Partial Credit: Attribution Bias and the Political Representation of Women

April 17, 2019

Abstract. Despite the persistent underrepresentation of women, the electoral and political relevance of gender is still not well-understood. We provide evidence of a new form of discrimination, attribution bias, through which women officeholders receive less credit for their credentials and performance relative to men. Data from an original survey experiment administered with a national sample provide no evidence that voters exhibit outright discrimination against candidates on the basis of gender. Consistent with our argument, we then show that the returns to legislative efforts are significantly lower for women than they are for men, both in terms of general election vote shares and constituent approval rates. Our results provide initial support for the proposition that women politicians receive less credit for their work in office, therefore identifying a new potential source of gender bias in political evaluations and providing a new explanation for the political underrepresentation of women in American legislatures.

Word count: 8,795
More than a century after Jeanette Rankin became the first woman to serve in Congress, women remain severely underrepresented in American legislatures. While comprising a majority of the population, women hold 24 percent of the seats in the 116th United States Congress and 29 percent of the seats in state legislatures.\(^1\) The record numbers of women candidates who sought office\(^2\) and winning congressional primaries\(^3\) in the 2018 elections, however, brought greater media attentiveness to potential biases and double-standards that may disadvantage women candidates relative to their male peers.\(^4\) These questions have received even greater attention in the contest for the 2020 Democratic Party presidential nomination, where men candidates have received greater media attention (and less media scrutiny) than women candidates with comparatively greater accomplishments and more detailed policy proposals.\(^5\)

Despite the persistent underrepresentation of women in elected political positions, the electoral and political relevance of gender is still not well understood. Perhaps surprisingly, and in contrast with the popular accounts described above, an emerging scholarly consensus suggests that gender bias in politics is a thing of the past. For instance, studies of media coverage indicate that women’s campaigns are covered in the same way as men’s (e.g., Atkeson and Krebs 2008; Hayes and Lawless 2016) while analyses of aggregate election outcomes and individual level survey data suggest that voters exhibit no sex- or gender-based biases when evaluating candidates (e.g., Brooks 2013; Dolan 2010, 2014\(^a,b\); Hayes and Lawless 2015, 2016; Lawless and Fox 2010; Smith and Fox 2001).\(^6\) At the same time, female legislators work harder and are more successful


\(^6\)Other research indicates, however, that the application of gender stereotypes may be more subtle yet pervasive than these accounts indicate (Bauer 2015, Forthcoming).
than their male counterparts at a variety of activities, including sponsoring legislation, providing constituency service, and procuring federal grants for their district (e.g., Anzia and Berry 2011; Lazarus and Steigerwalt 2018; Volden, Wiseman, and Wittmer 2013), and female candidates tend to be more qualified and have greater experience than than their male counterparts (Fulton 2012, 2014)

Why do women officeholders outperform men yet hold office at much lower rates? In this paper, we argue that gender shapes how constituents evaluate politicians such that women officeholders receive less credit for their performance in office relative to men. In arguing that voters systematically discount the accomplishments of women politicians, we suggest that voters apply systematically different standards of accountability when evaluating incumbent officials. Our account builds upon recent work by Bauer (Forthcoming) to provide an explanation for why women overperform in office relative to men (e.g., Anzia and Berry 2011; Lazarus and Steigerwalt 2018; Volden, Wiseman, and Wittmer 2013) yet are less likely to express political ambition or be recruited by political parties to run for office (e.g., Fox and Lawless 2010, 2014; Hayes and Lawless 2016; Lawless and Fox 2010). In particular, we posit that the devaluing of women’s political efforts helps explain why well-qualified women may be dissuaded from seeking office and face greater political competition when they do (Lawless and Pearson 2008).

We report results from three sets of analyses to investigate our hypothesis. First, we report results from an original survey experiment conducted with a national sample of Americans to study the existence of gender discrimination at the candidate selection stage. In doing so, we investigate the possibility that women are perceived as less competent at core representational tasks, such as sponsoring legislation and procuring federal resources for the district. Results reveal little differences in the perceptions of male and female candidates. Across a wide range of outcome variables, we find no evidence of systematic discrimination against or in perceptions of candidates based on gender. Second, we study the existence of attribution bias by examining the relationship between legislative efforts and subsequent electoral success using data on House elections from 1974 to 2012. Consistent with our argument, we find that women legislators receive
significantly less credit for their legislative work relative to men legislators. Third, we extend our analysis to individual-level survey data using the Cooperative Congressional Election Study. Here, we again find that constituents systematically devalue the accomplishments of women legislators relative to men. We further find that these patterns exist mainly among women in the electorate. Overall, our results provide support for the proposition that women politicians receive less credit for their achievements in office, therefore identifying a new potential source of gender bias in political evaluations and providing a new explanation for the political underrepresentation of women in American legislatures.

