

How Does Gender Stereotyping Affect Women Candidates?
New Evidence from Local Elections in California

Sarah F. Anzia
Michelle J. Schwartz Associate Professor
Goldman School of Public Policy
Department of Political Science
University of California, Berkeley
sanzia@berkeley.edu

Rachel Bernhard
Postdoctoral Prize Fellow in Politics
Nuffield College
University of Oxford
rachel.bernhard@nuffield.ox.ac.uk

Abstract: Research shows that voters often use gender stereotypes to evaluate candidates, but less work studies whether stereotyping affects women's likelihood of winning, and the work that does reaches divergent conclusions. We develop hypotheses about how the effects of gender stereotyping *vary* by context, which we test using data on local elections. Comparing the win rates of women and men candidates, we find that women have an advantage in city council races but a disadvantage in mayoral races. We also find that women's advantage in local legislative races is even larger in school board races and decreases with constituency conservatism. Consistent with our argument that this reflects stereotyping, these effects are largest in on-cycle elections, where the average voter has less information about local candidates. Thus, by studying real elections and testing for varying effects, we make progress toward understanding how voters affect the success of women running for public office.

The literature on women in American politics has devoted considerable attention to two questions: Do voters use gender stereotypes in evaluating candidates? And does gender stereotyping affect women's chances of being elected? The clear answer to the first is "yes": some voters infer that women candidates are more liberal than men, more compassionate and collaborative, and more competent on certain issues like education (e.g., Alexander and Andersen, 1993; Eagly and Karau, 2002; Huddy and Terkildsen, 1993a; Kahn, 1996). On the second question, however, the literature is inconclusive (e.g., Bauer, 2014; Fox and Oxley, 2003), as is related research assessing whether differences between men's and women's vote shares reveal gender discrimination (e.g., Burrell, 1994; Duerst-Lahti, 1998; Fulton, 2012). Thus, although concern about women's underrepresentation in elective office motivates much of the scholarship on women in politics, we still lack a clear understanding of how women are affected by voters' use of gender stereotypes (see Teele, Kalla, and Rosenbluth, 2018; Bauer, 2015).

We advance this debate by charting a new course both theoretically and empirically. First, we argue that there are theoretical reasons to expect the effect of gender stereotyping to *vary* across contexts (Bos, Schneider, and Utz, 2018; Ono and Burden, 2018; Schneider and Bos 2014). Instead of looking for a one-size-fits-all answer to the question of whether voter attitudes hurt (or help) women candidates, scholars should *study* that variation—and try to understand the conditions under which gender stereotypes are more harmful or more helpful to women's electoral chances. Drawing on the literature on gender stereotyping, we develop three hypotheses about how the effects of gender stereotyping on women's likelihood of winning should vary by context.

Second, we take a novel approach to a methodological problem built into the study of the electoral effects of gender stereotyping: that one can either measure the extent of stereotyping

directly through surveys and experiments, or one can study voters' decisions in real elections. Almost all existing research on the effects of gender stereotyping uses surveys and experiments, even though what subjects say they will do in elections may not reflect what they actually do. We instead analyze data on thousands of local elections in California to test whether the difference between women's and men's win rates varies in ways consistent with our hypotheses.

Local elections are an excellent test bed for studying the conditions that shape the electoral effects of gender stereotyping—yet relative to research on women in congressional elections, they have received little scholarly attention (Holman, 2017). Our dataset in particular features variation in whether the office sought is executive or legislative, the policy domains salient in the elections, and the relative conservatism of the electorate. It also includes candidates' ballot designations, which we use to create measures of candidate experience, and features only nonpartisan races—minimizing the risk that party cues will overwhelm gender cues.

Variation in local election timing also allows us to use a novel empirical strategy to assess whether any effects we observe are likely attributable to gender stereotyping. Our strategy relies on two key findings from the literature: First, individuals are more likely to rely on stereotypes when they have less information about the issues and candidates (e.g., Lupia, 1994; Matson and Fine, 2006; McDermott, 1997, 1998). Second, the average voter in on-cycle local elections—those held concurrently with state and national elections—has less information about local candidates and issues than the average voter in off-cycle local elections (Oliver and Ha, 2007). Thus, if any differences we find in men's and women's win rates are attributable to gender stereotyping, then those effects should be most pronounced in on-cycle (lower-information) elections.

Beyond these empirical design advantages, studying women's success in local elections is important in its own right (Holman, 2017; Trounstein, 2010). The United States has over 500,000 elected officials and almost 90,000 governments, almost all of which are local. Collectively, American local governments spend roughly a quarter of all of the country's public money, and they make policy on issues ranging from education to health to policing. While a small literature examines how institutions affect the gender composition of city hall (e.g., Crowder-Meyer, Gadarian, and Trounstein, 2015; Smith, Reingold, and Owens, 2012; Trounstein and Valdin, 2008), and how electing female officials influences local policy (Holman, 2014), we still know little about whether voters affect women's descriptive representation at the local level. Furthermore, many politicians start their careers in local politics, which means that local elections shape the pipeline of women available to run for higher office. For all of these reasons, there should be more research on women in local elections.

This paper is a step in that direction. We find that on average, women candidates have an advantage over men in city council elections, but that advantage is reduced—and becomes a disadvantage—for women running for mayor. We find that the women's advantage is significantly greater in school board races (where education is the issue at stake) than city council races (where issues like crime and economic development are most salient). We find evidence that the size of women's advantage in local legislative races decreases with the Republicanism of the constituency. These patterns are consistent with our hypotheses about the varying effects of gender stereotyping, and they are also most pronounced in local elections held concurrently with national races—when average voter knowledge of local candidates and issues is lower. Therefore, by studying real elections, and by developing expectations about how the

difference between women's and men's win rates will vary across contexts, we make progress toward understanding how voters affect the success of women running for public office.

Literature and Hypotheses

There is little scholarly dispute over the content of voters' gender stereotypes, which commonly fall into three categories.¹ First, voters often view women candidates as more compassionate and communitarian (Dolan, 2004; Eagly and Karau, 2002; Hayes, 2011) and more honest (Brooks, 2013; Fridkin and Kenney, 2009) than men —“trait” stereotypes. Second, voters assume women candidates are more competent than men on so-called women's issues such as education and healthcare (an “issue competency” stereotype), and weaker than men on issues like foreign affairs (Huddy and Terkildsen, 1993a; Kahn, 1996; Lawless, 2004; McDermott, 1998; Sanbonmatsu, 2002; Swers, 2007). Third, voters perceive women candidates as more liberal than men (Alexander and Andersen, 1993; Koch, 2000; McDermott, 1998; Sanbonmatsu, 2002; Sanbonmatsu and Dolan, 2008)—a “beliefs” stereotype.

While the literature is clear about the *content* of gender stereotypes, studies of the electoral *effects* of those stereotypes have produced an array of conclusions (Bos et al., 2018). Most work on the effects relies on surveys and experiments—exploring outcomes such as respondents' evaluations of candidates and vote choices in hypothetical races—thereby looking at voter attitudes and beliefs rather than real-world behaviors. For example, Dolan (2010) uses a survey to measure individuals' adherence to trait and issue competency stereotypes and finds that

¹ Throughout, we use the term “gender” when referring to existing theory and non-dichotomous concepts (e.g., “feminine traits”), and “sex” to refer to our coding and findings. Gender is now understood to be non-dichotomous; for review, see Bittner and Goodyear-Grant (2017).

both sets of stereotypes predict respondent vote choice in a hypothetical woman-versus-man election match-up (see also Sanbonmatsu, 2002). While such work suggests that gender stereotypes affect support for women, the countervailing effects found do not lead to clear predictions about whether, on net, the effects will harm or help women. In a series of survey experiments, Brooks (2013) finds that respondents do use descriptive gender stereotypes, but she also finds they do not give significantly different ratings to men and women candidates on favorability or likely effectiveness, leading her to conclude that stereotyping does *not* affect women's electoral prospects. Meanwhile, in another survey experiment, Bauer (2014) finds that when feminine stereotypes are activated, respondents rate women candidates as less qualified to be a senator or a future presidential candidate. Viewed together, it is not clear from this body of survey and experimental research whether voter gender stereotyping produces advantages or disadvantages for women candidates.

