is corroborated in the literature (Jenkins, 2007; Burrell, 1985). This means that equivalently-qualified men and women should not raise equivalent amounts of money – all else being equal, men should attract more money than women (Berch, 2004; Bernstein, 1986; Uhlander and Schlozman, 1986). As a result of these processes, our fundraising variable under-estimates the true extent of women’s qualifications advantage.

Similarly, we expect high quality challengers to be more likely to emerge against women than men (Palmer and Simon, 2006; Milyo and Schosberg, 2000). To the extent that women are more likely than men to attract high-quality challengers when they are similarly-qualified, our relative experience measure understates women’s qualifications, and overstates men’s. Because both of our measures are subject to strategic decision-making by donors and potential challengers, our relative qualifications variables under-estimate the qualifications gap. With better instruments, we would observe a larger qualifications gap, and a larger penalty against female Democrats.

Previous research suggests additional selection-effects related to candidate gender that may distort the direction, magnitude, and significance of our findings. First, women tend to select to run in districts that are “friendly” to them – districts that are more affluent, educated, urban, liberal, etc. (Palmer and Simon, 2006; Ondercin and Fulton, 2019). Similarly, research shows that women often select-out of competition, and tend to “hold themselves back” until they feel qualified enough to run (Fulton et al. (2006); Niederle and Vesterlund (2007)). These selection-effects mean

that women in “unfriendly” districts and women who are less qualified are under-represented in our dataset, and that women in “friendly” districts and highly qualified women are over-represented. The non-random nature of the data under-estimates the full extent of the penalty. If we were to randomly assign women to districts and force them to run in “unfriendly” districts, then we would observe more women losing. If we were to force unqualified women (or women who were merely “as qualified” as men) to run, then more women would lose. Because we only observe women running in districts where they expect to win – and only observe highly qualified women running – the non-random nature of our data conceals the true extent of the penalty and produces an estimate that is more conservative than the true state of the world.

Given the dichotomous nature of our dependent variable, we test our hypotheses using a logit model. The results shown in Model 1 (Table 1) indicate that female Democrats and Republicans are as likely as men to win voter support, even after controlling for respondent sex, partisanship, age, race, marital status, employment status, education, and ideology. This finding corroborates the vast majority of the women in politics literature.

To examine if this parity in voter support stems from a quality differential between the candidates, Table 2 presents a bivariate test between candidate gender and our measures of qualification. Based on our fundraising indicators, women Democrats and women Republicans are both significantly more qualified. Female Democrats raise and spend over \$250,000 more than their male counterparts – a highly significant gap. Meanwhile, female Republicans also attract over \$245,000 more than male Republicans. In terms of relative experience, positive values represent a relative experience advantage in favor of the Democratic candidate, while negative values represent an advantage for the Republican. Female Democratic candidates (0.05) have a qualifications advantage over male Democrats (−0.04); but male Republicans (−0.04) have an advantage over female Republicans (0.12).

Table 1: Vote for Democratic Candidate

	DV: Congressional Vote Choice: Democrat (1) Republican (0)			
	Model 1:	Model 2:	Model 3:	Model 4:
Female Democratic Candidate	-0.06 (0.05)	-0.08** (0.03)	-0.10* (0.04)	-0.15** (0.06)
Female Republican Candidate	0.09 (0.07)	0.01 (0.05)	-0.01 (0.06)	0.03 (0.07)
Female Respondent	0.05 (0.03)	0.08** (0.03)	0.13*** (0.03)	0.12** (0.04)
Party Identification	-1.83*** (0.02)	-1.85*** (0.02)	-1.70*** (0.02)	-1.62*** (0.04)
Age	0.001 (0.001)	0.001 (0.001)	0.004*** (0.001)	0.005*** (0.001)
White	-0.69*** (0.04)	-0.55*** (0.04)	-0.48*** (0.05)	-0.48*** (0.05)
Married	-0.24*** (0.03)	-0.19*** (0.03)	-0.22*** (0.04)	-0.23*** (0.04)
Employed Full Time	0.001 (0.03)	-0.01 (0.03)	-0.06 (0.04)	-0.06 (0.04)
College Graduate	0.17*** (0.02)	0.13*** (0.02)	0.15*** (0.03)	0.14*** (0.03)
Ideological Self-Placement	-0.60*** (0.01)	-0.61*** (0.01)	-0.46*** (0.02)	-0.46*** (0.02)
Redistricted	-0.08 (0.09)	0.07 (0.08)	-0.03 (0.10)	0.03 (0.10)
Relative Spending (Log)		0.03*** (0.004)	0.03*** (0.01)	0.03*** (0.01)
Relative Qualifications of Candidates		0.23*** (0.01)	0.19*** (0.02)	0.19*** (0.02)
Perceived Ideological Distance			-0.52*** (0.01)	-0.53*** (0.01)
Female Respondent x Female Democratic Candidate				0.09 (0.07)
Female Respondent x Female Republican Candidate				-0.09 (0.10)
Female Respondent x Party ID				-0.13** (0.05)
Female Democratic Candidate x Party ID				-0.16* (0.07)
Female Republican Candidate x Party ID				0.03 (0.08)
Female Respondent x Female Democrat x Party ID				0.09 (0.09)
Female Respondent x Female Republican x Party ID				0.03 (0.11)
Constant	3.56*** (0.10)	3.55*** (0.10)	3.96*** (0.12)	3.97*** (0.12)
CCES Year Fixed Effects	Yes	Yes	Yes	Yes
N	198, 440	196, 259	122, 377	122, 377
Pseudo R-squared	58.7%	60.4%	64.7%	64.7%

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed). The dependent variable, *Congressional Vote Choice*, captures whether the respondent voted for the Democratic candidate (1) or the Republican Candidate (0). Estimates are based on logit models. Robust standard errors clustered and weighted by district are shown in parentheses.

Table 2: Gender Differences in Relative Qualification, by Candidate Party (Means)

	Male Candidate	Female Candidate	Difference
Democratic Candidate Expenditures	\$993,760 [\$940,307 to \$1,047,213] N=2,205	\$1,250,446 [1,154,480 to 1,346,413] N=774	\$256,686*** [150,092 to 363,208]
Republican Candidate Expenditures	\$1,052,314 [\$999,014 to \$1,105,615] N=2,658	\$1,297,387 [\$1,075,891 to \$1,518,883] N=321	\$245,073** [\$73,661 to \$416,534]
Democratic Candidate Relative Qualification	-0.04 [-0.13 to 0.04] N=2,188	0.05 [-0.08 to 0.18] N=763	0.10 ^a [-0.26 to 0.06]
Republican Candidate Relative Qualification	-0.04 [-0.11 to 0.04] N=2,631	0.12 [-0.07 to 0.31] N=320	0.16 [-0.38 to 0.06]

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed). The first two columns in Table 2 indicate the means for expenditures and relative experience depending on whether the candidate is male or female. The third column indicates the difference in these two means. The 95% confidence intervals are shown in square brackets.

