

## Chapter 3

# Does Candidate Gender Affect Vote Choice? Evidence from U.S. Senate Elections, 1990-2012

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## Abstract

*Do female candidates face bias from voters when they run for office? Most previous studies that have looked at this question have concluded that they do not. In this paper, I argue, in line with previous findings, that voters use a candidate's gender, in concert with the candidate's party, as a heuristic for inferring the ideological leanings of that candidate, which should in turn effect individual vote choice but in different ways for Democratic women candidates as opposed to Republican women who run for office. To explain, since previous research has demonstrated that voters perceive Republican women candidates as being more moderate than their male counterparts and thus closer to the ideological center, but view Democratic women candidates as being more liberal than their male counterparts and thus farther away from the ideological center, we should find that women candidates from the former political party enjoy a slight electoral advantage among voters while women candidates from the latter party should be at a slight electoral disadvantage. Drawing upon exit polling data taken across 315 U.S. Senate elections—56 of which feature a female Democratic candidate running against a male Republican candidate and another 30 in which a GOP woman candidate faces a male Democrat—held across the 50 states between 1990 and 2012 and which totals more than 420,000 individual voters, I find that this expectation largely holds. Specifically, when a Democratic senate candidate is a woman instead of a man, one's probability of voting for that party's candidate decreases by about one percentage point, while the presence of a woman Republican candidate predicts an approximately one-and-a-half point increase in an individual's probability of voting for the GOP senate contender. When I subset voters by gender and party, I find that when we account for the additional factor that women voters are more likely to support women candidates to begin with, that my results hold, as Republican women candidates in particular receive significant cross-over support from Democratic women voters as well as support from independent women voters. My results have important implications for understanding how the relationship between candidate gender and vote choice varies based upon a voter's own gender and partisan affiliation (or lack thereof) as well as whether parties gain or lose by running female candidates.*

## Introduction

When women run for office, are they perceived differently than their male counterparts? Previous literature looking at this question has found that, in some ways, they are.

A key finding of previous scholarship, and one that forms part of the basis for an important aspect of the theory about the relationship between candidate gender and vote choice that I put forth in this paper, is that female candidates in *both* parties are viewed by voters to be more liberal than their male counterparts (Koch 2000, 2002; McDermott 1998; Paolino 1995; Sanbonmatsu and Dolan 2009). Specifically, where male Democratic candidates are viewed, on average, to be moderately to the left of center on the ideological spectrum, female Democratic candidates are seen as staking a farther-left position on this continuum. At the same time, while male Republican candidates are seen, on average, as holding policy preferences that are substantially to the right of the ideological center, their female counterparts are generally thought to have political views that, while still right-of-center, are less extreme than those of male candidates within the same party. Interestingly, such findings hold even when one controls for a candidate's *actual* ideological leanings (Koch 2000, 2002).

Based on what we know about spatial voting (see, for instance, Downs 1957; Enelow and Hinich 1984), then, the implications for women candidates differ by party. Namely, Democratic women candidates should be seen as adopting a position *farther away from* the median voter relative to a male candidate from the same party; conversely, Republican women candidates should be seen as adopting a position *closer to* the median voter relative to a male candidate running under the Republican label.

In this paper, I assess whether support for female candidates is conditioned by the female candidate's partisanship as well as by the gender and partisanship of voters. Past studies that have attempted to address this question have done so using a limited amount of data and have looked *only* at mixed-sex elections (e.g., Dolan 2004, 2008a; Smith and Fox 2001), which pose the problems of hampering the ability to make statistical inferences about

subsets of voters and induced selection bias, respectively. Using exit polling data taken across 315 U.S. Senate contests, whether they are mixed-sex or male-only, and totaling more than 420,000 voters, I find that gender-based voting occurs but is conditioned upon the party of the female candidate as well the party and gender of the voter evaluating her.

**Different Female Candidates, Different Voters, Different Reactions. A Theory of how a Woman Candidate's Party, a Voter's Partisan Affiliation, and a Voter's Own Gender Condition the Relationship Between Candidate Gender and Vote Choice**

My theory focuses on three pieces of information that voters take account when weighing their candidate choices: 1) Whether a candidate shares his or her partisan identification; 2) Where (approximately) a candidate is located ideologically, which I argue voters estimate, in part, by using the combination of a candidate's party and gender; and, 3) a candidate's gender alone (rather than in concert with his or her party) and what, if any value the voter assigns to this particular candidate attribute. I will discuss each of these factors in turn and exactly how they should figure in to my theory of voter decision-making.