In related research, scholars concerned by women's underrepresentation have analyzed election returns to determine whether voters discriminate against women candidates. This, too, has led to mixed conclusions. Most of these studies find that the average vote share of women candidates is no different from that of men (e.g., Duerst-Lahti, 1998; Seltzer, Newman, and Leighton, 1997). This leads some scholars to conclude that voters are not discriminating against the women—such that “when women run, women win” (e.g., Burrell, 1994; Darcy, Welch, and Clark, 1994; Fox, 2006). Others challenge that conclusion, noting that these studies do not account for variation in candidate quality: if the average woman candidate is of higher quality than the average man candidate and receives the same vote share, that suggests the presence of discrimination, not its absence (Anzia and Berry, 2011; Pearson and McGhee, 2013). Fulton (2012) finds that once variation in candidate quality is accounted for, women do receive lower

vote shares than men (see also Milyo and Schosberg, 2000). And so just like survey and experimental work on the effects of gender stereotyping, research that analyzes election returns to test for voter discrimination has led to mixed conclusions.

The research on whether voters discriminate against women candidates is related to research on the electoral effects of gender stereotyping, but they also are distinct in important ways. The first difference is the methodological one we have just noted (surveys and experiments versus observational election data). But these literatures are also distinct in the phenomena they seek to explain and the hypotheses they test. In assessing whether voters discriminate against women, the hypothesis being tested is that women receive *fewer* votes than comparable men—a net negative effect. Moreover, the mechanism by which any such women’s penalty occurs is usually ambiguous (see Broockman and Soltas, 2018): it could be negative effects of gender stereotyping, but it could also be other forms of bias such as double standards, taste-based discrimination, or outright misogyny (see Teele et al., 2018). In contrast, research on stereotyping posits a specific mechanism. And unlike research on discrimination, it is entirely plausible that the effects of gender stereotyping could be positive, negative, or neutral.

Because these distinctions are often blurred in the literature, and because the research on the effects of gender stereotyping has produced divergent conclusions, it is worth stepping back to clarify what our theoretical expectations should be. Most group stereotypes contain a mix of positive and negative content (Fiske et al., 2002), and in any given race, gender stereotypes may make some voters less inclined to vote for women and other voters more inclined to vote for women. To evaluate how stereotypes affect a woman’s electoral chances, we need to know the *net* effect—the effect once we have aggregated across voters in that race (see Sanbonmatsu, 2002). If gender stereotypes lead some voters to penalize a woman and roughly the same number

to support her, then overall the use of gender stereotypes has no effect on her electoral success. But net negative or even positive effects are also possible. For example, if gender stereotypes lead proportionately more voters to support a woman candidate than to penalize her, then the net effect of gender stereotypes would be positive.

Indeed, there are strong theoretical reasons to expect the direction and magnitude of the electoral effects of gender stereotyping to *vary* depending on the context of the election (Bos et al., 2018). While there has been some empirical research exploring how gender stereotyping effects vary by context, it has not been a central theme of the women in politics literature, and the findings—once again—are mixed. In a lab experiment, Huddy and Terkildsen (1993b) find that gender stereotypes hurt women running for national office but do not differentially affect women running for executive versus legislative office. Ono and Burden (2018), however, use a conjoint survey experiment and find that voters are only biased against women in presidential races—not congressional races. Analyzing local races in California, Crowder-Meyer et al. (2015) find that women make up a smaller proportion of the candidates and a smaller proportion of the winners in mayoral races than city council or city clerk races—perhaps suggestive of different effects of stereotyping by office. In contrast, Fox and Oxley (2003) find that while women are less likely than men to run for stereotypically masculine state executive offices, women are no less likely to win those races when they do run. And while a growing line of research finds that Democrats (voters and elites) are more supportive of women than Republicans (King and Matland, 2003; Thomsen, 2015; Kitchens and Swers, 2016; Och and Shames, 2018; Teele et al., 2018), there is almost no empirical work exploring how the effects of gender stereotypes vary by

constituency conservatism.² Therefore, throughout the literature there are seeds of hypotheses about the conditions that shape the electoral effects of gender stereotypes, but no one has pulled them together and tested them in a comprehensive way.

Our first step, then, is to weave together what we know about the content of gender stereotypes to set out three hypotheses. First, we draw on research about a particular trait stereotype: that women, as collaborators, are less well suited for executive office than the legislature (e.g., Huddy and Terkildsen, 1993b). If some voters use this stereotype—and if it isn't offset by voters who think women are *better* suited for executive than legislative office—women should be less likely to win executive races than legislative races, *ceteris paribus*. Thus:

H1: The effect of gender stereotyping on women's electoral success will be more negative in races for executive office than in races for legislative office.

Our second hypothesis is based on an issue competency stereotype: that women are more competent than men in policy areas like education and health and less competent in areas such as crime, the economy, and foreign affairs. If some voters apply these issue competency stereotypes, then we should expect the effect of gender stereotypes to vary with the policy domains relevant for each office (e.g., Fox and Oxley, 2003). Specifically:

H2: The effect of gender stereotyping on women's electoral success will be more positive when the policy domains of an office correspond to areas of perceived women's competence.

² Thomsen (2018) analyzes the effect of sex in Republican and Democratic congressional primaries, in which the former constituencies are more conservative. However, the study does not evaluate how within-party results vary with the conservatism of the electorate.

Our third hypothesis is rooted in a well-documented beliefs stereotype: voters are inclined to think women candidates are more liberal than men (e.g., Sanbonmatsu, 2002). We propose that the effect of gender stereotypes on women's electoral success should depend on whether a given electorate views liberal candidates favorably. In particular, this beliefs stereotype might be more of a barrier to Republican women or women running in conservative constituencies (Shames, 2018). This leads to our third hypothesis:

H3: The effect of gender stereotyping on women's electoral success will be more negative in more conservative constituencies.

These are just three hypotheses, and many more are possible. But these three flow naturally from the existing literature and are a productive starting point. In general, we argue that instead of looking for a single, unconditional answer to the question of how voter stereotyping affects women candidates, we should instead recognize that those effects could be positive, negative, or neutral—and develop studies that explore those varying effects.

Empirical Strategy and Data

Scholars hoping to assess the electoral effects of gender stereotyping confront a built-in methodological challenge: one cannot directly measure the extent of gender stereotyping *and* simultaneously assess how it affects women candidates in real elections. Most scholars opt for the survey and experimental approach, prioritizing the direct measurement of stereotyping. However, what respondents say they would do when faced with a (frequently fictional) candidate may not reflect what they actually do when faced with real candidate match-ups in secret-ballot elections. Yet the latter is the exact concern that motivates this literature in the first place: how stereotyping affects real women and men candidates in real elections.

We adopt a different approach and analyze data on election returns, which tell us about voters' decisions in real elections—an advantage over surveys and experiments. While this rules out the possibility of measuring gender stereotyping directly, we emphasize that our hypotheses are not about the absolute magnitude of some baseline effect of gender stereotyping on women's electoral fortunes; rather, they are hypotheses about how the effect of gender stereotyping on women's electability will differ by the type of race, the policies salient, and constituency conservatism. Thus, if election data feature men and women running for different kinds of offices (H1), with different salient policy domains (H2), and in constituencies of varying conservatism (H3), we can evaluate whether any difference between women's and men's win rates varies across those dimensions in the ways hypothesized.

U.S. local election data provide an excellent opportunity to carry out such an analysis because they feature rich, measurable variation on all of these dimensions and a large set of governments and candidates. For example, evaluating how any gap between women's and men's win rates differs for executive offices than for legislative offices would be difficult to do with national or state data, because so few women have run for president or governor. But the nation has over 19,000 municipal governments, roughly a third of which have independently elected mayors, so the local context should feature relatively large numbers of women running for mayor. Also, while the issues salient in congressional and state legislative elections vary widely across districts and election cycles, measuring such variation is difficult, and isolating the effects of issue salience on the relative success of men and women candidates is challenging. At the local level, it is simpler to capture variation in policy salience, because different types of local governments tend to be responsible for different functions. For example, boards of school districts make policy on education, whereas the salient issues in cities tend to be economic

development, crime, and land use (Oliver, 2012). Finally, variation in constituency conservatism across local governments allows for tests of whether the gap between women's and men's win rates varies accordingly. This richness of variation makes the local context an excellent one for testing our hypotheses.