^a Female Democratic candidates have more office-holding experience relative to their male counterparts, however this difference is not statistically significant in the data that includes 2018 ($p = 0.22$). If the 2018 data are excluded, there is a significant gap in relative office-holding experience (difference = 0.30, $p < 0.001$), reflecting the fact that a large proportion of women Democrats running in 2018 were political novices. Absent this nationwide effort to recruit female Democratic novices, there is a significant gap in relative office-holding experience between male and female Democrats

We re-estimate the logit model to include our measures of qualification (Table 1, Model 2). The coefficients for spending and relative experience are appropriately positively-signed and significant. But, most importantly, the coefficient for female Democrat is now negative and significant. This confirms the expectation that gender differences in qualification account for the observed parity in voter support.¹⁸ Women Democrats attract equivalent amounts of voter support when they are more qualified. When qualifications are held constant, women Democrats attract less support from voters. Substantively, when the Democratic candidate is male, voters have a 50.2% chance of voting Democratic; but when the Democrat is female, the probability of voting Democratic drops to 48.1%. Thus, when qualifications are equal, voters are approximately 2.1%

¹⁸To see whether the gap in relative spending or relative experience contributes more to female Democrats' disadvantage, we estimate two separate models: one with only relative spending, and one with only relative experience. The female Democratic candidate coefficient emerges as negative and statistically significant in both the models: $\hat{\beta} = -0.13$ ($p < 0.001$) in the model with only relative spending and $\hat{\beta} = -0.05$ ($p < 0.10$) in the model with only relative experience. Although the two variables are significantly correlated ($r = 0.74$, $p < 0.001$), they each contribute unique variance when they are included together as shown in Models 2-4 in Table 1.

less likely to vote for a female than a male Democrat.

When we account for relative qualification, the control variables in our model remain largely unchanged in magnitude, direction, and significance. This indicates that our measures of relative qualification are uncorrelated with the already included control variables and are picking up on unique variation. The fact that the variable *Female Democratic Candidate* emerges as negative and significant when we control for qualifications suggests that previous findings of gender parity in voter support are an artifact of omitted variables bias.

Previous research suggests that voters perceive female candidates as more liberal than their male counterparts (Koch, 2000, 2002; McDermott, 1997). Perhaps voters are less likely to support female Democratic candidates because they perceive them to be ideologically distant from their own preferences? To test this hypothesis, we construct an *ideological distance* variable by taking the absolute value of the difference between where the respondent places themselves (1 = Extremely Liberal to 7 = Extremely Conservative), and where they place the Democratic candidate (1 = Extremely Liberal to 7 = Extremely Conservative). The data in Table 3 illustrate that Democratic voters do not view female Democratic candidates as more ideologically distant than male Democratic candidates – in fact, they view female Democrats as more proximate. However, independent and Republican voters perceive female Democrats as significantly more distant than male Democrats.

We include our measure of perceived distance to the Democratic candidate (Table 3, Model 3).¹⁹ If the inclusion of this term erodes the negative and significant coefficient for female Democrat, then this would suggest that voters withhold support from female Democrats because they are perceived to be ideologically out-of step. If *Female Democratic Candidate* remains significant even after controlling for ideological distance then this would suggest that female Democratic candidates are penalized for something beyond ideology.

¹⁹It is notable that the number of cases drops significantly (from 195 K respondents to a little over 120 K) when the perceived ideological distance measure is included. This is because a large portion of respondents could not place the Democratic candidate on an ideological scale. To evaluate whether these omitted cases were introducing bias, we ran Model 3 without the perceived distance variable. Our results are unchanged when we omit perceived distance: MR + MI voters are significantly less supportive of female than male Democratic candidates. [Online Appendix B](#) reports this analysis in greater detail.

Table 3: Perceived Ideological Distance to the Candidate, by Party Identification

	Male Democratic Candidate	Female Democratic Candidate	Difference
Democratic Voters	1.21 [1.21, 1.22] N=63, 665	1.13 [1.12, 1.15] N=28, 248	-0.08*** [-0.07, -0.10]
Independent Voters	2.06 [2.04, 2.09] N=13, 351	2.21 [2.17, 2.25] N=5, 830	0.14*** [0.09, 0.20]
Republican Voters	3.45 [3.44, 3.47] N=48, 173	3.70 [3.68, 3.72] N=19, 783	0.25*** [0.22, 0.28]

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed). The first two columns in Table 3 indicate the perceived ideological distance between the respondent and candidate depending on whether the candidate is a male Democrat or a female Democrat. The third column indicates the difference. The 95% confidence intervals are shown in square brackets.

As expected, the inclusion of the perceived ideological distance variable is negative and significant, meaning that as the perceived distance to the Democratic candidate increases, the probability of voting Democratic decreases. The variable for *Female Democratic Candidate* continues to be negative and statistically significant, suggesting that perceived ideological distance does not explain the penalty. The inclusion of the distance variable actually increases the predicted gap in support between male and female Democratic candidates to 2.5%, which is inconsistent with the interpretation that female Democrats are disadvantaged due to perceptions of ideological distance.

Crucially, perceptions of ideological distance are subject to rationalization effects – voters wishing to conceal their bias should estimate women candidates as further away – and as a result, the inclusion of this term in the vote-choice model should swamp any gender effect. But even after controlling for the potential to exaggerate differences to conceal bias, the coefficient for *Female Democratic Candidate* remains negative and significant. Thus, the penalty against female Democrats is not explained by ideological distance and would actually be larger absent the propensity to rationalize.

We hypothesize that voter gender and partisanship condition the penalty on female Democrats, such that it is greatest among MR + MI voters. We evaluate whether respondent sex and partisanship conditions support for female Democrats by including interactions between respondent sex

and candidate sex and partisanship (Table 1, Model 4). This allows us to estimate the effect of gender and partisanship in each of four possible candidate permutations: Female Democrat v. Male Republican (N = 680), Male Democrat v. Male Republican (N = 1,978), Female Democrat v. Female Republican (N = 94), and Male Democrat v. Female Republican (N = 227).

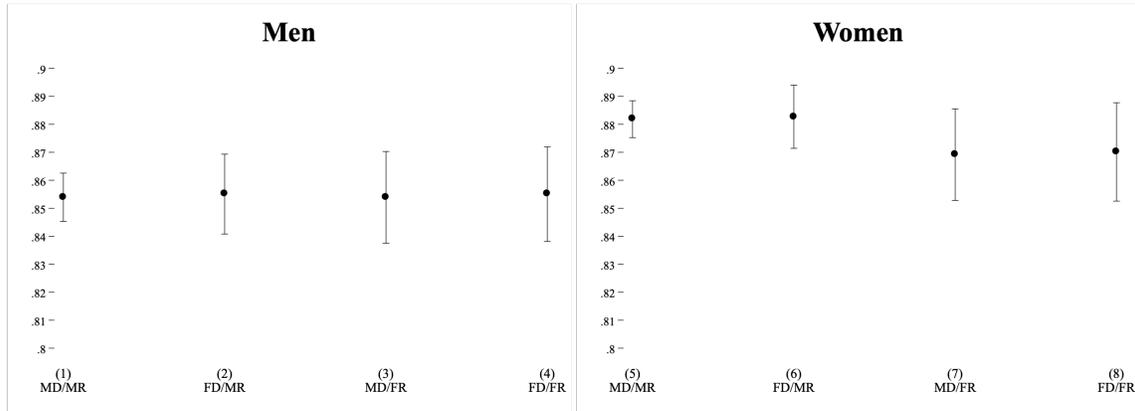
Because models with interactions are difficult to interpret without graphics, we depict the predicted probabilities of voting Democratic in Figure 1, varying respondent gender, respondent partisanship, candidate gender, and candidate partisanship. The MD/MR columns (1 and 5) show the predicted probability of voting for a male Democratic candidate when the opponent is a male Republican. The FD/MR columns (2 and 6) show the predicted probability of voting for a female Democratic candidate when the opponent is a male Republican. When we compare the MD/MR and FD/MR columns (1 and 2; 5 and 6), we can evaluate whether there is a difference in the probability to vote for a male or female Democratic candidate when the opponent is a male Republican. Similarly, when we compare MD/FR (3 and 7) to FD/FR (4 and 8), we can evaluate whether there is a difference in the probability to vote for a female or male Democratic candidate when the opponent is a female Republican.

Among Democratic voters (Figure 1A) and across the various candidate permutations, male voters treat male and female Democratic candidates equitably. A similar story emerges for female Democratic voters, who are equally supportive of female Democratic candidates as male Democratic candidates. These patterns suggest that Democratic voters do not penalize female Democratic candidates.