**PARTY IDENTIFICATION**

With the respect to partisan identification, past research consistently finds this voter attribute to be by far the most reliable predictor of individual vote choice (e.g., Campbell et. al. 1960; Lewis-Beck et. al. 2008). To be sure, individuals do on occasion engage in crossover voting. But the supposition that most voters hold a baseline preference to vote for one party over another is uncontroversial and forms the starting point of my theory.

**GENDER AS A HEURISTIC FOR CANDIDATE IDEOLOGY AND ITS IMPLICATIONS**

Within the study of American politics, one of the most well-documented findings is that the vast majority of Americans tend to know very little about politics (Delli-Carpini and Keeter

1996). Through the use of various cognitive heuristics, however, citizens can often “vote correctly,” or, put differently, reach the same decision that they would have made if they *were* “fully informed” about all of the various details surrounding particular candidates and their issue positions.

There is ample evidence that one particular heuristic that voters draw upon for inferring a candidate’s ideological leanings is the candidate’s gender, with women candidates in both parties being perceived, on average, as more liberal than their male counterparts in the same party (see King and Matland 2003; Koch 2000, 2002; McDermott 1998; Paolino 1995; Sanbonmatsu and Dolan 2009).

I theorize that, among other heuristics, voters will draw upon a candidate’s gender to estimate a candidate’s ideology. To be clear, I am not arguing that this heuristic alone forms the basis for voters’ perceptions of candidates’ ideologies. Rather, I am simply arguing that *all else equal*, voters will believe female candidates in each party to be more liberal than their male counterparts.

More importantly, such heuristic use by voters carries differing implications for Democratic woman candidates as opposed to Republican woman candidates. Assuming that Republican candidates are always to the right of Democratic candidates, then Republican women who run for office should hold an electoral advantage relative to a male Republican candidate, as she will be perceived as closer to the median voter than would a male Republican. If a Democratic woman runs, however, being perceived as more liberal than a male Democrat is going to cost her votes because voters perceive her to be *farther away* from the center than they would a male a candidate from the same party.

#### CANDIDATE GENDER ALONE: WHICH VOTERS CARE ABOUT IT? AND WHEN SHOULD IT CONFLICT WITH CANDIDATE IDEOLOGY?

Thus far, I have identified two considerations that voters will make in formulating their choices: First, the voter will take into account shared partisanship, holding a strong “base-

line” preference for the candidate with whom they share a party label; second, the voter will use the gender of each candidate, in combination with the respective parties to which each candidate belongs, as an information shortcut by which to make a rough estimate of each candidate’s ideological leanings.

Beyond these two considerations, I theorize that for *some* voters but not others, the candidate’s gender *alone*, absent any consideration of the party to which she belongs, will factor into a voter’s decision about which candidate to support, which is also a finding of previous research (Dolan 1998, 2008a, 2008b; Paolino 1995; Plutzer and Zipp 1996; Sanbonmatsu 2002). To explain, I do not expect male voters to have a preference for electing a candidate of one gender over another but that female voters, on the other hand, should possess a baseline inclination to cast their votes for the female candidate in contests in which a female candidate from one major party is pitted against a male candidate from the other major party. Because men comprise the vast majority of elected officeholders in the United States well beyond their relative share of the population as a whole, I do not expect male voters should themselves assign any intrinsic value to electing a candidate who is also male. At the same time, because women are vastly *underrepresented* among the ranks of elected officials at all levels of government, women may have a greater desire for “descriptive representation,” whereby they want to see elected officials advocate for women’s interests, which can be a variety of issues, and that having more women in office will more effectively advance this goal than would electing a male.

How this “gender affinity” hypothesis should square with voters’ consideration of a candidate’s ideology which, as I have discussed, is itself related to a candidate’s gender, is dependent upon the party with which a woman candidate affiliates. Specifically, the gender affinity effect that I posit we should observe will *augment* the electoral benefit that a female Republican candidate should receive for being perceived as closer to the ideological center than her GOP male counterparts; on the other hand, the gender affinity effect for Democratic female candidates, because it works in the opposite direction of the effect that

perceived ideology should have for women who run for office under this party label, will work to *offset* or, depending upon the respective magnitudes of the effects that candidate ideology and shared candidate gender exert on women's vote choices, perhaps even *cancel* any *penalty* that women Democratic candidates might incur for being perceived as holding farther-left views.