However, there are also challenges associated with this approach. First, political party cues might confound or overwhelm effects of gender stereotyping (Hayes, 2011; Hayes, Lawless, and Baitinger, 2014). Second, U.S. local election data are notoriously difficult to collect, which is perhaps why studies usually analyze the number or share of women in local office rather than data on local elections (e.g., Smith et al., 2012; Trounstein and Valdini, 2008). Studies by Crowder-Meyer et al. (2015) and Crowder-Meyer and Smith (2015) are exceptions in that they go beyond assessments of the share of *winning* candidates who are women to assessments of the share of *all* candidates who are women. But these studies do not directly compare the success of men and women candidates in local elections, and so we still know little about how women fare compared to men in the nation's local governments (Holman, 2017).

For these reasons, we turn to data from the California Elections Data Archive (CEDA), which records information on most local elections throughout the state of California from 1995 onward, including the number of seats up for election; candidate names; the number of votes received by each candidate; whether the candidate won, lost, or advanced to a run-off; and incumbency. All local elections in California are nonpartisan, lessening the likelihood that party cues will overwhelm effects of gender stereotyping. We focus on municipal and school board elections from 1995 to 2016: municipalities because they can have elections for both executive and legislative offices, and school board elections because—when compared with city council elections—they provide variation in policy salience across legislative races.

The CEDA data do not include an indicator for candidate sex, so we use a two-step process to code it. First, we use the `genderizeR` package in R, which uses the first name of each candidate and U.S. Census data to generate a probability that the person is a woman.³ Using those probabilities, we code a candidate as a woman if 80% or more of the people in the U.S. with that name are women, and we code a candidate as a man if 20% or fewer of the people with the name are women. This allows us to code 96% of the observations. For all mayoral, council, and school board candidates not categorized using this rule, research assistants coded them as men or women based on the candidate’s first name and, if possible, the ballot designation (e.g., “businesswoman”). In all, we coded sex for 99% of the candidates in all three race types: 27,133 city council candidates, 3,147 mayoral candidates, and 29,776 school board candidates.

Even with this solution to the challenges of data availability and party cues, however, there remains the problem that any patterns of women’s and men’s electoral success we find—even if consistent with our hypotheses—could possibly be explained by something other than gender stereotyping. Some potential alternative explanations generate distinct predictions from our stereotyping hypotheses, in which case we can evaluate whether the results are more in-line with the alternative account or that of stereotyping. For example, if any sex differences in electoral performance are driven by affective bias against women, not stereotyping, then we should expect to find a relatively consistent penalty for women candidates across office types, not the varying effects implied by our hypotheses. However, other alternative accounts could plausibly generate the same empirical implications as ours. For example, if candidates

³ Kamil Wais (2016). `genderizeR`: Gender Prediction Based on First Names. R package version 2.0.0. <https://CRAN.R-project.org/package=genderizeR>.

strategically enter races depending on how they expect to perform (including because of bias they expect to encounter), that could produce pools of men and women candidates that differ in key respects—and that differ in varying ways depending on office type or constituency conservatism. More generally, there could be some other unmeasured variable (in addition to gender stereotyping) that is associated with winning *and* that differentiates men and women candidates differently depending on whether it is an executive or legislative office, a city council or school board, or a liberal or conservative constituency. Given that we are using observational data—because of the aforementioned advantages of doing so—we cannot rule out every possible confounder.

That said, we can explore some of the most plausible alternative explanations. To do this, we begin our empirical analysis with a descriptive overview of women’s candidacy in local elections, exploring how the prevalence of women candidates varies by office type and constituency conservatism—thus assessing patterns of candidate entry. We also incorporate into our analysis measures of candidate quality—the commonly-omitted variable that has proven to be a stumbling block and a flashpoint in the empirical literature on discrimination. As we’ve discussed, some studies show that the average quality of women congressional candidates is higher than that of men—and that failing to account for this difference masks differences in men and women’s vote shares (Milyo and Schosberg, 2000; Fulton, 2012). We therefore take advantage of California election rules that allow candidates to provide a ballot designation indicating their current elective office or occupation; we use that information to create measures of their experience. Thus, while we cannot account for every characteristic of the tens of thousands of candidates in our dataset, we do control for the factor identified in the literature as the main culprit behind omitted variable bias in analyses similar to ours.

Finally, to help address the question of whether it is stereotyping that underpins any patterns we find, we exploit variation in the timing of local elections to test whether the patterns are most pronounced in the elections where gender stereotyping by voters is likely to be most widespread. Research shows that voter turnout in local elections varies dramatically depending on when the election is held. Turnout in city elections held concurrently with presidential elections averages 35 percentage points higher than in local elections held off-cycle, and in city elections held concurrently with midterm and gubernatorial elections, it averages 18 points higher (Anzia, 2014; Hajnal, Lewis, and Louch, 2002). Furthermore, Oliver and Ha (2007) show that the average voter knows more about local candidates and issues in off-cycle elections than in on-cycle elections. And that is what we should expect. When local elections are held on the same day as national elections, many people only vote in local races because they are already at the polling place to vote in national races. In off-cycle local elections, by contrast, most of the people who participate do so *because* they have interest in the local races. It makes sense, then, that the typical voter in on-cycle local elections has less information about local candidates and issues than voters in off-cycle elections (see also Hendry et al., 2018).

This is an important distinction because research also shows that when voters know a great deal about the candidates, they are less likely to rely on heuristics generally (Popkin, 1991) and gender stereotypes in particular (McDermott, 1997, 2005; Bauer, 2015). Combining these two sets of empirical findings—about stereotype use and about election timing—we can analyze differences in voters’ choices in off-cycle and on-cycle elections as a way of evaluating the effects of gender stereotypes. We can expect that local elections held concurrently with presidential elections feature the highest proportion of voters reliant on stereotypes, that reliance on stereotypes is somewhat lower in local elections held concurrently with midterms, and that

the smallest proportion of voters relies on stereotypes in off-cycle local elections. If we do find patterns that are consistent with our hypotheses, and if those effects actually represent the effects of gender stereotyping, we should expect them to be most pronounced in elections concurrent with presidential elections, somewhat less pronounced during midterms, and smallest during off-cycle elections. This, then, serves as a test of whether any effects we uncover are likely driven by gender stereotyping rather than some other unobserved phenomenon.

Sex and Candidacy in Local Elections

We begin by exploring patterns of women’s and men’s candidacies in California local elections. First, in Table 1, we show that the share of candidates who are women varies by office type. While women make up 42% of all school board candidates, they are only 27% of all city council candidates—and those figures are similar when we look only at elections held by district or area (as opposed to at-large).⁴ An even smaller share of mayoral candidates are women: 21%. And these cross-office differences are also reflected in the sex composition of races. In total, 76% of school board races feature both men and women candidates (Mixed-sex races), but only 66% of city council races and 38% of mayoral races do. We see these same cross-office differences even when we focus only on city council and school board elections held by district or area: 55% of the school board races are mixed-sex, compared to 46% for city council.

[Table 1]

⁴ Most city council and school board races in California are held at-large, but some are by district, and others are by area (in which candidates run for specific seats but all voters vote on all seats).

To assess whether races featuring women are more crowded, as Lawless and Pearson (2008) show for congressional primaries, we create a measure of competitiveness, dividing the number of candidates in the race by the number of seats up for election (*Candidates per seat*). Comparing this variable in all-men races to races featuring at least one woman, we find that races with women are indeed more crowded. Moreover, the gap between the crowdedness of all-men races and mixed-sex races varies by office type. It is smallest for school board elections: races featuring a woman have 2.07 candidates per seat on average compared to 1.96 in all-men races. City council races featuring women, however, have an average of 2.59 candidates per seat compared to 2.06 in races with all men—a larger difference. The biggest gap is in mayoral contests, where races featuring women have 3.43 candidates per seat on average and all-men races have 2.10. This mayoral competitiveness gap is still the largest even when we focus only on city council and school board elections held by district or area. Thus, California local elections tend to be more crowded when women run, and that competitiveness gap is largest in mayoral races and smallest in school board races.