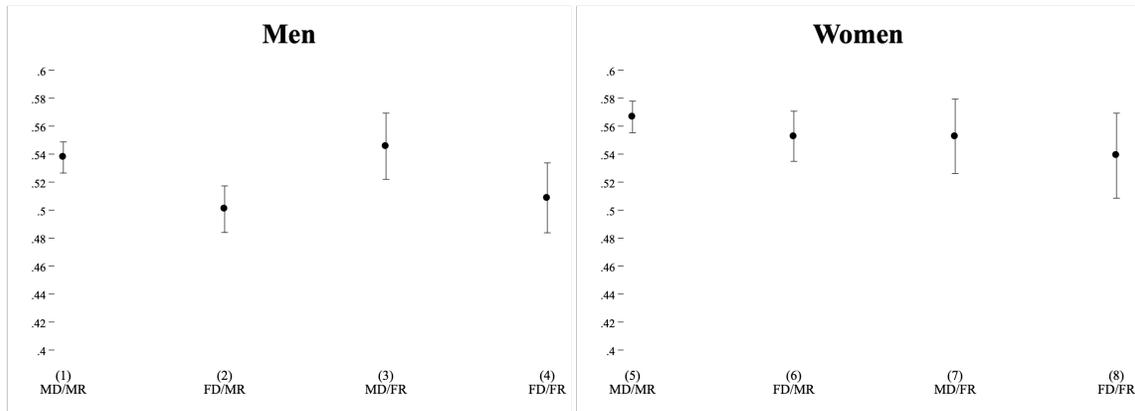
Figure 1B shows that male independents are significantly less likely to support female Democrats than male Democrats (1 vs 2 = 3.7% difference) when the opponent is a male Republican. When the Republican opponent is female, male independents again express a preference for a male Democratic candidate over a female one (3 vs 4 = 3.7% difference), but the difference is not statistically significant. Importantly, the penalty does not extend to female Republicans. That is, male independents are no more likely to endorse male Republican candidates than female Republicans (1 vs 3, 2 vs 4), suggesting that the penalty assessed on female Democrats does not

Figure 1: Probability of Voting Democratic, by Candidate and Respondent Gender and Partisanship

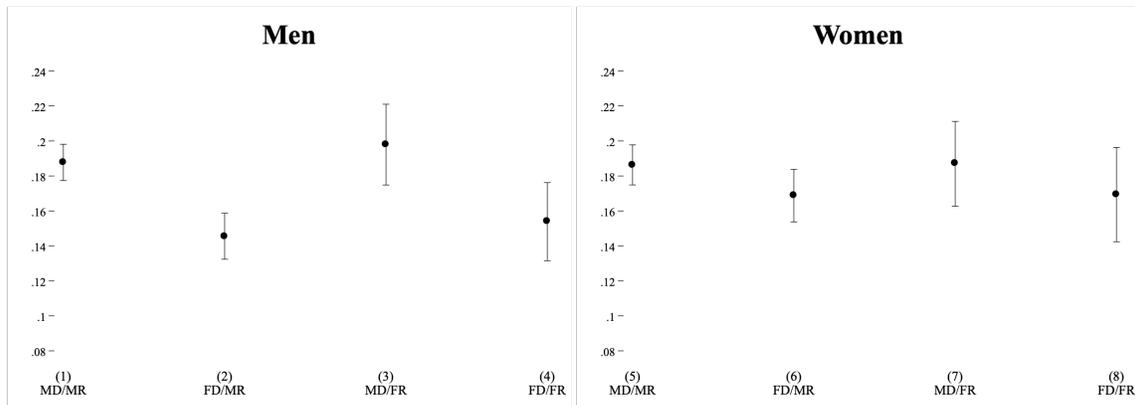
(a) Democratic Voters



(b) Independent Voters



(c) Republican Voters



Note: Figure 1 plots the predicted probabilities calculated from Model 4 (Table 1), varying respondent gender and candidate gender and partisanship while holding all other variables in the model constant. MD/MR male Democratic candidate versus male Republican candidate, FD/MR female Democratic candidate versus male Republican candidate, MD/FR male Democratic candidate versus female Republican candidate, FD/FR female Democratic candidate versus female Republican candidate. The dashed black lines depict 83% confidence intervals, which roughly correspond visually to a differences-in-means test at the 95% confidence level (Bolsen and Thornton, 2014; Payton, Greenstone and Schenker, 2003).

reflect an overall perception that female candidates are “unfit” for office. Female independents are slightly less likely to support female Democrats than male Democrats (5 vs 6, 7 vs 8), however this difference is insignificant.

Figure 1C demonstrates a similar pattern among Republican voters; male Republicans are significantly less likely to vote for female Democrats when the Republican opponent is male (1 vs 2 = 4.2% difference) and when the Republican opponent is female (3 vs 4 = 4.4%). This penalty is again unique to female Democratic candidates – male Republicans do not penalize female Republicans candidates relative to males (1 vs 3, 2 vs 4) – challenging the interpretation that the penalty is reflective of female candidates being viewed as “unsuited” for office. And, although female Republicans are slightly less supportive of the female Democrat (5 vs 6, 7 vs 8), these differences are insignificant.²⁰

Importantly, our analysis under-estimates the full extent of the penalty accrued to female Democrats due to three factors: (1) measures of relative qualification that are endogenous to a process of selection by donors and potential challengers, (2) selection-effects wherein only the most qualified female candidates run in the “friendliest” of districts, and (3) the inclusion of an ideological distance variable that ought to “wash away” any direct effect of candidate and respondent sex by voters who wish to conceal their bias. Absent these forces, the estimated penalty for female Democrats would be much larger.

Overall, our results validate the interpretation that respondent gender and partisanship mediate how voters respond to female Democrats: MR + MI significantly favor male Democratic candidates over female. It is notable that the penalty: (1) persists even after controls for perceived ideological distance, (2) is levied only on female Democrats, not Democrats in general or female Republicans, (3) is evidenced only among male voters, and not female voters and (4) is only assessed by Republicans and independents, not Democrats. MI + MR are averse to something

²⁰An alternative explanation for our findings is that female Democrats are penalized for being more racially diverse than female Republicans. To fully answer whether this question, we would need to know the racial identity of every candidate, which we do not have. As a preliminary test of the racism hypothesis, we evaluate whether white voters are more punitive towards female Democrats than the full sample of voters, but we find that this is not the case. See [Online Appendix C](#) for the full analysis.

characteristic of female Democratic candidates that is largely innocuous to female voters of any partisanship, or male Democrats. It appears not to be a general distaste for female candidates, as MI + MR are equally supportive of female Republicans when qualifications are controlled. We believe the aversion is rooted in a backlash against female Democrats' articulation of gender inequities and their promotion of gender-egalitarian policies, however more research is needed to fully test this explanation.

To assess whether these individual-level effects have implications for who wins elections, we turn our attention to the aggregate-level. If the micro-mechanisms we identify are correct, and if the process of aggregation is random, then the effects we observe at the individual-level should replicate at the aggregate-level. Although individual- and aggregate-level linkages are often elusive in political science,²¹ we test the limitations of our theory and evidence by aggregating our individual-level dataset to the congressional district year.

Based on our prior theoretical development and empirical analysis, we expect that female Democratic candidates will be as likely as male Democratic candidates to win elections at the bivariate-level, when the gender gap in qualifications is neglected. When qualifications are held constant, female Democrats will be more likely to lose. We expect that the proportion of MR + MI in a district will account for why female Democrats will be more likely to lose. Once the proportion of MR + MI is held constant, female Democrats will be as likely as males to win elections.