Having fully laid out my theory about how a candidate's gender directly (for some voters, at least) in its own right, as well as indirectly, through its influence on voters' ideological perceptions of each candidate, should affect vote choice, I now put forth particular hypotheses about what, if any, relationships we should observe between candidate gender and vote choice, conditional upon the party of the female candidate. I generate these hypotheses first for the electorate as a whole and, second, for particular subsets of the electorate by looking at a voter's gender partisan affiliation taken together.

### **Hypotheses**

From the theory that I have put forth about the role that candidate gender should play in a voter's decision calculus flow particular predictions about how candidate gender should ultimately affect the vote choices of the electorate as a whole as well as particular subsets of the electorate.

As I have made clear, I expect that a candidate's gender should have both a direct (through "gender affinity") and indirect (through perceived candidate ideology) effect on vote choice, as should a voter's own gender and party identification, as well as a candidate's party identification.

Table 3.2 presents for each subset of voters how I expect having a Democratic woman facing a Republican man and a Republican woman facing a Democratic man, respectively, should affect an individual's propensity to vote for the Republican candidate in the particular election (relative to the baseline condition of two male candidates). In some conditions for some subsets, I expect a positive relationship, in others no relationship, and in still others,

a negative relationship.

## The Dataset

In order to investigate the relationship between candidate gender and vote choice, I draw upon exit polling data from the National Election Pool (NEP) across 315 different U.S. Senate elections that were held between 1990 and 2012. While previous work that has sought to examine whether a candidate's gender has any bearing on the choices that individual voters make has relied upon data such as the American National Election Study (ANES) Senate Study for the 1988, 1990, and 1992 cycles that contain a relatively small number of observations per state (in some cases even fewer than 30), the NEP data that I employ for this study relies on no fewer than 400 observations—and in the vast majority of contests, well over 800—within a given Senate election in a given state.

In total, the exit poll data contains a total of more than 420,000 unique respondents. Such a wealth of individual-level data is especially useful given that much of my analysis focuses on subsets of the larger voting population and, moreover, in some instances is further subsetting by the particular candidate gender breakdown of the contest in which respondents are voting. Were this study to employ survey data from one of the two sources typically used within studies of American voting behavior—namely, the ANES or the Congressional Cooperative Election Study (CCES)—this would quickly shrink the number of observations within categories and, in turn, make it difficult to draw robust statistical inferences about these groups.

Additionally, because the NEP data covers such a large number of Senate contests, a substantial 86 of the 315 Senate races contained within the exit polling are ones in which a female candidate squared off against a male candidate. This ensures that the results at which I ultimately arrive are less prone to idiosyncratic factors particular to just a small number of elections<sup>1</sup>.

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<sup>1</sup>To further avoid such a possibility, I exclude data from individuals voting in a Senate race in which both major-party candidates are women, given that there are only a total of seven such contests contained

## Empirical Strategy

I assess my various hypotheses (see Table 3.2) using a linear regression model for which the dependent variable is a binary measure of an individual's U.S. Senate vote choice that takes a value of 1 when the voter chooses the Republican candidate and 0 when the voter opts for the Democrat<sup>2</sup>.

The major right-hand-side variables of interest are categorical dummy variables. Specifically, the regression model contains a dummy variable that takes a value of 1 when a senate contest features a Democratic woman running against a Republican man and 0 otherwise and another dummy variable that takes a value of 1 when a senate contest features a Republican woman running against a Democratic man and 0 otherwise. Given that I exclude the seven senate races within our data in which both major party candidates are women, the omitted baseline category is necessarily senate contests in which both candidates are male. While choice of one's omitted category obviously does not alter the estimated effects on any of the control variables that are included, it makes sense from a presentational standpoint to omit this category in that first, senate races in which two male candidates face off against one another is by far the most common category in our dataset, comprising 229 of the 315 election contests contained within the data and second, it allows us to interpret the dummy variables of interest in terms of the respective changes in an individual's probability of voting Republican when we move from the modal category of a two-male election to a mixed-sex contest in which the woman is a Democrat and to a mixed-sex contest in which the woman is a Republican, respectively.

Importantly, specifying my statistical model in the way that I do allows me to avoid the selection bias plaguing previous studies of the relationship between candidate gender and vote choice. To explain, previous work specifies statistical models in which the dependent

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in the NEP dataset

<sup>2</sup>Given that my interest is in the relationship between the gender of each *major party* candidate, as well as for ease in interpreting the various coefficients within each model, individuals casting votes for independent or minor-party candidates are excluded from my analysis, as are election contests in which one or more of these types of candidates received greater than 15% of the vote.

variable is whether a voter chooses the female (as opposed to male) candidate within a particular election and thus confines analysis to individuals voting in a mixed-sex contest, omitting the vast majority of voters who face a choice between two male candidates. By departing from this typically-used research design, my study is able to look at the effect that *moving* from this modal category of election to one in which either a Democratic woman faces a Republican male, or to one in which a Republican woman runs against a Democratic male, has on an individual's vote choice.