Figure 1 provides a look at whether the share of candidates who are women varies by constituency conservatism. For all municipal candidates, we present LOWESS plots of *Woman*—our indicator for whether the candidate is a woman—against the city’s two-party presidential vote share for George W. Bush in 2004, separately for city council candidates (dashed line) and mayoral candidates (solid line).⁵ We do the same for school board candidates (dotted line) except with two-party presidential vote in the school district’s parent county (because school district-level data are not available). Looking at the dashed line, we see that women make up a

⁵ For presentation purposes, we exclude Industry, which had very high vote share for Bush.

decreasing share of city council candidates in more Republican cities. There is also a negative relationship for school board but a more modest one. We do not find a clear pattern for mayoral candidates. Women therefore appear less likely to run for local office in more conservative places, with the exception of mayoral races, in which women make up a small share of candidates regardless of constituency conservatism.⁶

[Figure 1]

Next we present data on the experience and backgrounds of men and women candidates. See Table 2. Starting with the simplest measure—incumbency—we find that in both city council and school board races, a larger share of the women than men are incumbents. Women are a smaller share of mayoral incumbents, but that difference is only significant at the 10% level. For non-incumbents, we use information in the candidates’ ballot designations to create a series of experience indicators:⁷ whether the candidate lists experience as mayor, vice-mayor, appointed mayor, or deputy mayor; city council member; school board member; or some other government leadership position like police chief or planning commissioner. We also code whether the candidate lists a background in business, law, education, or activism—four of the most common professional backgrounds of congressional candidates (Lawless and Fox, 2005). In Table 2, we show averages of each indicator for men and women as well as the difference between the two, broken down by office type.

[Table 2]

⁶ The over-time growth in the share of candidates who are women is modest and limited to city council and school board races. See online appendix.

⁷ See the online appendix for a description of the coding of these variables.

One clear pattern that emerges in all three race types is that women are less likely than men to come from business and more likely to come from education and activism. In school board races, women are also slightly less likely than men to come from law. Non-incumbent school board candidates rarely have previous experience in a government leadership positions; the only significant difference between men and women school board candidates is that the women are less likely to have “other government” experience—and the difference is small. Similarly, few non-incumbent city council candidates have government leadership experience, but the women on average are slightly more experienced than the men in this regard. Among mayoral candidates, however, there are large differences in men and women’s government experience levels. The most common government pathway to mayoral candidacy is serving on city council, and while 39% of the non-incumbent women have experience on city council, only 22% of the men do.

These descriptive findings are important because they shed light on patterns of women’s candidacy in local elections, but they also speak to the concerns about selection we discussed earlier. The kinds of women and men who run are different in ways likely correlated with electoral success. The races they run in are also different, and the differences vary depending on the context. There is also a pattern to the selection, however—one consistent with our hypotheses, and one that suggests that strategic candidate entry will likely work against our ability to detect the effects of stereotyping.

Recall that our first hypothesis is that the effect of gender stereotyping will be more negative in mayoral races than city council races. We find here that fewer women run for mayor than city council, that the women who run for mayor appear to be more experienced than the men, and that mayoral races have the largest competitiveness gap between all-men races and

racess featuring women. Likewise, our second hypothesis is that the effect of gender stereotyping will be more positive in school board races than in city council races: we find that many more women run for school board than city council and that the competitiveness gap is narrower in school board races. Related to H3, we also find that fewer women run for city council and school board in more conservative constituencies.

We cannot know for sure what individual calculations underlie these patterns, but they are broadly consistent with an account in which 1) the effects of gender stereotyping vary in the ways we have hypothesized, and 2) women and men anticipate those varying effects and factor them into their decisions about whether to enter local races. If that's the case, then selection bias should generally reduce our ability to detect the hypothesized variation in the effects of gender stereotyping. In our analysis, we attempt to partial out the effects of city, race, and candidate characteristics that are likely correlated with candidate sex and electoral success in ways that vary across contexts, but throughout, we remain cognizant that unobserved selection factors likely reduce our ability to detect the hypothesized variation in the effect of stereotyping.

Empirical Analysis

We now turn to an evaluation of whether the differences in women's and men's win rates vary in ways consistent with gender stereotyping. Our main dependent variable is a binary indicator, *Win*, which equals 1 if the candidate won the election and 0 if the candidate lost.⁸ To

⁸ We exclude observations where candidates advanced to runoffs. The win/loss indicator is preferable to vote share because many city council and school board races are multi-seat races in which candidates often win with a small vote share. However, we have run models of vote share; see the online appendix.

test H1, we compare the difference between women and men's win rates in mayoral elections to that of city council elections; if the difference is smaller (more negative) in mayoral races than in city council races, that would be evidence in support of H1. For H2, we compare the difference between women and men's win rates in school board elections to that of city council elections, expecting it to be larger (more positive) in school board elections because of the salience of education. And to test H3, we evaluate whether any gap between women and men's win rates decreases as one moves from more liberal to more conservative constituencies. Because our focus is on stereotyping, we limit our main analysis to non-incumbents; local incumbents have already been in office and are relatively more recognizable to voters, so voters probably rely less heavily on gender stereotypes in evaluating them.⁹

[Figure 2]

As a starting point, in Figure 2, we calculate averages of *Win* by sex and compare them across office types. In city council races, 34% of the non-incumbent women win their races, whereas only 28% of the men do—a gap of 6 points in favor of women. In mayoral contests, there is no difference in the win rates of men and women: both win 20-21% of the time. School board races have a large difference in win rates, with women winning 43% of the time and men only 34% (a difference of 9 points). The simple averages, then, are supportive of H1 and H2.

As an initial assessment of H3, in Figure 3 we present LOWESS plots of *Win* against the 2004 two-party vote for George W. Bush, separately for men and women and for each of the three office types. In each plot, histograms show the distribution of presidential vote for the candidates in the subset. For city council candidates, the pattern is supportive of H3 except for

⁹ In the online appendix, we carry out all of the analysis including incumbents.

the most liberal cities. Most city council candidates are from cities with between 25% and 70% vote share for Bush in 2004, and for cities in that range, the gap between the lines narrows—and thus the women’s advantage decreases as cities become more Republican. (Cities with less than 25% vote share for Bush are an exception; it appears that the women’s advantage is actually smaller in the most liberal cities than in the relatively more moderate ones.) Figure 2 shows that there is no such pattern for mayoral candidates; there is barely any difference between men and women’s win rates regardless of how Republican the city is. But for school board candidates, we do see that counties with the lowest vote share for Bush have the highest women’s advantage and that the gap narrows as counties become more Republican.

[Figure 3]

We next evaluate the hypotheses with linear probability models.¹⁰ To test H1, we model the dependent variable *Win* for all non-incumbent city council and mayoral candidates with *Woman*, an indicator for whether the race is a mayoral race (*Mayor*), and the interaction between the two. The coefficient on *Woman* represents the average difference between women and men’s win rates in city council races, and the test of H1 is whether the coefficient on *Woman* \times *Mayor* is negative—which would imply that the gap between women and men’s win rates is smaller in mayoral races than in city council races.

In addition to these main independent variables, we include *Candidates per seat* and the indicators of candidate experience. We also include *Incumbents per seat*—the number of incumbents running in the race divided by the number of seats up for election—expecting that win rates of non-incumbents will decrease with the share of incumbents running. Because

¹⁰ We provide a version of the analysis with logit models in the online appendix.

elections in small municipalities are different than elections in larger cities (Oliver, 2012), we include log city population, drawing place-level data from the 1990, 2000, and 2010 U.S. Censuses and interpolating within cities over time. To account for the possibility that some years are more favorable to non-incumbents or women, we include year fixed effects. We estimate models with and without city fixed effects, which (when included) partial out the effects of time-constant city characteristics correlated with the types of candidates who run and the probability of winning. We cluster standard errors by city.

Column 1 of Table 3 presents the estimates of the model without city fixed effects. All of the control variables have the relationships we expect: the probability of winning decreases with more candidates and incumbents running per seat and larger city size. Government experience is strongly and positively associated with winning. Candidates with experience in business, law, and education are significantly more likely to win than candidates without, while the boost for activism experience is positive but not significant.