**Gender Bias and Political Representation**

Two strands of literature analyze the political and electoral role of gender and provide somewhat competing explanations for gender disparities among U.S. officeholders. In the first, scholars have studied the presence of gender bias by examining how voters develop and apply gender-based stereotypes in the context of political candidates and officeholders. Following Huddy and Terkildsen (1993), this literature identifies two related but distinct forms of gender stereotyping. **Trait stereotyping** occurs when individuals associate gender with certain personality traits and apply these stereotypes to political candidates. In this context, women are often viewed as more compassionate, honest, and caring while men are viewed as tougher, more knowledgeable, and competent (e.g., Dolan 2004; Fridkin and Kenney 2009; Huddy and Terkildsen 1993; Leeper 1991; Sapiro 1981; Swers 2007). Voters use these trait stereotypes to infer that women have greater interest in and have an advantage on social issues, such as education, health, and the arts, but attribute advantages to men on issues related to the economy, foreign affairs, and national security. **Belief stereotyping** occurs when voters use gender-based stereotypes to infer a candidate’s political positions. This account implies that voters perceive that women candidates hold more liberal issue positions than their male counterparts.

Despite the extensive survey- and experimental-based evidence that support the use of these
stereotypes at the individual level, their implications in electoral contexts remain somewhat unclear. Voter perceptions of differential competence by candidate gender are often cited as a potential barrier to higher office for women, and it is common to suggest that women should emphasize more ‘masculine’ traits when on the campaign trail while downplaying their typically feminine characteristics. Yet even if voters do hold these stereotypes, scholars have found relatively little evidence that women candidates fare worse than men (e.g., Brooks 2013; Dolan 2010, 2014a, b; Hayes and Lawless 2015, 2016; Lawless and Fox 2010; Smith and Fox 2001). It is also possible, however, that stereotypes could work in favor of women by producing an underlying propensity to support women candidates (e.g., Goodyear-Grant and Croskill 2011; Sanbonmatsu 2002), particularly among women voters (Seltzer, Newman, and Leighton 1997). The effect of candidate gender on voting decisions could also be conditioned by voters’ political ideologies or party identification, or by the activation and salience of gender in campaign discussions (Bauer 2015). Overall, therefore, this literature generally suggests that gender-based stereotypes have an ambiguous effect on the electoral fortunes of women. In an important exception, however, Schneider and Bos (2014) show that stereotypes of women may not be applied to women candidates as directly as previous research suggests. Instead, Schneider and Bos (2014) argue that women candidates are viewed as systematically different from women more generally such that they are not attributed with any potentially positive characteristics that are typical of women. Additionally, they find that women candidates also ‘lose’ to men candidates in assessments of typically masculine traits.

A second body of literature, in contrast, argues that gender-based bias plays little to no role in the fate of women candidates. For instance, male and female candidates are equally likely to be described as having high levels of competence, leadership, integrity, and empathy by local media (Hayes and Lawless 2015) and raise campaign funds at similar levels (Crespin and Deitz 2010), indicating that women do not experience differentially hostile campaign environments. Further, Hayes and Lawless (2016) find that men and women candidates run similar campaigns and address the same kinds of political issues. Summarizing the findings from this literature, Smith and Fox (2001, 216) conclude: “[O]ur study . . . shut[s] the door on the claim that women
are underrepresented in Congress because of widespread bias against women candidates in the general election.” At the individual level, Lawless and Fox (2010, 7) argue that “voters’ views of candidates are shaped almost entirely by long-standing party attachments, leaving little room for sex to matter” (see also Brooks 2013 and Dolan 2014a). As Bauer (Forthcoming, 7) argues, “this research implicitly assumes that an absence of differences across candidate sex indicates that voters evaluate candidates through a gender-neutral process.” Instead, this literature argues that the political underrepresentation of women is due largely to disparities in recruitment, political ambition, and election aversion (Fox and Lawless 2010, 2014; Kanthak and Woon 2015; Lawless and Fox 2010; Lawless and Pearson 2008).