#### CONTROL VARIABLES

I include a dummy variable that indicates whether a voter identifies herself as a Republican and another dummy for whether a voter identifies as Democratic, with those identifying as independent being the omitted category. I also include a dummy variable for elections in which the Republican candidate is an incumbent U.S. Senator as well as another dummy for elections in which the Democratic candidate is an incumbent U.S. Senator, with open-seat races serving as the omitted baseline category.

Congressional elections research has also shown that candidate quality is an important candidate attribute that influences individual vote choice as well as aggregate-level vote shares that candidates receive (see Abramowitz 1988; Jacobson and Carson 2015; Squire 1989, 1992). Following Donnelly (2015), I code incumbent candidates as quality candidates, and do the same for non-incumbent Senate candidates who are sitting or former members of the U.S. House of Representatives, sitting or former statewide-elected officials (this can include offices such as governor, lieutenant governor, secretary of state, attorney general, etc.) or, finally, have served as a department secretary in a presidential cabinet.

Next, because it is well established that white voters across all types of partisan elections, including those for Congress, are more likely to vote for Republican candidates than are their non-white counterparts (see Jacobson and Carson 2015), I include a dummy variable that takes a value of 1 when a voter identifies herself as white and a value of 0 if

she identifies herself as belonging to a non-white ethnic group.

Finally, given that there are consistently factors specific to each election year, such as whether there are presidential coattails, how popular the president is, whether one party enjoys a valence advantage over another, the state of the economy, etc., I include a set of dummy variables for each election year included in my dataset, with 1990 being the omitted category.

Given that my model employs fixed effects, I use a Linear Probability Model (LPM) rather than a Generalized Linear Model (GLM) such as a logit or a probit regression, as GLMs with fixed effects carry the risk of producing biased estimates (see Greene 2011). In addition, using an LPM makes interpreting the coefficients for our independent variables—all of which are binary—much more straightforward in that each coefficient simply provides the change in an individual’s probability of voting Republican that is associated with moving a particular variable from 0 to 1<sup>3</sup>.

## Results

Thus far, this paper has put forth a theory of how voters use a candidate’s gender to aid their decision about which party’s candidate to support within a particular election, generated hypotheses from this theory, described the data that is employed to test these hypotheses, and has explained the structure of the statistical models that are used to carry out these tests. As such, it is now in order to present the results from my various analyses.

DOES CANDIDATE GENDER MATTER FOR VOTE CHOICE AMONG THE ELECTORATE AS A WHOLE?

Table 3.2 displays the various regression models that comprise the main analysis of this paper. I begin this section by presenting results from my assessment of how the party/gender breakdown of Senate candidates should influence individual vote choice by looking at my

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<sup>3</sup>Results from a logistic regression model produce substantively similar findings.

analysis of the electorate as a whole. Model estimates for the overall electorate are shown in the first column of Table 3.2. Moving from a contest in which two male candidates face off against one another to one in which a Democratic woman faces off against a Republican male is associated with a 0.8 percent increase in an individual's probability of voting for the Republican candidate, an effect that while substantively small is nonetheless statistically significant at the 1% level. In addition, moving from the baseline election category to one in which a Republican woman faces a Democratic male predicts a 1.6 percentage point increase in an individual's probability of voting Republican, with this effect size being twice that of the probability shift associated with a Democratic woman candidate.

#### RESULTS BY GENDER OF VOTER

Having looked at how the electorate as a whole responds to Democratic and Republican women candidates, respectively, we now move on to examine differences between male and female voters.

##### *Male Voters*

The estimated effects that the presence of female candidates have on the individual-level voting behavior of men within the electorate are shown in the second column of Table 3.2. Moving from the baseline category of two male candidates to a mixed-sex election between a Democratic woman and a Republican man predicts a 1.8 point increase in the probability that a male voter chooses the Republican candidate.

For women Republican candidates, however, the results are not significant at conventional levels; male voters are neither more nor less likely to vote Republican when that party's candidate is a woman, suggesting that it may be the case that male voters do in fact have some preference for male candidates over female candidates. It might also be the case that men within some party groups are behaving in line with our overall expectation of a positive relationship between a Republican woman running and Republican vote choice but

that others are not. Moving to our analysis of voters by both gender *and* party will allow us to explore this in more detail.