[Table 3]

Even with these race, candidate, and city characteristics taken into account, the coefficient on *Woman* is positive, indicating that women non-incumbents running for city council are 3.7 percentage points more likely to win than men. The test of H1 is whether this gap is smaller for women candidates running for mayor, and we find that it is. The coefficient on *Woman* \times *Mayor* is negative, indicating that the women's advantage is significantly lower in mayoral races than city council races. When we combine the coefficients on *Woman* and *Woman* \times *Mayor* to estimate the gap between women's and men's win rates in mayoral elections, as we do in Figure 4, we see that the average woman is at a significant *disadvantage* in mayoral races: women's win rates are 8 percentage points lower than men's.

[Figure 4]

One concern is that these estimates could simply reflect differences between cities with and without independently elected mayors; perhaps the former just happen to be places where women candidates fare less well. But in column 2, where we add city fixed effects to the model and focus on within-city variation in how women fare (compared to men) in mayoral versus city council races, the estimates are nearly the same as those in column 1. Women have an average advantage of 3.8 percentage points in city council races, but that advantage declines by 11 percentage points in mayoral elections—turning into an overall women’s disadvantage, as we show in Figure 4. Thus, there is a clear difference in how women fare within the same city when running for executive rather than legislative office.

In column 3, we estimate the same model as in column 1 but limit the sample to mixed-sex races that have more candidates running than seats. This strategy allows us to focus on races in which voters can plausibly use candidate sex as a cue, but it could also further reduce our ability to detect a difference between the two contexts if women decline to run for mayor at higher rates because of anticipated negative effects of stereotyping. Nonetheless, our main estimates change little. We estimate a significant women’s advantage in city council races of 4.7 points, and that advantage decreases by 14.5 points in mayoral races. This suggests an overall 10-point disadvantage for women running for mayor, as depicted in Figure 4.

Finally, in column 4, we include an interaction of *Woman* and *District*, where *District* equals one for city council elections held by district or area and zero for at-large city council and mayoral races. The literature suggests that districted city elections may be friendlier to women than at-large elections (e.g., Crowder-Meyer et al., 2015), so this model investigates whether the mayor-council gap is primarily driven by the districted cities. We find that it is not. Actually, the

women's advantage in districted elections appears smaller than that of at-large elections (see the coefficient on *Woman* \times *District*), although that difference is not significant. Regardless, the gap between women's and men's win rates is significantly smaller in mayoral elections than in both districted and at-large city council elections.

Next we turn to H2 and evaluate whether the women's advantage is larger in school board races than city council races. We use the sample of non-incumbent city council and school board candidates and replace *Mayor* with an indicator for *School Board* (and cluster the standard errors by county). In column 5 of Table 3, we again estimate a positive, significant coefficient on *Woman*, but the test of H2 is the coefficient on *Woman* \times *School Board*, and that coefficient is positive. On average, women get an additional boost of 3.9 points in school board races compared to city council races. In Figure 4, we show that overall, women are 6.7 points more likely to win school board races than men. These results are consistent with our expectation that women's advantage in legislative races is larger when the salient issue is education as opposed to economic development or crime.

We cannot add city or school district fixed effects to this model because the boundaries of school districts and cities are usually not coterminous, but in column 6 we add fixed effects for the cities' and school districts' parent counties. The main estimates are nearly identical to those of column 5. The same is true in column 7, where we limit the estimation to competitive, mixed-sex races. In all models, we find that the gap in average win rates between women and men is significantly higher in school board races than in city council races.¹¹

¹¹ In the online appendix, we show that the woman's advantage is larger in school board races regardless of whether the elections are at-large or by district or area.

[Table 4]

To test H3, we interact *Woman* with the two-party vote for the Republican candidate in the most temporally proximate presidential election (e.g., the 1996 election for 1995 to 1998), centered around its mean, estimating separate models for city council, mayor, and school board candidates. Column 1 of Table 4 presents the estimates for city council. The coefficient on *Woman* indicates that in cities of average Republicanism, women are 3.3 percentage points more likely to win than men. The test of H3—the coefficient on *Woman* \times *Republican presidential vote*—is negative, suggesting that women’s advantage does shrink as one moves to more conservative cities. However, that negative coefficient is barely statistically significant ($p=0.07$ in a one-tailed test),¹² and when we turn to mayoral races in column 2, we find no support for H3: the disadvantage for women in mayoral races does not vary with the conservatism of the city. In column 3, however, we find strong evidence that the women’s advantage in school board elections is lower in more conservative counties. In a county of average Republican vote share, women school board candidates have a 6.3-point advantage over men, but that advantage shrinks by 1.8 points for every 10-point increase in Republican presidential vote share. Thus, the evidence for H3 so far is mixed: for school board and city council candidates, the women’s advantage is smaller in more conservative places, but the disadvantage for women mayoral candidates is invariant to city conservatism.

¹² When we add the square of *Republican presidential vote* and its interaction with *Woman*, we find that in the most liberal cities, the boost for women in city council elections is actually smaller than in slightly more moderate cities.

Is it Gender Stereotyping?

The weight of the evidence so far is consistent with our hypotheses about gender stereotyping. As we discussed earlier, however, one might wonder whether gender stereotyping is really the mechanism underlying these results—or whether something else explains these patterns of women’s advantage and disadvantage in local elections.

Could it be, for example, that some form of gender bias other than stereotyping—such as affective bias—is at work? If true, we would expect to find a similar effect of *Woman* for all of the offices; we know of no theoretical account that would predict voters to have positive affect toward women running for city council but negative affect for women running for mayor within the same city. Alternatively, one could argue that there might be some unobserved difference between women and men candidates that happens to make the women much more successful than the men in school board races, somewhat more successful in city council races, and less successful in mayoral races. While we cannot rule this out entirely, the existing literature points to candidate quality as the most important variable to consider, and in our analysis, we have developed and incorporated measures of candidate experience—something that most observational studies in the empirical discrimination literature have not done.

Still, we cannot say with certainty that gender stereotyping underlies these results; what we can say is that the results so far are consistent with the empirical implications of our argument about stereotyping. In a final set of tests, we explore yet another empirical implication: that if the results so far reflect gender stereotyping, then they should be most pronounced in on-cycle elections, where gender stereotyping by voters is likely to be most widespread.

As an initial test, for each of the three office types, we calculate average win rates for women and men and the difference between the two, separately for local elections during

presidential elections, during midterm elections, and off-cycle (see Table 5).¹³ The patterns are in line with our expectations. The women’s advantage in city council elections is 3.2 percentage points in off-cycle elections, 4.9 points in midterms, and 8.7 points in presidential elections. For mayoral elections, the women’s *dis*advantage becomes larger in higher-turnout contexts: it is close to zero in off-cycle elections and drops nearly 3 percentage points in elections concurrent with presidential races. And in school board races, the women’s advantage starts at 7 percentage points in off-cycle elections, increases to 8.1 points in midterms, and grows to 11.2 points during presidential elections.

[Table 5]

In Table 6 we return to the linear probability models and interact *Woman* with *On-cycle*—a variable that equals 1 if the local election is concurrent with a presidential election, 0.5 if it is concurrent with a midterm, and 0 if it is off-cycle. The estimates for city council candidates are shown in column 1. The coefficient on *Woman* is statistically indistinguishable from zero, indicating that in off-cycle elections, there is no clear difference between men and women’s probability of winning. At the bottom of column 1, we show the combination of the coefficients on *Woman* and *Woman* \times *On-cycle*, which represents the difference in women and men’s win rates in city council elections concurrent with presidential elections. That combined coefficient is 0.057 and statistically significant, showing that women’s advantage in city council elections is only present in the lower-information context.

¹³ We exclude the small number of elections held concurrently with statewide primaries or statewide special elections.

If we were to find that women also fare relatively better in on-cycle mayoral races, we might worry that perhaps there is something about on-cycle elections that makes them friendlier to women candidates generally. But in column 2, where we estimate the model for mayoral candidates, we find the opposite. While the coefficient on *Woman* is statistically insignificant, the combined coefficient on *Woman* and *Woman* \times *On-cycle* at the bottom of column 2 is negative and significant, showing that women mayoral candidates in on-cycle elections are 6.5 points less likely to win than men.