Attribution Bias in Evaluations of Women Politicians

While the more recent research described above provides an appealing narrative of an equal playing field for men and women political candidates, it is difficult to reconcile these findings with gender-based differences in legislative performance. Studying a range of legislative accomplishments, including bill introductions and cosponsorships, legislative effectiveness, provision of constituency service, and success in procuring federal grants, other research shows that women legislators are at least as successful as men (Jeydel and Taylor 2003), if not more so (Anzia and Berry 2011; Lazarus and Steigerwalt 2018; Volden, Wiseman, and Wittmer 2013). The implications of these findings are echoed by women legislators themselves, who report feeling that they need to work harder to overcome perceptions that they are less able and qualified (e.g., Lazarus and Steigerwalt 2018). While these patterns indicate that constituents represented by women legislators may receive higher quality representation, the findings also imply that women candidates must substantially outperform or be substantially more qualified than men to be elected to office. Similarly, Fulton (2012, 2014) shows that women candidates receive systematically lower vote shares once accounting for differences in candidate quality, as women are on average higher-quality candidates. This source of systematic bias in how women candidates are evaluated could explain the under-supply of women candidates. These biases may not result directly from neg-
ative stereotypes toward or explicit biases against women, but could instead reflect differential expectations of politicians based on gendered conceptions of representational behavior.

We seek to unify literature on gender, elections, and the political representation of women by presenting evidence that abstract assessments of women candidates fail to reveal important differences in how women officeholders are evaluated relative to men. To do so, we conduct two sets of analyses. First, we investigate whether Americans have different expectations for women and men elected representatives. To the extent gender bias manifests in electoral evaluations, it could result from the perception that women are simply not as competent or as capable as men. Therefore, beyond eliciting summary evaluations of men and women candidates, we test the hypothesis that men and women candidates are evaluated differently across a number of activities legislators may be expected to fulfill, including their potential effectiveness in sponsoring legislation, procuring grants for the district, and providing constituency service. If women legislators outperform men because Americans perceive that most women candidates would be more effective at performing particular representational activities, we expect to observe differences in these expectations across men and women candidates in the experiment. To preview, however, our experiment provides no evidence of differential perceptions of quality across men and women candidates, suggesting that more subtle forms of gender bias do not explain the underprovision of women officeholders and candidates.

Second, we investigate the presence of attribution bias in the electorate. Attribution bias refers to the idea that evaluators apply standards in an uneven and systematic fashion such that the same record of work is evaluated differently for different targets. In the context of men and women political candidates, the presence of attribution bias could manifest in women receiving less credit for their legislative effort relative to men. In this setting, voters discount the quality of representation provided by women officeholders relative to that provided by men. This theoretical proposition builds upon related work which finds that high-quality women candidates receive fewer votes relative to high-quality men candidates (Fulton 2012, 2014), voters apply gender stereotypes unevenly across men and women candidates to the disadvantage of women.
(Schneider and Bos 2014), and that voters hold women candidates to more stringent qualification standards relative to men (Bauer Forthcoming). Empirically, attribution bias would manifest in women politicians being evaluated less favorably for the same legislative record than a male politician.

Attribution bias is a more subtle form of gender discrimination in that it is unlikely to be expressed overtly and may not manifest in distinctly sexist or anti-women attitudes. Therefore, studying gender bias against women politicians by linking gender attitudes toward candidates for office is not likely to produce an accurate or complete characterization of its effects. Moreover, comparing the electoral success of men and women running for the same office does not provide a fully convincing design for evaluating the role of gender bias because rarely are the candidates so evenly-matched that voting for the man versus the woman can be interpreted as gender bias in a straightforward manner. Instead, attribution bias is more nuanced and subtle, and thus requires studying how voters evaluate candidates and officeholders as a function of those politicians’ behaviors.