### *Female Voters*

Coefficient estimates from our analysis of female voters are shown in the third column of Table 3.2. Looking at how female voters react to Democratic candidates of the same gender as their own, we see that there is no statistical relationship between the presence of such a candidate and how women ultimately vote.

With respect to female *Republican* candidates, however, we do find an association for women voters between a candidate's gender and an individual's probability of voting Republican. Specifically, the relationship is a positive one. Moreover, with the same coefficient being insignificant when we confined our analysis to male voters, this suggests that the positive relationship we observe for the electorate as a whole is being driven almost entirely by female voters. Whether this relationship holds for female voters across all parties, however, remains an open question and is one that we can answer in the next section, in which we further disaggregate voters by gender as well as party affiliation.

## RESULTS BY GENDER *and* PARTY OF VOTER

Given that we have now examined the behavior of voters as a whole as well as the behavior of all male voters taken together as well as all female voters taken together, we now further disaggregate our results by the gender as well as party of each voter.

### *Democratic Male Voters*

The first column of Table 3.3 provides model estimates for male Democratic voters.

While I expected Democratic men to show some aversion towards voting for a female Democratic candidate due to the fact that at least some should perceive such a candidate to be too far away from the center and thus would cross over to support the male Republican

candidate, we instead find that there is no significant relationship between having a Democratic woman on the ballot and how Democratic men ultimately vote. Perhaps, at the end of the day, this group will remain loyal to co-partisan candidates even when they believe these candidates to be somewhat farther to the left than they might prefer.

In terms of how Democratic men react to *Republican* female candidates, however, our expectations are met in that these voters are significantly more likely to cross party lines by voting Republican when that party's candidate is a woman. Substantively, however, the effect is relatively small, as the probability increase of casting a cross-over vote is only 1.4 percentage points.

#### *Democratic Female Voters*

Looking at the second column of Table 3.3, we find that both of our hypotheses about how female Democratic women should respond to female candidates in each major party are indeed supported. When a Democratic woman emerges as that party's contender in a mixed-sex election, female Democratic voters become 1.4 points less likely to cast a Republican vote.

Interestingly, the size of this effect is smaller than the probability increase for this subset of the electorate that is associated with the presence of a Republican woman candidate contesting a mixed-sex election. Specifically, moving from the baseline condition in which both candidates are men to having a GOP woman face a Democratic male candidate predicts a 4 percentage point increase in the probability that such a voter will choose the GOP candidate. By comparison, the effect of a Democratic incumbent of either gender contesting the election is about one-half of a point smaller, predicting a 3.5 point downtick in the probability of voting Republican. Thus, the presence of a GOP woman rivals at least one of the control variables that is well-known to affect vote choice.

### *Republican Male Voters*

Looking at how Republican male voters behave, we see that only one of our two hypotheses about this subgroup are supported

On the one hand, these voters are nearly 3 points less likely to vote Democratic (or, in other words, nearly 3 points *more* likely to vote Republican) when we move from the baseline gender breakdown of two men running to a mixed-sex race featuring a Democratic woman, a result that is in line with our expectations.

On the other hand, however, while we had predicted that male Republican voters would be less likely to defect to voting for a Democratic Senate candidate when the candidate from their own party is a woman running against a Democrat male, we instead find the opposite; male Republican voters are in fact about 2 points *less* likely to stick with their own party when its candidate is a woman, a statistically significant result in the direction opposite that which we had hypothesized. Perhaps, then, for male voters from the party that has tended to hold more traditional views about issues relating to gender, there is indeed some bias against voting for women candidates.

### *Republican Female Voters*

When we look at *female* Republican voters, they do not behave markedly differently than their male counterparts.

Republican women do indeed penalize Democratic women candidates, suggesting that aversion to a candidate whom they perceive as farther left than a male candidate from the same party outweighs any desire that members of this subgroup might have to elect a woman to office.

And yet, looking at the relationship between a female Republican's vote choice and the presence of a GOP woman facing a Democratic male candidate, there is little evidence that female Republican voters have any sort of affinity towards female candidates *in their own party*, either, as we find that the relationship between the presence of a female GOP candidate

in a mixed-sex election contest actually *reduces* a female Republican voter's probability of sticking with her party's candidate, albeit the size of this negative effect is a substantively small 1 point probability decrease and its significance is marginal, holding only at the 10% level rather than at the more conventionally-accepted 5% level.