Aggregate-Level Analysis: Election Outcomes

Our aggregate-level data includes approximately 3,000 two-party congressional races over the years 2006–2018. The primary dependent variable is derived from Gary Jacobson's data on whether the Democratic candidate won (1) or the Republican candidate won (0).²² Again, we control for candidate gender and partisanship with data compiled from CAWP. We also include

²¹For example, scholars of micro- and macro-level partisanship debate about the nature and stability of partisan attachments: (Green, Palmquist and Schickler, 2002; Erikson, MacKuen and Stimson, 2002).

²²Uncontested races where the incumbent ran unopposed and races where two co-partisans ran against each other are excluded from the analysis.

variables reflecting district demographic characteristics from the U.S. Census Bureau’s American Community Surveys.²³ Our measure of the proportion of MR + MI is derived from the CCES; specifically, it is a weighted proportion of male Republicans and independents among all voters in the district

Previous research suggests that women’s electability is influenced by aggregate characteristics of the district. [Palmer and Simon \(2006\)](#) hypothesize that more liberal, affluent, educated, and urban districts will be more “friendly” to women’s representation (see also [Ondercin and Fulton \(2019\)](#)). Thus, we control for: district partisanship (measured as the Democratic presidential candidate’s vote-share), as well as district demographic characteristics, such as: land area, median income, percent female population, percent school-age population, percent minority, percent college-educated, percent unemployed and percent blue-collar. Because we control for these alternative explanations, ours poses a strict test of the hypothesis that women’s electability is altered by the proportion of MR + MI in a district, above and beyond conventional explanations.

Based on the results from the individual-level analysis, we expect that female Democratic candidates will be as likely as male Democrats to win, but that the gender gap in qualifications explains the parity. In addition, we expect that the penalty is directly attributable to the proportion of MR + MI in a district. To test these expectations, we use a logit model of the probability of the Democrat winning, with year fixed-effects and robust standard errors clustered at the district-level.²⁴

Our analysis begins with a simple bivariate comparison of the likelihood of winning for male and female Democratic and Republican candidates. [Table 4](#) shows that female Democrats have 3.5% *greater* chance of winning the election than male Democrats. In contrast, female Republicans have almost a 10% *lower* likelihood of winning, compared to males.

Based on our analysis at the individual-level, we expect that female Democrats’ higher likelihood of winning is a consequence of their greater relative qualifications. Similarly, we believe

²³<https://www.socialexplorer.com/explore/tables>

²⁴[Online Appendix D](#) provides the summary statistics for all of the variables included in our models.

Table 4: Probability Of Winning, by Candidate Sex

	Male Candidate	Female Candidate	Difference
Democrat	47.7 [45.6, 49.8] N=2, 205	51.2 [47.6, 54.7] N=774	3.5* [0.1, 7.5]
Republican	52.5 [50.6, 54.4] N=2, 658	43.0 [37.5, 48.5] N=321	-9.4*** [-3.6, -15.2]

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed). The first two columns in Table 4 indicate the probability of winning for male and female candidates varying partisanship. The third column indicates the difference. The 95% confidence intervals are shown in square brackets.

that women Republicans' lower likelihood of winning is reflective of their lower relative experience (see Table 2). We estimate a logit model controlling for variables traditionally thought to influence women's electability (Palmer and Simon, 2006; Ondercin and Fulton, 2019), along with our measures of relative qualification (Table 5, Model 5).

Once we control for qualification, the coefficient for *Female Democratic Candidate* emerges as negative and significant. Women Democrats are as likely to win (if not more likely) because of the gender gap in qualification. Once the gap in qualification is taken into account, women Democrats receive a penalty of about 2.1%, which is consistent with our individual-level results and could exert a substantive impact on the outcome of the election in toss-up races. The insignificant coefficient for *Female Republican Candidate* in Model 5 (Table 5) demonstrates that compared to male Republicans, female Republicans are as likely to win, once their relative experience disadvantage is taken into account (see Table 2).

Recall that our individual-level analysis indicated that MR + MI were the most likely to penalize women Democratic candidates. It follows then, that the proportion of MR + MI in the district should alter women's electoral fortunes. To test this hypothesis, we re-estimate the model including a variable for the proportion of MR + MI in each congressional district, which is derived from the CCES (Table 5, Model 6). To capture the differential treatment MR + MIs give to male and female Democratic candidates, we include interactions with candidate gender.

Table 5: Probability of Winning, by Candidate Sex

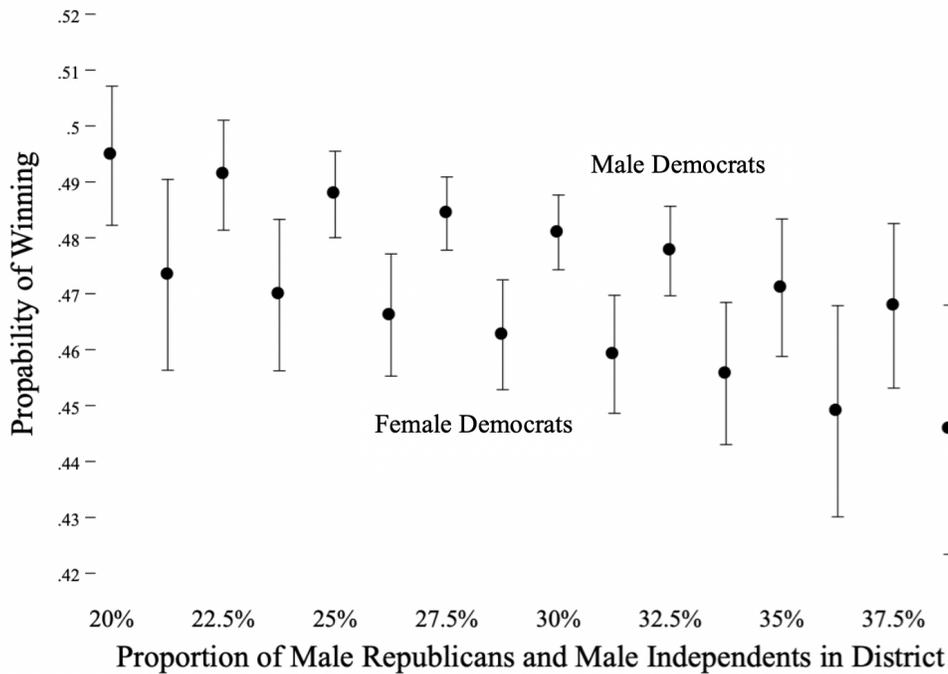
	Model 5:	Model 6:
DV: <i>Congressional Election Outcome: Democrat (1) Republican (0)</i>		
Female Democratic Candidate	-0.59** (0.23)	-0.48 (1.17)
Female Republican Candidate	0.46 (0.32)	-1.04 (1.69)
Democratic Presidential Vote in District	0.26*** (0.03)	0.26*** (0.02)
Land Area	0.000 (0.000)	0.000* (0.000)
Median Household Income	0.01 (0.01)	0.01 (0.01)
Percent Female	17.60 (15.52)	17.37 (15.46)
Percent School Age	-1.02 (6.41)	-0.60 (6.37)
Percent Minority	-1.21 (0.86)	-1.22 (0.87)
Percent with Bachelor's Degree	-4.13* (2.39)	-4.28* (2.37)
Percent Unemployed	11.23 (8.05)	9.00 (8.21)
Percent Blue Collar	-4.02 (2.98)	-3.83 (3.02)
Redistricted	0.72 (0.96)	0.67 (1.03)
Relative Expenditures (Logged)	0.86*** (0.30)	0.86*** (0.29)
Relative Experience	1.01*** (0.20)	1.01*** (0.19)
Ideological Distance to Candidates	-0.40 (0.27)	-0.32 (0.28)
Proportion MR+MI		-3.53 (2.32)
Female Democratic Candidate x Proportion MR+MI		-0.40 (4.11)
Female Republican Candidate x Proportion MR+MI		5.27 (6.19)
Constant	-17.04* (8.32)	-15.99 (8.37)
CCES Year Fixed Effects	Yes	Yes
N	2,602	2,602
Pseudo R- squared	82.6%	82.7%

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed). The dependent variable, *Congressional Election Outcome*, represents whether the Democratic candidate (1) or the Republican candidate (0) won. Estimates are based on logit models with survey weights. Robust standard errors clustered by district are shown in parentheses.