While existing literature in political science provides little direct evidence about the potential for attribution bias to shape how voters evaluate politicians, scholarship in other fields provides evidence consistent with it and in ways that are analogous to the descriptive patterns of legislator accomplishment noted above. For instance, studies of educational attainment and labor force outcomes note that girls consistently outperform boys in primary and secondary education (e.g., DiPrete and Buchmann 2013), and women subsequently enroll in (and complete) college at much higher rates than men (e.g., Buchmann and DiPrete 2006). Despite these greater educational accomplishments, women earn less than men in the labor force (e.g., Goldin et al. 2017). Evidence from recent experimental research by Quadlin (2018) indicates that the discrepancy between educational attainment and labor force outcomes may be due to the systematic undervaluing of women’s educational accomplishments. This research finds that high-achieving men are significantly more likely to be interviewed for an employment position relative to high-achieving

\[\text{7}\text{However, see Bolotnyy and Emanuel (2018) for evidence that the earnings gap may be due to systematically different employment choices among women and men.}\]
women, and further shows that employers apply different standards for men and women when evaluating their personality traits.

We apply the insights from this research to legislative elections and study how voters evaluate legislators on the basis of the behavior they exhibit while in office. While the vast majority of scholarship on gender and other forms of bias focus on its presence at the initial stage of selection, relatively few studies evaluate how it may operate with respect to mechanisms of accountability. By studying the latter, we examine whether legislators are held to varying standards based on their gender. To evaluate the presence of attribution bias, we examine whether the links between these behaviors and voter evaluations vary on the basis of a legislator’s gender. If women legislators receive less credit for performing similarly as men, we expect to find that the relationships between voter evaluations (measured with general election vote percentage and constituent approval rates) and these behaviors are weaker for women legislators.

**Gendered Expectations? Experimental Evidence**

Elections serve two main purposes in democratic societies: they allow voters to choose among candidates whose future electoral success depend upon their performance in office, and they allow voters to retain ‘good’ incumbents and vote out ‘bad’ ones. We begin our empirical study by evaluating how voters evaluate candidates who initially seek office. In doing so, we explore common explanations of gender-based bias in the voting electorate, including low perceptions of likeability, ideology, and ability. If voters are biased against women candidates in elections, qualified women may be less likely to seek and win office, and the women who do may significantly outperform men. As we explained above, we also study the presence of gendered perceptions of competence and ability by evaluating whether constituents perceive women candidates as less effective legislators across a range of representational behaviors. Either form of bias could explain observed differences in behavior between men and women legislators. By studying a comprehensive range of evaluations of candidates on the basis of gender, moreover, we investigate whether
previous research may have overlooked potential evaluative biases that had previously been undetected.

To investigate these hypotheses, we modify the experimental design used in Carnes and Sadin (2014). In their study, respondents receive a vignette that describes an elected official and randomize details of the candidate’s upbringing and party. We use a similar design to conduct a conjoint experiment (Hainmueller, Hopkins, and Yamamoto 2014) while randomizing two additional candidate characteristics – candidate race and gender. Our experiment was embedded in a survey administered by YouGov and conducted in August 2018. The survey was fielded with a sample of 2,283 American adults weighted to the characteristics of the national population. YouGov respondents were recruited using an opt-in internet panel and matched to a target sampling frame on gender, age, race, education, party identification, ideology, and census region. Similar to other high-quality survey projects, such as the Cooperative Congressional Election Study, the characteristics of the sample therefore approximate those from a national probability sample.

All respondents were shown the instructions and vignette displayed in Figure 1. The characteristics in brackets were randomized for each respondent, allowing us to isolate the effects of each individual characteristic on our outcome variables of interest. The instructions, which state “Below is the biography of a [black/white] [man/woman] who is thinking of running as the [Democratic/Republican] candidate for Congress next year. Please read it carefully and answer the questions that follow,” serve the function of immediately informing the respondent of the candidate’s race, gender, and party. As explained by Carnes and Sadin (2014), the vignette that follows contains information on a candidate named Ron/Jane Campbell and is “modeled on the information typically provided on candidates’ official websites” (289). In addition to information on the candidate’s previous legislative experience, it also discusses occupation, education, and family.

After reading the biography, respondents were asked to rate the candidate along a number of dimensions that relate to theoretical explanations for gender-based differences in political eval-
Figure 1: Candidate Vignette

Below is the biography of a [black/white] [man/woman] who is thinking of running as the [Democratic/Republican] candidate for Congress next year. Please read it carefully and answer the questions that follow.