Nonetheless, it is interesting that Republican women end up being even marginally averse to voting for a female candidate from their own party when we see that female *Democratic* voters become significantly *more* likely to vote Republican when that party's candidate is a woman.

#### *Independent Male Voters*

We next look at our expectations about the relationship between candidate gender and vote choice that we should find for independent male voters and find that both of our hypotheses hold.

When a Democratic woman runs for Senate, unaffiliated males become almost three points less likely to opt for the Democratic Senate candidate, which is in line with our theoretical expectations. Conversely, when a Republican woman runs for Senate, these same voters become a little more than 1.5 points more likely to vote Republican, indicating that male independents are considerably less partial towards voting Democratic when that party runs a woman candidate for Senate but slightly *more* partial to voting Republican when that party's nominee is a woman.

Taken together, these findings offer tentative evidence that independent voters, who intuitively should prefer more centrist candidates, may indeed be using a candidate's gender as a heuristic for inferring the candidate's ideology and are then voting accordingly.

#### *Independent Female Voters*

The final subgroup we examine are independent female voters. For this group, we predicted that because our posited gender affinity affect and our posited effect of candidate ideology

are working in opposite directions with respect female Democratic candidates, we should observe an overall insignificant relationship between the presence of a Democratic woman candidate and the vote choices of independent women. And indeed, this is exactly what we find, as the coefficient on the relevant dummy variable in the model analyzes this voting bloc is statistically indistinguishable from zero.

At the same time, we also predicted that not only should independent women display a greater propensity to vote for the Republican Senate candidate when she is a woman squaring off against a Democratic male but that the size of this effect should be larger than it is for independent male voters, given that both gender affinity and perceived ideological moderation work in the Republican woman candidate's favor. This, too, is borne out by our empirical results, as independent woman are 5 points more likely to vote Republican when that party's candidate is a woman, which notably is the largest probability change associated with candidate gender among any of the groups we have examined in this study. This is perhaps not surprising in that we might expect voters who are not strongly wedded to one political party over another might, due to the absence of a strong party heuristic, use other shortcuts to decide how to vote, among which may include a candidate's gender.

### **Discussion & Conclusion**

In this paper, I developed a theory in which a candidate's gender matters for how voters perceive the candidate's ideology as well as about how a candidate's gender is important in and of itself to women voters looking to elect a fellow female. I argued that these considerations, in conjunction with a voter's own partisanship and gender, as well as a candidate's partisanship, should determine an individual's vote choice.

From this theory, I generated testable hypotheses about how moving from a "baseline category" election contest in which both of the candidates are men to each of the possible mixed-sex categories of elections—either one in which a Democratic woman runs against a Republican man or, alternatively, one in which a Republican woman runs against a

Democratic man—should influence the propensity of individuals amongst various subsets of the electorate to vote for one particular party over another.

To evaluate my hypotheses, I drew upon an unprecedentedly large amount of data that had not been used previously to test for a relationship between candidate gender and individual vote choice. Covering 315 U.S. Senate elections held over a 22-year period (1990-2012) across all 50 states, and containing a total of just over 420,000 voters, the exit polling data that I used to test my hypotheses ensured that even when I subsetted voters by party and gender, I would be left with a number of voters that was large enough to ensure robustness of my results and, moreover, guaranteed that my results were not driven by the idiosyncrasies of just a few particular election contests. Additionally, while previous assessments of the relationship between candidate gender and vote choice have used whether a voter chooses a woman candidate as its dependent variable, thus confining analysis to mixed-sex contests, this study used whether a chooses the Republican candidate as the dependent variable and placed categorical dummies for the candidate gender breakdown on the right-hand side, allowing me to include not just mixed-sex contests but also those in which both candidates are male.

In line with my expectations, I found that Republican women candidates, relative to their male counterparts, benefit by enjoying a greater degree of support from both male and female Democratic voters, as well as from male and female independent voters and that the effects were more pronounced for women voters within each of these partisan subsets. At the same time, I found that Republican voters of *both* genders are actually biased *against* voting for GOP women candidates relative to GOP male candidates, suggesting that all voters in the Republican Party may be biased towards women candidates, even if they are co-partisans and are closer to the middle of the spectrum than their male counterparts.