Once the proportion of MR + MI is accounted for, the coefficient for *Female Democratic Candidate* attenuates to zero indicating that the proportion of MR + MI in the district accounts for the 2.1% penalty female Democrats receive in Model 5.

Figure 2 illustrates the probability of the Democrat winning, varying candidate sex and the proportion of MR + MI in the district across a range of observed values (and holding the other variables in the model at their mean). At low-levels of MR + MI, the overlapping confidence bands indicate that female Democratic candidates are as likely to win elections as male Democrats. However, once the proportion of MR + MI reaches about 23.5%, female Democrats become significantly less likely than male Democrats to win (2.2%). The gap in support for male and female Democrats is only significant in the range of 23.5% and 33.0% MR + MI, however this represents nearly 45% of all congressional districts.

Figure 2: Probability of Winning, by Proportion of Male Independents and Male Republicans



Note: Figure 2 plots the predicted probabilities calculated from Model 6 (Table 5), varying the proportion of MR + MI in the district, ranging from 20.0 to 40%. The solid black line represents male Democratic candidates, and the solid gray line represents female Democratic candidates. The dashed black lines depict 83% confidence intervals, which roughly correspond visually to a differences-in-means test at the 95% confidence level (Bolsen and Thornton 2014; Payton et al. 2003).

The take-away from Palmer and Simon (2006)’s seminal book is that women should run in “women friendly” districts where they have run and won in the past. Our research validates this point, but suggests that they should also consider the proportion of MR + MI. The proportion

of MR + MI exerts a statistically and substantively significant influence on female Democrats' electoral prospects, independent of the district demographic characteristics identified by Palmer and Simon.

Our individual-level analysis would suggest, and our aggregate-level analysis confirms that: (1) women Democratic candidates are more qualified than men, (2) women Democrats' chances of winning are equal to men when this qualifications gap is neglected, (3) when qualifications are held constant, female Democratic candidates are disadvantaged, and (4) the penalty disappears once we account for MR + MI, suggesting that the disadvantage stems from this group. By showing that qualifications and MR + MI are consequential to women's electoral fortunes both at the individual- and aggregate-level, we provide strong validation of the thesis that gender matters to voting behavior and election outcomes, over and above conventional explanations.

Concluding Thoughts on the Gendered Politics of Congressional Elections

Across twelve years and approximately 3,000 congressional elections, our analysis demonstrates that female Democratic candidates are more qualified than their male counterparts, and that the female qualification advantage explains why they are as likely (if not more likely) to attract the support of voters. When relative qualifications are held constant, female Democrats receive fewer votes than their male co-partisans. Moreover, we found that respondent gender and partisanship mediate the extent of the penalty on female Democratic candidates, with MR + MI voters being the most punitive. Perceived ideological distance does not account for the gap. And, it appears that the penalty is not rooted in a general sense that women are somehow "unsuited" to office since MR + MI are equally supportive of male and female Republican candidates.

Although we cannot say for certain what the nature of the penalty is, it appears that MR + MI are averse to something about female Democrats that fails to provoke a negative reaction from female voters (of any partisan stripe) and male Democrats; and fails to apply to female Republicans. One possible explanation is that female Democratic candidates' demands for equality may spark a backlash among MR + MI due to "modern sexism" (Becker and Swim, 2012, 128) – the suspicion

that policies aimed at equalizing power are just a thinly veiled attempt by women to seek special favors or preferential treatment. It reflects resentment about marginalization and loss of privilege, deflecting blame onto women who purportedly want to “gain control over men.” Modern sexism is a precursor to discrimination such that women who speak about current and past discrimination, or who advocate for gender egalitarian policies, are penalized.

More research is critically needed to explore whether it is female Democrats in particular who are disadvantaged by MR + MI or whether penalties extend to female Republicans. Our research indicates that female Republicans are more likely than males to lose (Table 4), but their relative experience disadvantage (Table 2) appears to account for the disparity in win rates (Table 5, Model 5). Interestingly, despite having less relative experience, female Republicans are able to outspend their male counterparts. Although our analysis suggests female Republican candidates are treated no differently than males when relative experience is held constant, female Republicans are still a rare breed, and the lack of statistical significance that we find may simply be due to a scarcity of data.

The literature is just beginning to assess the differential competitive pressures faced by female Democrats and Republicans (Deckman, 2016; Schreiber, 2008; Thomsen, 2018; Shames, 2018; Cooperman and Crowder-Meyer, 2018), and more research is needed. To the extent that female Republicans constitute a small proportion of the female candidate pool – comprising a mere 25% of all female candidates in 2018²⁵ – increasing the pool of female Republican candidates will be crucial in their quest for parity (Crowder-Meyer and Lauderdale, 2014; Dittmar, 2019). Republican Party leaders can play a role in recruiting and supporting more female Republican candidates, and providing greater institutional resources to them.

Republican Party leaders might learn from scholarship in comparative politics, which suggests that women have a more difficult time gaining representation in center- and right-wing parties (Beckwith, 2000; O’Brien, 2018). In contrast, parties of the left have an established history of promoting gender-egalitarianism and have been more likely to include women on the party list (Caul,

²⁵<https://womenrun.rutgers.edu/by-the-numbers/>

2001). Far-right parties tend to appeal to voters who are young, male, with a low level of education, and who are unemployed, self-employed, or manual workers (Lubbers and Scheepers, 2002; Givens, 2004; Evans, 2005; Arzheimer and Carter, 2006; Arzheimer, 2009; Lucassen and Lubbers, 2012). As Marine La Pen in France demonstrates, far-right parties will continue to struggle to attract female voters and candidates unless male party leaders see it in their strategic interest to incorporate women into the party (Valdini, 2019).

In this polarized partisan environment, we would not expect candidate gender to matter. We would not expect voters to be responsive to whether the candidate is male or female. Although it does not matter to a large segment of the electorate, it is surprising that it does matter to some voters. Our research shows that the information environment alters the use of partisan cues in voting. When voters have more information about the candidates, they are less reliant on partisan cues.

In this paper, we made a bold attempt to connect micro-level theory and evidence with macro-level expectations and outcomes, and in contrast to other topics in the discipline in which micro- and macro-evidence points at two different conclusions about the nature of a political phenomenon, the unification worked. There are a variety of reasons why this linkage should have failed: the micro-level theory could have been wrong, the micro-level evidence could have been a statistical artifact, or could have been swamped by more robust factors at the macro-level. By providing evidence at the micro- and macro-level and across a variety of contextual circumstances, our analysis provides strong validation for our thesis that the qualifications gap and MR + MI significantly affect the electoral fortunes of female Democratic candidates – above and beyond conventional factors. We hope that scholars and operatives take this factor into account, because it is easily replicable, and because it potentially applies to any electoral unit where voter partisanship and gender are known.

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Online Appendix A: Individual-Level Variables and Summary Statistics

In what follows, we provide more detail on our data and variables for the “Individual-Level Analysis: Vote Choice” section of our paper.