[Ron/Jane] Campbell is running as the [Democratic/Republican] candidate for Congress to bring accountability back to the political system. [He/She] knows that with integrity and commitment, we can put our country back on track. [Ron/Jane] has served two terms in the state legislature from 2002–2010. During [his/her] time in the state legislature, [he/she] served as Vice Chairman of the powerful Appropriations Committee, which shapes the state’s budget. [Ron’s/Jane’s] parents were [his/her] greatest teachers. [His/Her] father was a [factory worker/surgeon] and taught [Ron/Jane] the value of public service. [Ron/Jane] is a proud graduate of the [public school system/Philips Academy Andover, a selective private boarding school] and believes that every child deserves a high quality education. [Ron/Jane] has a steadfast commitment to the citizens of [his/her] state and has worked to bring jobs to the area and to promote economic growth. [He/She] is married to [Susan/John], [his/her] [wife/husband] of 24 years, and enjoys camping with [his/her] two sons, Jake and Scott, and [his/her] daughter, Erica.

Note: Text modified from Carnes and Sadin (2014). Attributes shown in brackets were randomized across respondents.
uations. First, we asked respondents several questions to gauge their overall summary evaluations. Following approaches common in the literature, respondents reported their perceptions of the candidate’s trustworthiness, their likelihood of voting for the candidate, and their evaluation of the candidate on a “feeling thermometer.” Trustworthiness and likelihood of voting were evaluated on four-point scales ranging from “very trustworthy [likely]” to “very untrustworthy [unlikely],” which we collapsed to binary measures. Feeling thermometer evaluations were measured on a 101-point scale, which we converted into a measure that ranged from zero to 1. This set of questions allows us to study traditional dimensions of gender bias in which Americans are outwardly less supportive of women than men.

Second, respondents rated the candidate’s perceived ideology on a five-point scale that ranged from “very liberal” to “very conservative.” Prior to viewing the candidate’s biography, respondents also evaluated their own ideological position along the same scale, which allows us to also study whether, on average, respondents perceive women candidates as less congruent with their other political views. These questions address the possibility that women are underrepresented in political office due to the perception that they hold political views that are less widely-held among the electorate.

Third, we asked respondents to characterize their perceptions of how successful the candidate would be at passing legislation, procuring federal resources for district constituents, and performing constituency service. These questions address prominent dimensions of legislative behavior and political representation (see, e.g., Ashworth and de Mesquita 2006) and were asked on a four-point scale that ranged from “very successful” to “very unsuccessful.” For ease of interpretation, we collapsed these responses to create binary measures.

Given the conjoint design of the experiment, we regressed these dependent variables on indicators for the candidate’s gender and the other characteristics randomized in the experiment. This specification provides estimates of the average marginal component-specific effect (AMCE) of gender, or the average difference in opinion towards women candidates in comparison to men candidates (Hainmueller, Hopkins, and Yamamoto 2014), averaged over the other characteristics.
that were randomly assigned. Random assignment of biographical details ensures that the estimated effects are not correlated with the other characteristics and helps address the possibility of confounding.

**Experimental Results**

Figure 2 shows the results for the effect of gender on our first set of measures which evaluate candidate support. If voters are biased against female candidates, we would expect that respondents express systematically lower levels of support for them. However, the results provide no evidence for this expectation. Figure 2 shows that women candidates were rated somewhat more trustworthy than men candidates, as respondents were nearly one percentage point more likely to evaluate women candidates as trustworthy compared to men. We also find that respondents were about two percentage points less likely to support women candidates than men. The difference in feeling thermometer ratings was virtually zero – about one tenth of one point on the original 101-point scale. For each dependent variables, the differences between evaluations of men and women candidates are extremely small in magnitude and none of them approach being statistically distinguishable from zero. The null effects shown in Figure 2 confirm the arguments from some existing scholarship and provide evidence that the American electorate does not appear to outwardly distinguish their evaluations of political candidates based on gender.
Figure 2: The Effect of Candidate Gender on Constituent Support

![Figure 2](image)

Note: The figure presents the average marginal component effect of candidate gender on respondents’ evaluations of the candidate. Positive values along the x-axis indicate that women candidates were evaluated more favorably. Horizontal lines are the 95% confidence intervals associated with the estimated effects and the vertical dashed line is the null hypothesis of no effect. \( N = 2,262 \) for trust, 2,275 for vote, 2,213 for the feeling thermometer.