I also found, as I expected, that Democratic female candidates are penalized by male Republican and male independent voters but, against what I expected, did not find any evidence that male Democratic voters are more likely to penalize such candidates relative

to Democratic male candidates. How women react to female Democratic candidates is completely conditioned by party affiliation and were entirely in line with my expectations. Specifically, female Democratic voters are more likely to stick with the candidate from their own party when she is a woman; independent female voters, cross-pressured by a candidate they perceive as farther from the center from a Democratic male but also one who is of the same gender, show no change one way or the other in their propensity to vote Democratic; finally, Republican female voters, who are pulled away from a Democratic woman candidate due to their perceptions that she is more liberal than a male Democratic candidate and who do not, unlike female Democrats and female independents, assign any utility to electing a fellow female, show a negative propensity to vote Democratic when the candidate is a woman.

With limited exceptions, it appears that all else equal, being a Republican woman candidate helps secure additional votes relative to being a Republican male candidate, while the opposite is true for candidates of the Democratic Party. This is somewhat ironic in the sense that the Democratic Party is far more likely to recruit and nominate female candidates than is the Republican Party (see Crowder-Meyer and Lauderdale 2014; Thomsen 2015). A key implication of this research, then, is that Republican “gatekeepers” may be well-served to seek out more women to run for office under the party’s banner.

It also appears that Republican women voters differ from their Democratic and independent counterparts in whether they assign intrinsic value to electing a woman to office. Yet there has been little research to date on this apparent discrepancy uncovered by this paper. Future work, especially experimental work, would be well-served to further test the robustness of this finding and to explore the possible explanations underlying it.

In the mean time, this paper has provided clear evidence that there are important ways in which a candidate’s gender matters for vote choice as well as how this effect is conditioned by the party to which a female candidate belongs as well as by a voter’s own partisan affiliation and gender.

### Appendix 3.A

There are several Senate contests for which exit polling data is available but that are nonetheless omitted from my analysis for some reason or another.

Any contested Senate election in which a third-party candidate received greater than 15% of the vote is omitted from analysis. As such, Connecticut's 2006 Senate contest, Florida's 2010 contest, Maine's 2012 contest, and Maryland's 2012 contest are omitted from analysis.

In addition, to avoid high collinearity, as well as the problem of the same voter being included twice within my dataset, I exclude any special elections for Senate within a given state that were held concurrently with an election for a six-year term in that same state. Thus, Tennessee's 1994 election for a two-year term, Kansas's 1996 election for a two-year term, Mississippi's 2008 election for a four-year term, Wyoming's 2008 election for a four-year term, and New York's 2010 election for a two-year term are all excluded from analysis.

Finally, due to the fact that the NEP ended up with unrepresentative samples of voters in the 2002 election, no exit polling data was released for any of the Senate contests held that cycle and thus none are included in my data.

Inclusion of the Senate races for which data is available but that I omitted from this paper's analysis does not in any way change the level of statistical significance on any of the main independent variables of interest for any of the voting subgroups I examine.

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**Table 3.1: Hypotheses About Relationship Between Candidate Gender and Vote Choice by Party of Female Candidate and Subgroup of the Electorate**

Party/Gender Subset of Electorate	Dem. Woman vs. GOP Man		GOP Woman vs. Dem. Man	
	Hypothesized Sign	Model-Estimated Sign	Hypothesized Sign	Model-Estimated Sign
All Voters	+	+	+	+
Men Voters Only	+	+	+	n.s.
Female Voters Only	- OR	n.s.	+	+
Democratic Men	+	n.s.	+	+
Democratic Women	-	-	+	+
Republican Men	+	+	+	-
Republican Women	+ OR	+	+	-
Independent Men	+	+	+	+
Independent Women	n.s. OR	n.s.	+	+

This table shows for the all voters as well as for the various subsets of voters the expected sign on the main coefficients of interest, the first of which is an indicator variable that takes a value of 1 in the event that a voter is deciding between a female Democratic candidate and a male Republican candidate and 0 otherwise, and the second of which is an indicator variable that takes a value of 1 in the event that the voter is deciding between a female Republican candidate and a male Democratic candidate and 0 otherwise; the omitted baseline category are Senate contests in which both candidates are male (contests in which both candidates are female are omitted from analysis due to the fact that we I am unable to rule out that any results I do find are not being driven by factors idiosyncratic to the particular Senate races that meet this condition). Note that because the dependent variable in the models is a binary vote choice variable in which a vote for the Republican candidate is coded as 1 and a vote for the Democratic candidate is coded as 0 (those casting a vote for a third-party candidate are omitted from analysis), a positive expected sign (denoted with a “+”) means that moving from our baseline condition of two male candidates to the relevant category of interest should be or in fact is (depending upon the column in which the sign appears) associated with an increased probability that an individual votes for the Republican senate candidate, while a negative coefficient (denoted “-”) is associated with a decreased probability of voting for the GOP candidate when we move from the baseline condition to the relevant dummy category.