The variables included in our individual-level models are:

- *Vote Democratic* is a dichotomous variable that equals 1 if the respondent voted Democratic and 0 if the respondent voted Republican.
- *Female Respondent* is a dichotomous variable that equals 1 if the respondent is female and 0 if the respondent is male.
- *Female Democratic Candidate* is a dichotomous variable that equals 1 if the candidate is a female Democrat and 0 if the candidate is a male Democrat.
- *Female Republican Candidate* is a dichotomous variable that equals 1 if the candidate is a female Republican and 0 if the candidate is a male Republican.
- *Party Identification* is measured on a -1 to 1 scale, with -1 meaning that the respondent is a strong/weak/lean Democrat, 0 meaning a pure independent, and 1 meaning a strong/weak/lean Republican.
- *Age* is the respondent’s age, measured in years.
- *White* is a dichotomous variable that equals 1 if the respondent is white and 0 otherwise.
- *Married* is a dichotomous variable that equals 1 if the respondent is married and 0 otherwise.
- *Employed Full Time* is a dichotomous variable that equals 1 if the respondent is employed full-time and 0 otherwise.
- *College Graduate* is a dichotomous variable that equals 1 if the respondent is college-educated and 0 otherwise.

- *Ideological Self-Placement* is measured on a 1 to 7 scale, with 1 meaning that the respondent is an extremely liberal and 7 meaning that the respondent is extremely conservative.
- *Redistricted* is a dichotomous variable that equals 1 if the district lines have been redrawn since the last election and 0 otherwise.
- *Relative Expenditures (Log)* is measured in dollars and is the difference of log of spending between the Democratic and Republican candidates; larger values indicate that the Democratic candidate spent more.
- *Relative Experience* is measured on a -3 to 3 scale, with -3 meaning that the Republican incumbent ran unopposed, -2 that the Republican incumbent ran against an inexperienced challenger, -1 that the Republican incumbent ran against an experienced challenger, 0 that it was an open seat, 1 that the Democratic incumbent ran against an experienced challenger, 2 that the Democratic incumbent ran against an inexperienced challenger, and 3 that the Democratic incumbent ran unopposed.
- *Ideological Distance to Democrat* is measured on a 0 to 6 scale, with 0 meaning that the candidate is located on the respondent's ideal point, 1 meaning that the candidate is one point away from the respondent's ideal point, and so on.

The summary statistics for the variables included in the individual-level models are:

Table 1: Individual-Level Models Summary Statistics

	Observations	Mean	Minimum	Maximum
Vote Democratic	221,857	0.51	0	1
Female Respondent	355,472	0.54	0	1
Female Democratic Candidate	352,010	0.27	0	1
Female Republican Candidate	352,010	0.11	0	1
Party Identification	343,189	-0.09	-1	1
Age	355,472	49.76	18	100
White	355,472	0.75	0	1
Married	354,015	0.56	0	1
Employed Full Time	355,257	0.41	0	1
College Graduate	355,472	0.35	0	1
Ideological Self-Placement	335,245	4.26	1	7
Redistricted	352,142	0.19	0	1
Relative Expenditures (Log)	352,142	0.18	-16.87	15.25
Relative Experience	348,549	-0.12	-3	3
Ideological Distance to Democrat	183,968	2.16	0	6

Online Appendix B: Analysis of Ideological Placement

As noted in the paper, the inclusion of the perceived ideological distance variable contributes to missing data, which is driven by some respondents not being able to ideologically place themselves and/or not being able to ideologically place the Democratic candidate,¹ and thus are omitted from our data. Here we analyze whether the missing data is contributing to bias in our results. We re-run the models with and without the ideological distance variable.

Model B1 omits the variable for ideological distance. Compared to Table 1, Model 4 in the main text, it is clear that perceived distance is an influential variable – independently explaining over 4% of the total variance in the likelihood of voting Democratic, even after other relevant factors are taken into account. For instance, when perceived distance increases one unit from its mean, the probability of voting Democratic drops 13%.

To evaluate the substantive impact of omitting or including perceived distance on our estimates of the size and significance of the penalty for female Democratic candidates, we generate predicted probabilities of voting Democratic by candidate and respondent sex and partisanship (holding all other variables in the model at their means). The MD/MR columns (1 and 5) show the predicted probability of voting for a male Democratic candidate when the opponent is a male Republican. The FD/MR columns (2 and 6) show the predicted probability of voting for a female Democratic candidate when the opponent is a male Republican. When we compare the MD/MR and FD/MR columns, we can evaluate whether there is a difference in the probability to vote for a male or female Democratic candidate when the opponent is a male Republican. Similarly, when we compare MD/FR (3 and 7) to FD/FR (4 and 8), we can evaluate whether there is a difference in the probability to vote for a female or male Democratic candidate when the opponent is a female Republican.

Figure 1A illustrates that when perceived distance is omitted, male and female Democratic voters are as likely to support a female Democratic candidate as a male (1 vs 2, 3 vs 4, 5 vs 6,

¹Our measure of ideological distance is constructed by taking subtracting the respondents self-placement (1 = liberal, 7 = conservative) from their placement of the Democratic candidate (1 = liberal, 7 = conservative), and taking the absolute value.

7 vs 8). Democratic voters do not appear to discriminate against female Democratic candidates. When perceived distance is included in Figure 1A of the main text, these substantive effects are unchanged.

Turning now to Figure 1B (omitting distance), male independents are significantly less supportive of female than male Democrats when the Republican is male (1 vs 2 = 4% difference). When the Republican is female, male independents are less supportive of the female Democrat compared to males (3 vs 4 = 4% difference), however this difference just misses the cut-point for statistical significance. Figure 1B shows that female independents are as likely to support female Democrats as male Democrats (5 vs 6, 7 vs 8). When perceived distance is included in Figure 1B of the main text, these substantive effects are slightly attenuated: Male independents are significantly less likely to support female Democrats (1 vs 2 = 3.7% difference); and when the Republican is female, the difference is insignificant (3 vs 4 = 3.7% difference). When distance is included, female independents are slightly less supportive of female Democrats than male (5 vs 6, 7 vs 8), however the difference is not statistically significant.

Figure 1C (omitting distance) shows that male Republicans are significantly less likely to support female Democrats when the Republican is male (1 vs 2 = 3.1% difference) and when the Republican is female (3 vs 4 = 3.2% difference). Female Republicans are also significantly less supportive of female Democrats when the Republican is male (5 vs 6 = 1.7% difference), but are not significantly less supportive when the Republican is female (7 vs 8). Figure 1C from the main text (including distance) demonstrates a similar pattern of male Republicans being significantly less likely to vote for female Democrats when the Republican is male (1 vs 2 = 4.2% difference) and when the Republican is female (3 vs 4 = 4.4%). Female Republicans are also less supportive of the female Democrat (5 vs 6, 7 vs 8), but these differences are insignificant.

As expected and across both of the specifications, MR+MI voters are significantly less supportive of female than male Democratic candidates. For male Republicans, the difference in support for a female versus a male Democratic candidate is slightly greater in the model that includes