[Table 6]

In school board races, shown in column 3, we find that women have a significantly higher chance of winning than men even in off-cycle races (4.8 percentage points). But that advantage grows to 7.9 points in elections concurrent with presidential races. Just as in city council and mayoral races, then, the effects we presented earlier appear more pronounced in the elections where there is reason to expect more stereotyping.

We also found earlier that women's advantages in city council and school board races decrease with the Republicanism of the local constituency. In columns 4 and 5, we test whether that negative relationship is more pronounced in on-cycle elections than in off-cycle elections. To do this, we interact *Woman* \times *Republican presidential vote* with *On-cycle* (and include all component interactions) to see whether the negative slope of *Woman* \times *Republican presidential vote* is steepest in on-cycle elections.

For city council candidates, presented in column 4, our estimates show that the negative relationship between Republicanism and the size of the women's advantage is only significant in on-cycle races. In off-cycle races, not only is there no women's advantage in cities of average Republicanism, but no gap between men and women's win rates emerges when one moves to

more liberal or more conservative cities (the coefficient on *Women × Republican presidential vote* is insignificant). The pattern is different in on-cycle elections. First, there is a significant women's advantage in cities of average Republicanism, shown by the combination of coefficients on *Woman* and *Woman × On-cycle* at the bottom of column 4. Second, that advantage decreases significantly in more conservative cities: at the bottom of column 4, we combine the coefficients on *Woman × Republican presidential vote* and the triple interaction term, and the result is negative and statistically significant. For city council races, then, the results are consistent with the account that gender stereotyping underlies the relationship.

We do not see the same pattern in school board races. In school districts in counties with average Republican presidential vote share, women do have a significantly larger advantage in on-cycle races than off-cycle races. We also continue to find that the women's advantage decreases in more conservative counties: the coefficient on *Woman × Republican presidential vote* is negative and statistically significant. However, we do not find that the negative relationship is most pronounced in on-cycle elections. We cannot say why this is so, but this could suggest that the decreasing advantage for women school board candidates in more conservative counties is caused by something other than a changing effect of gender stereotypes. While this last result does not align with our expectations, the more general finding for school board candidates is worth underscoring for its implications for descriptive representation: women have an overall advantage in school board races that shrinks as counties become more Republican.

Conclusion

The vast literature on women in politics shows that many voters use gender stereotypes when evaluating candidates but does not provide a clear answer to the question of how

stereotyping affects women's chances of getting elected. If there is a dominant view at present, it is that women candidates are not hurt by gender stereotypes ("when women run, women win"), though more recent scholarship has begun to question this account. Moreover, nearly all of the existing research on the effects of gender stereotyping has relied on surveys and experiments, and one can question whether respondents' answers in surveys and experiments reflect what they actually do in elections. Meanwhile, there has been a parallel debate among scholars who have analyzed election data (usually from congressional elections) about whether voters discriminate against women. There, too, conclusions have been mixed.

This paper has bridged and built upon both of these literatures. As others have said before, we argue that there is strong theoretical reason to expect the effect of gender stereotyping on women's electoral success to vary by context. Drawing on the stereotyping literature, we have woven together three hypotheses about particular contextual factors that might influence women's chances. Our empirical innovation is to use real election data to evaluate our hypotheses about the effects of gender stereotyping. Focusing on local elections affords us rich variation in the contextual factors we expect to matter, plus an environment with nonpartisan elections, ballot designation data that provide some information about candidate experience, and variation in election timing—which has a strong association with voter information about local candidates and issues.

Our analysis of these data shows the promise of our approach—and reveals a great deal about how gender stereotyping by voters affects women's descriptive representation. We provide evidence supportive of our expectations that gender stereotypes work more negatively for women running for executive office than for legislative office, and that within legislative offices, they work more in favor of women when the salient policy issue is education rather than

economic development or crime. Consistent with our argument that stereotyping underlies these results, these effects are largest in elections where voters tend to know less about local candidates. We also find that the advantages for women in legislative elections are smaller in more conservative constituencies, but more work needs to be done to assess whether gender stereotypes are the main driver of this effect.

Our empirical findings are also important in their own right because they begin to shed light on the roles of sex and gender in local elections, a topic that has barely been studied in the literature. And we have really just scratched the surface; our findings generate a number of new questions that scholars should answer in future research. Why do so many more women run for school board than city council? Why do so few women run for mayor, and why are they more qualified when they do run? What is it about more conservative constituencies that appears to deter women from running for local legislative office? While we proposed earlier that women might be anticipating the varying effects of gender stereotyping, determining whether that is the case is beyond the scope of this paper—and is a topic ripe for research among scholars studying gender and political ambition. The fact that many candidates for higher office start out in local office is yet another reason to study local elections: what happens locally affects the pipeline of women available to run for state and national office.

It is important to emphasize that while we tested our hypotheses using local data, the hypotheses themselves are not hypotheses about local politics—they are drawn from a large body of general work on gender stereotypes and from empirical studies that mostly focus on U.S. Congress. We therefore expect that the patterns we have uncovered in the local environment can also tell us about the electoral dynamics women face when running for president, governor, or

state or national legislative office. There, too, constituencies vary in their conservatism, and the salient policy issues fluctuate.

Most simply, however, our study underscores the need for research on women in politics to move beyond questions about whether voters are or are not biased against women and on to questions that embrace the potential for nuance. We began this paper with a simple question—whether gender stereotyping by voters affects women’s chances of getting elected. Our analysis provides evidence that in some contexts, gender stereotyping by voters will benefit women; in others, it will work against them; and the magnitude of those effects will vary. Going forward, scholars should put the focus on exploring and explaining that variation. The result will be a richer and more nuanced understanding of how voters contribute to women’s representation in elective office.

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Table 1: Candidates and races by sex

| | Council | | Mayor | School Board | |
|-----------------------------------|----------------|--------------------------------|--------------|---------------------|--------------------------------|
| | <i>All</i> | <i>By district or area</i> | | <i>All</i> | <i>By district or area</i> |
| Candidates (N) | 27,137 | 4,382 | 3,148 | 29,284 | 5,257 |
| Female candidates (%) | 26.6% | 28.7% | 20.6% | 42.0% | 40.5% |
| Races (N) | 6,017 | 1,652 | 1,188 | 7,352 | 2,066 |
| All-men races (%) | 29.8% | 44.5% | 57.6% | 16.7% | 30.2% |
| Candidates per seat | 2.06 | 2.14 | 2.10 | 1.96 | 2.27 |
| Mixed-sex races (%) | 66.4% | 46.1% | 37.7% | 75.5% | 55.0% |
| Candidates per seat | 2.66 | 3.41 | 3.70 | 2.10 | 2.50 |
| Races with at least one woman (%) | 70.2% | 55.5% | 42.4% | 83.3% | 69.9% |
| Candidates per seat | 2.59 | 3.09 | 3.43 | 2.07 | 2.36 |

Table 2: Average experience of men and women candidates

| | <u>City council</u> | | <u>Mayor</u> | | <u>School Board</u> | |
|--------------------------------|---------------------|---------|--------------|---------|---------------------|---------|
| | Men | Women | Men | Women | Men | Women |
| Incumbent | 0.257 | 0.291** | 0.272 | 0.238 | 0.324 | 0.373** |
| Mayor or vice-mayor experience | 0.006 | 0.009* | 0.037 | 0.047 | 0.0001 | 0.0001 |
| City council experience | 0.021 | 0.027** | 0.217 | 0.385** | 0.001 | 0.001 |
| School board experience | 0.008 | 0.017** | 0.005 | 0.004 | 0.015 | 0.017 |
| Other government experience | 0.066 | 0.073 | 0.047 | 0.03 | 0.021 | 0.007** |
| Business experience | 0.300 | 0.282* | 0.305 | 0.235** | 0.178 | 0.125** |
| Law experience | 0.052 | 0.057 | 0.043 | 0.038 | 0.037 | 0.029** |
| Education experience | 0.076 | 0.128** | 0.076 | 0.128** | 0.220 | 0.264** |
| Activism experience | 0.029 | 0.076** | 0.018 | 0.055** | 0.022 | 0.067** |

Notes: Analysis using two-sample *t*-tests. ** indicates difference significant at the 1% level, * at the 5% level.