**Table 3.2: The Relationship Between Candidate Gender Breakdown and U.S. Senate Vote Choice (For All Voters and Voters Subsetted by Gender)**

	All Voters	Male Voters	Female Voters
DV: Vote for Republican Senate Candidate			
<b>Dem Woman vs. GOP Man</b>	<b>0.0084**</b> (0.0017)	<b>0.018**</b> (0.0026)	<b>0.00057</b> (0.0023)
<b>GOP Woman vs. Dem Man</b>	<b>0.016**</b> (0.0026)	<b>0.0048</b> (0.0039)	<b>0.027**</b> (0.0035)
Party I.D. (GOP)	0.34** (0.0020)	0.33** (0.0022)	0.36** (0.0029)
Party I.D. (Dem)	-0.33** (0.0020)	-0.35** (0.0022)	-0.31** (0.0026)
Only GOP Cand. is Quality	0.044** (0.0022)	0.040** (0.0032)	0.047** (0.0029)
Only Dem Cand. is Quality	-0.040** (0.0022)	-0.037** (0.0029)	-0.043** (0.0026)
GOP Incumbent Running	0.047** (0.0022)	0.043** (0.0033)	0.050** (0.0030)
Dem Incumbent Running	-0.049** (0.0020)	-0.051** (0.0030)	-0.047** (0.0026)
Voter is White	0.11** (0.0019)	0.11** (0.0031)	0.10** (0.0025)
Constant	0.40** (0.0039)	0.41** (0.0057)	0.38** (0.0053)
Weighted N	421,840	194,422	227,356
$R^2$	0.39	0.37	0.40

Coefficients presented are OLS coefficients

Standard errors in parentheses

Election-year fixed effects included but not reported

Coefficient and standard error estimates calculated using `pweight` option in Stata 14.2

<sup>a</sup>  $p < 0.10$  \*  $p < 0.05$  \*\*  $p < 0.01$

Table 3.3: The Relationship Between Candidate Gender Breakdown and U.S. Senate Vote Choice (For Voters Subsetted by Gender & Party I.D. Combination)

	Dem. Male Voters	Dem. Female Voters	GOP Male Voters	GOP Female Voters	Ind. Male Voters	Ind. Female Voters
DV: Vote for Republican Senate Candidate						
Dem Woman vs. GOP Man	<b>-0.0043</b> (0.0040)	<b>-0.014**</b> (0.0030)	<b>0.029**</b> (0.0034)	<b>0.015**</b> (0.0036)	<b>0.028**</b> (0.0060)	<b>-0.0019</b> (0.0062)
GOP Woman vs. Dem Man	<b>0.014**</b> (0.0055)	<b>0.040**</b> (0.0048)	<b>-0.020**</b> (0.0061)	<b>-0.011<sup>a</sup></b> (0.0060)	<b>0.051**</b> (0.0080)	<b>0.046*</b> (0.008)
Only GOP Cand. is Quality	0.049** (0.0055)	0.047** (0.0042)	0.025** (0.0040)	0.039** (0.0042)	0.050** (0.0075)	0.062** (0.077)
Only Dem Cand. is Quality	-0.017** (0.0039)	-0.021** (0.0030)	-0.050** (0.0044)	-0.039** (0.0046)	-0.044** (0.0064)	-0.054** (0.0066)
GOP Incumbent Running	0.057** (0.0054)	0.063** (0.0041)	0.017** (0.0041)	0.017** (0.0043)	0.058** (0.0076)	0.074** (0.0078)
Dem Incumbent Running	-0.032** (0.0043)	-0.035** (0.0033)	-0.064** (0.0042)	-0.059** (0.0044)	-0.061** (0.0068)	-0.053** (0.0069)
Voter is White	0.075** (0.0032)	0.086** (0.0024)	0.11** (0.0072)	0.11** (0.0053)	0.084** (0.0072)	0.15** (0.0076)
Constant	0.14** (0.0076)	0.13** (0.0063)	0.70** (0.0095)	0.70** (0.0098)	0.37** (0.012)	0.33** (0.012)
N	66,486	100,416	69,683	71,872	58,216	55,039
R <sup>2</sup>	0.06	0.07	0.05	0.05	0.05	0.05

Coefficients presented are OLS coefficients

Standard errors in parentheses

Election year fixed effects included but not reported

<sup>a</sup>  $p < 0.10$  \*  $p < 0.05$  \*\*  $p < 0.01$