Table 2: Vote for Democratic Candidate: Omitting Ideological Distance

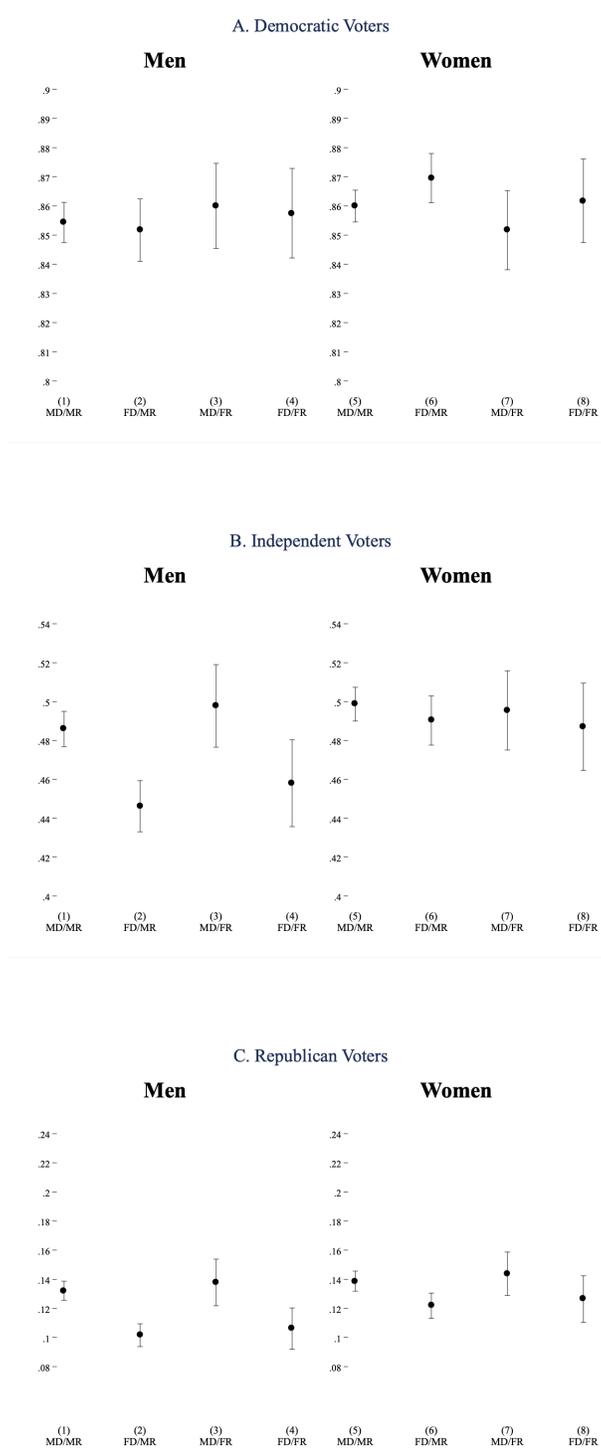
<i>DV: Congressional Vote Choice: Democrat (1) Republican (0)</i>	
	Model B1
Female Democratic Candidate	-0.16*** (0.04)
Female Republican Candidate	0.05 (0.06)
Female Respondent	0.05 (0.03)
Party Identification	-1.83*** (0.03)
Age	0.001 (0.001)
White	-0.55*** (0.04)
Married	-0.19*** (0.03)
Employed Full Time	-0.01 (0.03)
College Graduate	0.13*** (0.02)
Ideological Self-Placement	-0.61*** (0.01)
Redistricted	0.07 (0.08)
Relative Spending (Log)	0.03*** (0.004)
Relative Qualifications of Candidates	0.23*** (0.01)
Female Respondent x Female Democratic Candidate	0.13* (0.05)
Female Respondent x Female Republican Candidate	-0.06 (0.08)
Female Respondent x Party ID	0.01 (0.04)
Female Democratic Candidate x Party ID	-0.14* (0.06)
Female Republican Candidate x Party ID	0.001 (0.07)
Female Respondent x Female Democrat x Party ID	0.02 (0.07)
Female Respondent x Female Republican x Party ID	0.05 (0.08)
Constant	3.57*** (0.09)
CCES Year Fixed Effects	Yes
N	196, 259
Pseudo R-squared	60.4%

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed). The dependent variable, *Congressional Vote Choice*, captures whether the respondent voted for the Democratic candidate (1) or the Republican Candidate (0). Estimates are based on logit models. Robust standard errors clustered and weighted by district are shown in parentheses.

ideological distance. However, the pattern is reversed for independents: the difference in support is slightly greater in the model that excludes ideological distance. The inclusion of the ideological distance measure works in both positive and negative directions. Across the two specifications, the differences in the predicted probability of support are very slight and work at cross-purposes – that is, do not consistently inflate or deflate the penalty.

Given these cross-pressures, our decision to include or exclude ideological distance must be made on the basis of theory. Perceived ideological distance is crucial to understanding vote-choice, because spatial analysis would have us believe that perceived distance should explain all of the vote decision. Moreover, including the perceived distance variable makes more rigorous the test of our hypothesis that candidate sex matters. That is, respondents who wish to conceal their bias are likely to rationalize greater distance between themselves and a female Democratic candidate; thus, including this variable in our model should “wash away” any direct effect of candidate and respondent sex. The fact that candidate and respondent sex influences vote-choice – even after accounting for perceived ideological distance – strongly suggests that candidate sex conveys information beyond ideology.

Figure 1: Probability of Voting Democratic, by Candidate and Respondent Gender and Partisanship (Omitting Ideological Distance)



Note: Figure 1 plots the predicted probabilities calculated from Model B1 (Table 2), varying respondent gender and candidate gender and partisanship while holding all other variables in the model constant. MD/MR male Democratic candidate versus male Republican candidate, FD/MR female Democratic candidate versus male Republican candidate, MD/FR male Democratic candidate versus female Republican candidate, FD/FR female Democratic candidate versus female Republican candidate. The dashed black lines depict 83% confidence intervals, which roughly correspond visually to a differences-in-means test at the 95% confidence level (Bolsen and Thornton, 2014; Payton, Greenstone and Schenker, 2003).

Online Appendix C: Racial Attitudes

Could attitudes about race be driving these findings? Here, we consider whether racism underlies the aversion to female Democratic candidates. To the extent that female Democratic candidates are more racially diverse than female Republican candidates, the penalty we observe might be racism, not sexism. As a preliminary answer to this question, we examine whether white respondents are particularly hostile to female Democratic candidates – if they are, then this would suggest that attitudes about race belie our findings. In Table 3, we replicate Table 1, Model 4 among white respondents only, and generate the predicted probability of voting Democratic for white respondents only (Figures 2A, 2B and 2C).

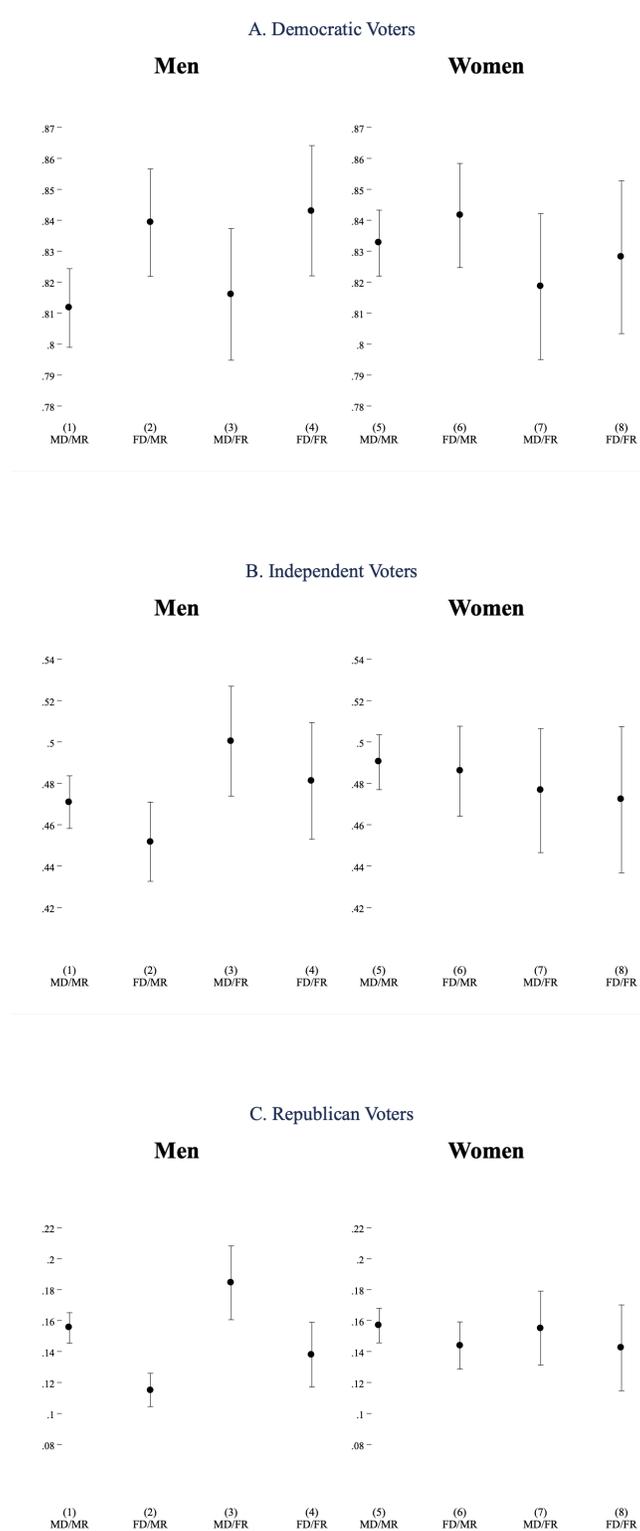
Figure 2A shows that white male Democratic voters actually exhibit a significant preference for female Democratic candidates over male Democratic candidates (1 vs 2 difference = 2.7%). White male Democratic voters apparently find female Democratic candidates more attractive than their male counterparts. Interestingly, the penalty assessed on female Democratic candidates by male independents disappears when we examine whites only (Figure 2B). This means that male independent non-whites are particularly averse to female Democratic candidates. Meanwhile, Figure 2C shows that similar to the results we report in the paper – white male Republican voters are significantly less supportive of female than male Democrats (1 vs 2 difference = 4%, 3 vs 4 difference = 4.6%). Because the penalty against female Democratic candidates is not more burdensome among whites, these results run contrary to the expectation that white voters are particularly punitive towards racially diverse female Democratic candidates. Our preliminary analysis reported above suggests that it is not racism that is driving our results. If it were, then we would expect to see a more onerous penalty against female Democratic candidates by white voters – and yet, we do not.