Table 3: Win rates by sex, office, and policy domain

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|-------------------------|-------------------|--------------------|-----------------------|------------------------|-------------------|----------------------|-----------------------|
| Woman | 0.037 (0.008) | 0.038 (0.008) | 0.047 (0.009) | 0.042 (0.008) | 0.028 (0.011) | 0.028 (0.011) | 0.034 (0.013) |
| Mayor | -0.03 (0.011) | -0.041 (0.011) | -0.017 (0.016) | -0.024 (0.012) | | | |
| Woman × Mayor | -0.117 (0.022) | -0.109 (0.022) | -0.145 (0.027) | -0.122 (0.023) | | | |
| District | | | | 0.032 (0.012) | | | |
| Woman × District | | | | -0.033 (0.025) | | | |
| School board | | | | | 0.01 (0.006) | 0.008 (0.007) | 0.019 (0.005) |
| Woman × School board | | | | | 0.039 (0.014) | 0.04 (0.014) | 0.041 (0.015) |
| Candidates per seat | -0.043 (0.006) | -0.045 (0.006) | -0.035 (0.005) | -0.043 (0.006) | -0.075 (0.006) | -0.075 (0.006) | -0.066 (0.006) |
| Incumbents per seat | -0.193 (0.006) | -0.188 (0.007) | -0.164 (0.007) | -0.19 (0.006) | -0.207 (0.009) | -0.204 (0.010) | -0.189 (0.010) |
| Ln(population) | -0.044 (0.004) | -0.012 (0.022) | -0.042 (0.004) | -0.047 (0.004) | -0.034 (0.002) | -0.027 (0.002) | -0.033 (0.003) |
| Mayoral experience | 0.463 (0.032) | 0.495 (0.035) | 0.476 (0.040) | 0.464 (0.032) | 0.483 (0.044) | 0.49 (0.045) | 0.501 (0.048) |
| City council experience | 0.247 (0.018) | 0.262 (0.019) | 0.257 (0.023) | 0.247 (0.018) | 0.315 (0.031) | 0.317 (0.031) | 0.322 (0.041) |
| School board experience | 0.229 (0.030) | 0.25 (0.032) | 0.188 (0.036) | 0.23 (0.031) | 0.252 (0.024) | 0.253 (0.024) | 0.24 (0.026) |
| Other govt. experience | 0.162 (0.013) | 0.177 (0.013) | 0.173 (0.014) | 0.163 (0.013) | 0.172 (0.013) | 0.177 (0.014) | 0.183 (0.012) |
| Business experience | 0.049 (0.007) | 0.059 (0.007) | 0.051 (0.007) | 0.049 (0.007) | 0.052 (0.007) | 0.056 (0.007) | 0.051 (0.006) |
| Law experience | 0.068 (0.014) | 0.076 (0.014) | 0.063 (0.015) | 0.068 (0.014) | 0.048 (0.012) | 0.052 (0.011) | 0.045 (0.016) |
| Education experience | 0.093 (0.012) | 0.096 (0.012) | 0.095 (0.013) | 0.093 (0.012) | 0.165 (0.011) | 0.166 (0.010) | 0.168 (0.010) |
| Activism experience | 0.022 (0.015) | 0.021 (0.015) | 0.028 (0.017) | 0.021 (0.015) | 0.05 (0.012) | 0.051 (0.012) | 0.054 (0.012) |
| Model | | City fixed effects | Competitive mixed-sex | Districted v. At-large | | County fixed effects | Competitive mixed-sex |
| R-squared | 0.14 | 0.17 | 0.12 | 0.14 | 0.14 | 0.14 | 0.13 |
| Observations | 21,783 | 21,783 | 16,700 | 21,783 | 38,390 | 38,390 | 31,184 |

Notes: Standard errors clustered by city in columns 1-4 and county in columns 5-7 in parentheses. Columns 1-4 include non-incumbent candidates running for city council or mayor. Columns 5-7 include non-incumbent candidates running for city council or school board. All models include year fixed effects.

Table 4: Win rates by constituency conservatism

| | <i>City council</i> | <i>Mayor</i> | <i>School board</i> |
|--------------------------------------|---------------------|-------------------|---------------------|
| | (1) | (2) | (3) |
| Woman | 0.033 (0.008) | -0.059 (0.023) | 0.063 (0.009) |
| Republican presidential vote | -0.015 (0.026) | 0.048 (0.067) | 0.003 (0.051) |
| Woman \times Republican pres. vote | -0.074 (0.050) | -0.038 (0.148) | -0.178 (0.080) |
| R-squared | 0.14 | 0.21 | 0.13 |
| Observations | 19,341 | 2,244 | 18,851 |

Notes: Standard errors clustered by city in columns 1-2 and county in column 3 in parentheses. Models include year fixed effects and all controls from Table 3 (race competitiveness, log population, and candidate experience variables).

Table 5: Average win rates by sex and election timing

| City council | | | |
|---------------------|------------|--------------|---|
| | <i>Men</i> | <i>Women</i> | <i>Women's Advantage / (Disadvantage)</i> |
| Off-cycle | 0.266 | 0.298 | 0.032 |
| Midterm | 0.293 | 0.342 | 0.049 |
| Presidential | 0.292 | 0.379 | 0.087 |
| Mayor | | | |
| | <i>Men</i> | <i>Women</i> | <i>Women's Advantage / (Disadvantage)</i> |
| Off-cycle | 0.168 | 0.172 | 0.005 |
| Midterm | 0.247 | 0.242 | -0.005 |
| Presidential | 0.263 | 0.238 | -0.024 |
| School board | | | |
| | <i>Men</i> | <i>Women</i> | <i>Women's Advantage / (Disadvantage)</i> |
| Off-cycle | 0.355 | 0.424 | 0.070 |
| Midterm | 0.340 | 0.421 | 0.081 |
| Presidential | 0.332 | 0.444 | 0.112 |

Table 6: Win rates by sex and election timing

| | <i>City council</i> (1) | <i>Mayor</i> (2) | <i>School board</i> (3) | <i>City council</i> (4) | <i>School board</i> (5) |
|--|--------------------------------|---------------------|--------------------------------|--------------------------------|--------------------------------|
| Woman | 0.009 (0.014) | -0.051 (0.040) | 0.048 (0.013) | 0.002 (0.014) | 0.038 (0.009) |
| On-cycle | -0.004 (0.021) | -0.012 (0.039) | -0.005 (0.036) | -0.005 (0.021) | -0.01 (0.032) |
| Woman \times On-cycle | 0.048 (0.020) | -0.013 (0.055) | 0.031 (0.022) | 0.058 (0.020) | 0.049 (0.018) |
| Republican presidential vote | | | | -0.02 (0.048) | 0.09 (0.055) |
| Woman \times Republican presidential vote | | | | -0.076 (0.091) | -0.279 (0.070) |
| On-cycle \times Republican presidential vote | | | | 0.02 (0.063) | -0.147 (0.082) |
| Woman \times On-cycle \times Rep. pres. vote | | | | -0.085 (0.134) | 0.121 (0.142) |
| R-squared | 0.14 | 0.21 | 0.13 | 0.14 | 0.13 |
| Observations | 17,745 | 1,935 | 17,942 | 17,604 | 17,942 |
| Woman + (Woman \times On-cycle) | 0.057 (0.012) | -0.065 (0.033) | 0.079 (0.018) | 0.061 (0.012) | 0.086 (0.016) |
| (Woman \times Rep. pres. vote) + (Woman \times On-cycle \times Rep. pres. vote) | | | | -0.161 (0.076) | -0.158 (0.132) |

Notes: Standard errors clustered by city in columns 1, 2, and 4 and by county in columns 3 and 5. All models include year fixed effects and the controls shown in Table 3.