Table 3: Vote for Democratic Candidate: White Respondents

<i>DV: Congressional Vote Choice: Democrat (1) Republican (0)</i>	
	Model C1
Female Democratic Candidate	-0.08 (0.07)
Female Republican Candidate	0.12 (0.08)
Female Respondent	0.08 (0.05)
Party Identification	-1.58*** (0.04)
Age	0.005** (0.002)
Married	-0.23*** (0.04)
Employed Full Time	-0.06 (0.04)
College Graduate	0.22*** (0.03)
Ideological Self-Placement	-0.52*** (0.02)
Redistricted	-0.03 (0.11)
Relative Spending (Log)	0.03*** (0.01)
Relative Qualifications of Candidates	0.21*** (0.02)
Perceived Ideological Distance	-0.55*** (0.01)
Female Respondent x Female Democratic Candidate	0.06 (0.09)
Female Respondent x Female Republican Candidate	-0.17 (0.11)
Female Respondent x Party ID	-0.07 (0.06)
Female Democratic Candidate x Party ID	-0.27* (0.07)
Female Republican Candidate x Party ID	0.09 (0.08)
Female Respondent x Female Democrat x Party ID	0.19* (0.10)
Female Respondent x Female Republican x Party ID	-0.05 (0.12)
Constant	3.87*** (0.13)
CCES Year Fixed Effects	Yes
N	98, 386
Pseudo R-squared	65.6%

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed). The dependent variable, *Congressional Vote Choice*, captures whether the respondent voted for the Democratic candidate (1) or the Republican Candidate (0). Estimates are based on logit models. Robust standard errors clustered and weighted by district are shown in parentheses.

Figure 2: Probability of Voting Democratic, by Candidate and Respondent Gender and Partisanship (White Respondents)



Note: Figure 2 plots the predicted probabilities calculated from Model C1 (Table 4), varying respondent gender and candidate gender and partisanship while holding all other variables in the model constant. MD/MR male Democratic candidate versus male Republican candidate, FD/MR female Democratic candidate versus male Republican candidate, MD/FR male Democratic candidate versus female Republican candidate, FD/FR female Democratic candidate versus female Republican candidate. The dashed black lines depict 83% confidence intervals, which roughly correspond visually to a differences-in-means test at the 95% confidence level (Bolsen and Thornton, 2014; Payton, Greenstone and Schenker, 2003).

Online Appendix D: Aggregate-Level Variables and Summary Statistics

In what follows, we provide more detail on our data and variables for the “Aggregate-Level Analysis: Election Outcomes” section of our paper.

The variables included in the aggregate-level models are:

- *Democrat Won/Lost* is a dichotomous variable that equals 1 if the Democratic candidate won and 0 if the Democratic candidate lost.
- *Female Democratic Candidate* is a dichotomous variable that equals 1 if the candidate is a female Democrat and 0 if the candidate is a male Democrat.
- *Female Republican Candidate* is a dichotomous variable that equals 1 if the candidate is a female Republican and 0 if the candidate is a male Republican.
- *Proportion of Male Republicans and Male Independents* is the percent of Male Republicans and Male Independents in a district.
- *Democratic Presidential Vote in District* is the percent of the population that voted for the Democratic presidential nominee in the previous election.
- *Land Area* is the land area of the district in square miles.
- *Median Household Income* is the median household income.
- *Percent Female* is the percent of women in a district.
- *Percent School Age* is the percent of the population that is school age (under 17 years of age) in a district.
- *Percent Minority* is the percent of the population that is minority in a district.
- *Percent with Bachelor's Degree* is the percent of the population with a bachelor's degree or more in a district.

- *Percent Unemployed* is the percent unemployed civilian population in labor force 16 years and over in a district.
- *Percent Blue Collar* is the percent of the population that works in construction, manufacturing, transportation and warehousing, or utilities in a district.
- *Redistricted* is a dichotomous variable that equals 1 if the district lines have been redrawn since the last election and 0 otherwise.
- *Relative Expenditures (Log)* is measured in dollars and is the difference of log of spending between the Democratic and Republican candidates; larger values indicate that the Democratic candidate spent more.
- *Relative Experience* is measured on a -3 to 3 scale, with -3 meaning that the Republican incumbent ran unopposed, -2 that the Republican incumbent ran against an inexperienced challenger, -1 that the Republican incumbent ran against an experienced challenger, 0 that it was an open seat, 1 that the Democratic incumbent ran against an experienced challenger, 2 that the Democratic incumbent ran against an inexperienced challenger, and 3 that the Democratic incumbent ran unopposed.
- *Ideological Distance to Democrat* is measured on a 0 to 6 scale, with 0 meaning that the candidate is zero points away from the respondent's ideal point, 1 meaning that the candidate is one point away from the respondent's ideal point, and so on.

The summary statistics for the variables included in the aggregate-level models are:

Table 4: Aggregate-Level Models Summary Statistics

	Observations	Mean	Minimum	Maximum
Democrat Won/Lost	2,981	0.49	0	1
Female Democratic Candidate	2,979	0.26	0	1
Female Republican Candidate	2,979	0.11	0	1
Proportion of Male Independents	2,981	0.27	0.00	0.55
Democratic Presidential Vote in District	2,981	51.94	17.46	96.99
Land Area	2,933	8,532	10	665,384
Median Household Income	2,981	56.43	23.27	134.08
Percent Female	2,981	0.51	0.46	0.55
Percent School Age	2,981	0.24	0.11	0.34
Percent Minority	2,977	0.29	0.02	1.03
Percent with Bachelor's Degree	2,981	0.27	0.06	0.72
Percent Unemployed	2,981	0.07	0.02	0.23
Percent Blue Collar	2,981	0.23	0.07	0.42
Redistricted	2,981	0.17	0	1
Relative Expenditures (logged)	2,981	0.54	-16.87	15.25
Relative Experience	2,953	-0.02	-3.00	3.00
Ideological Distance to Democrat	2,874	1.96	0.04	4.39