Figure 1: Proportion women by constituency conservatism

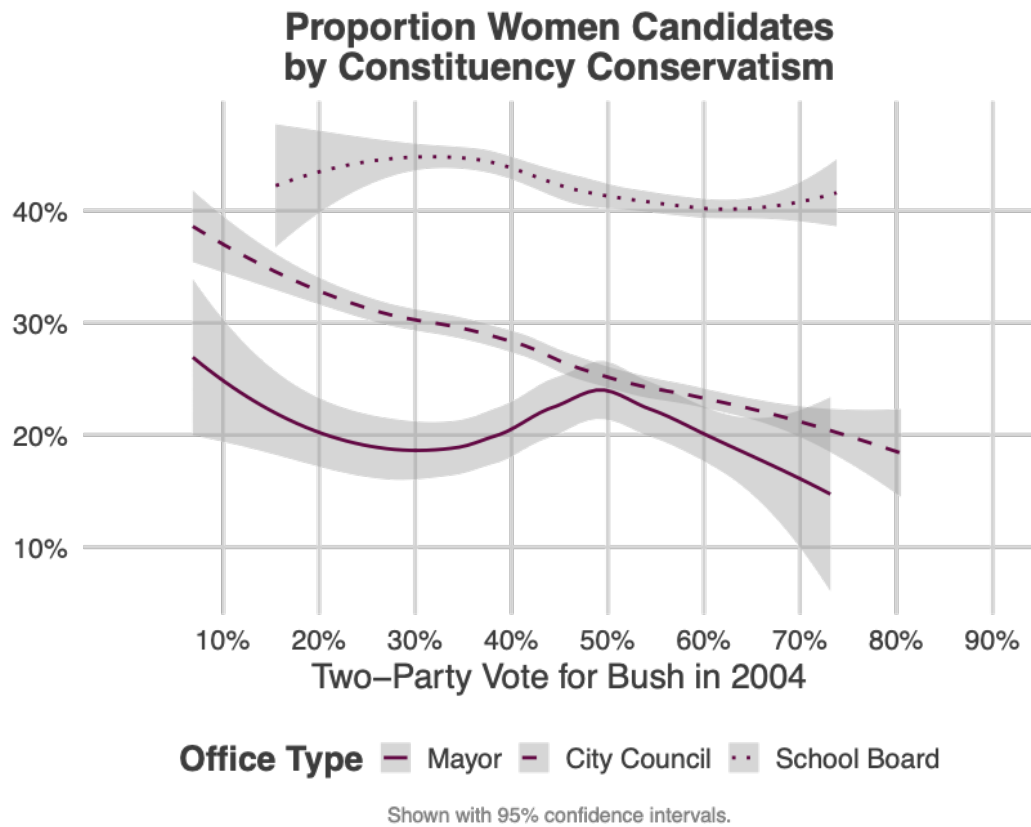


Figure 2. Mean win rates by office

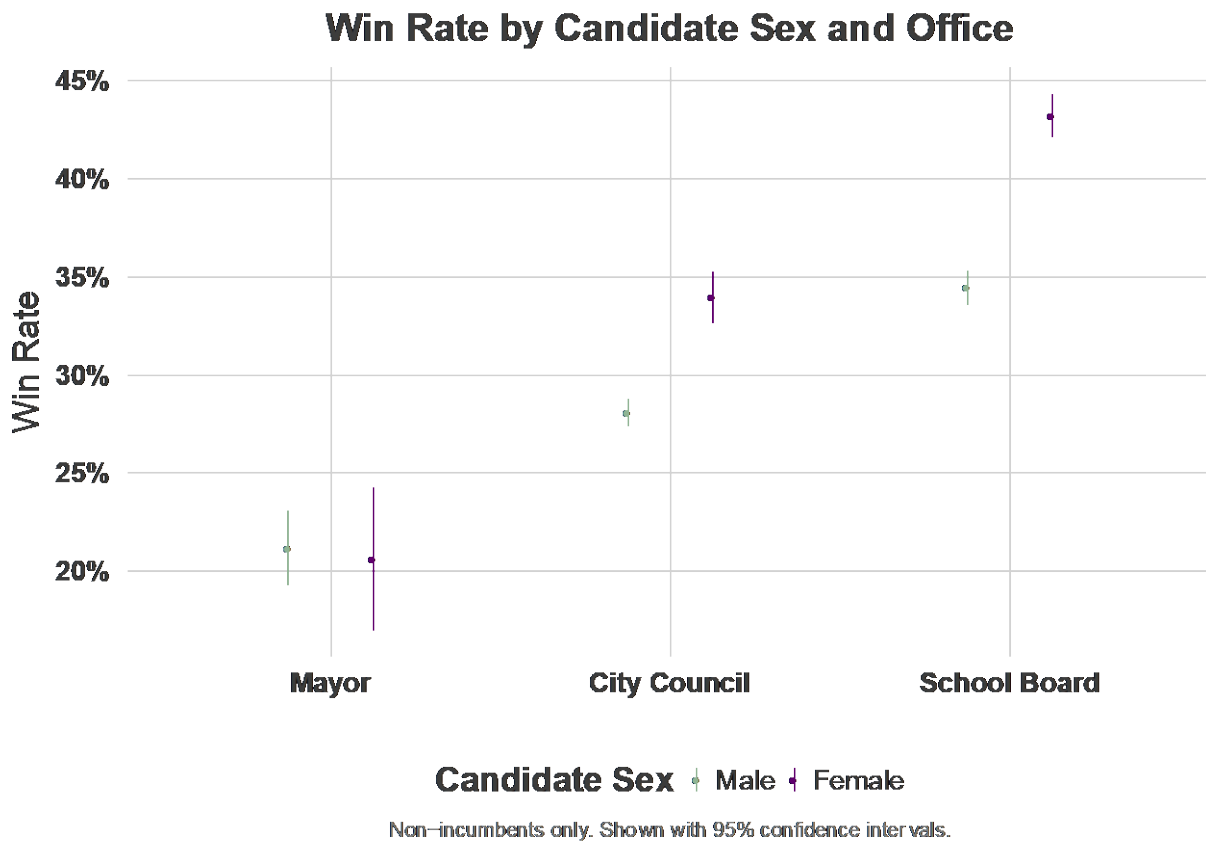


Figure 3. Win rates by constituency conservatism

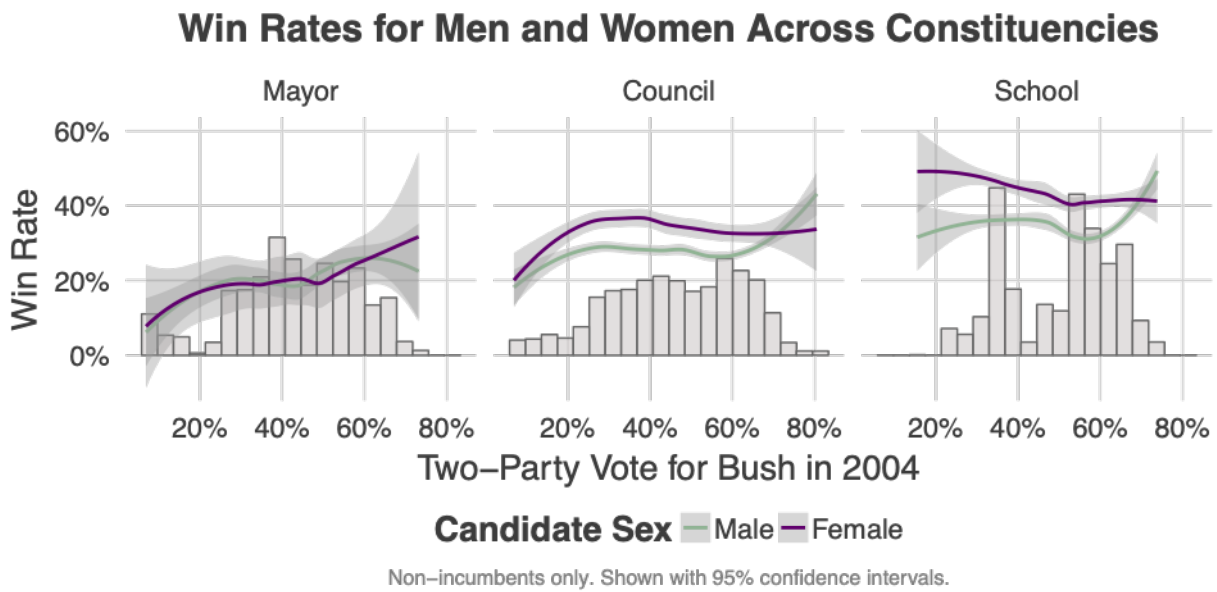


Figure 4. Women's advantage or disadvantage by office