Figure 3 shows the results of similar analyses when studying how respondents evaluate candidates’ ideological views. As described above, respondents evaluated the candidate on a five-point scale where larger values indicate the perception that the candidate was more conservative. As the top result in the figure shows, women candidates were evaluated as somewhat more liberal relative to men candidates. The difference is small in magnitude – 0.09 points on the five-point scale – but statistically significant at \( p = .051 \). While this difference suggests that gender stereotypes may lead voters to project more liberal policy views onto women, whether this quantity provides evidence of potential bias against women candidates and officeholders is unclear. The result shown in the bottom part of the figure suggests it does not. Here, positive values indicate that women candidates are perceived as less congruent than men candidates with respondents’ political views while negative values indicate that respondents perceived women candidates as more congruent with their ideological beliefs than men. The coefficient is negative (-0.02) but not
statistically significant, which indicates that respondents perceived women candidates as at least as congruent with their own ideological beliefs as they perceived men candidates. On the whole, therefore, the results in Figure 3 provide no evidence that gender-based ideological stereotyping is an important source of electoral bias against women candidates or officeholders.

**Figure 3:** The Effect of Candidate Gender on Perceptions of Ideology

![Graph showing the effect of candidate gender on perceptions of ideology.](image)

*Note:* The figure presents the average marginal component effect of candidate gender on respondents’ evaluations of the candidate. "Ideology" characterizes where respondents placed a candidate on a five-point ideological scale, where the *x*-axis indicates whether respondents provided more liberal (negative values) or conservative (positive values) of women related to men. "Ideological Distance" is the difference between the respondent’s self-placement and candidate-placement, where positive (negative) values indicate that women are perceived as less (more) congruent with respondent ideology. The horizontal bars are the 95% confidence intervals associated with the estimated effects and the vertical dashed line is the null hypothesis of no effect. *N* = 2,064 for both (204 respondents were "not sure" about their ideological beliefs).

In Figure 4, we show how candidate gender affected perceptions of the candidate’s quality or ability. For both dependent variables, women candidates received a small premium compared to men. Overall, about two percent more of respondents believed women candidate would be effective than the respondents who evaluated the men candidates. The difference is virtually zero (0.14 percentage points) when comparing perceptions of effectiveness for securing federal grants.
and outlays. The difference is larger when comparing perceptions of the candidates’ effectiveness at providing constituency service, where approximately three percent more of respondents who evaluated the women candidates believed they would be effective than respondents who evaluated men candidates. None of these differences, however, is statistically significant at conventional levels. Overall, the results in Figure 4 provide no evidence of differential perceptions of quality across men and women candidates. These findings, too, weigh against the possibility that the underprovision of women officeholders is due to public perceptions that women are likely to be less effective at providing representation than men.

**Figure 4:** The Effect of Candidate Gender on Perceptions of Representational Ability

Note: The figure presents the average marginal component-specific effect of candidate gender on respondents’ evaluations of the candidate. Each of the dependent variables is a binary measure. Positive values along the $x$-axis indicate that respondents rated women candidates more favorable than men. The horizontal bars are the 95% confidence intervals associated with the estimated effects and the vertical dashed line is the null hypothesis of no effect. $N = 2,257$.

Taken together, these results suggest little evidence of gender-based bias. Instead, they sup-
port the findings of Smith and Fox (2001), who argue that voters do not differentiate between candidates on the basis of gender. Moreover, they extend the inquiries from previous research to show that not only does the public not support women candidates at lower rates than men, but that they do not perceive women as systematically different from men based on ideological views, ability, or effectiveness. However, we argue that reactions to candidates at the selection stage are not the only ways through which gender-based bias may manifest in political evaluations. Instead, these findings provide no evidence about how voters apply standards of accountability when evaluating their officeholders. To the extent attribution bias leads voters to evaluate women officeholders on the basis of their records differently from men, we may be underestimating the potential for public biases to account for the rate of women’s representation.

**Attribution Bias in Evaluating Legislative Effort**

We examine attribution bias by testing the electoral returns to legislative effort and accomplishments. If our argument is correct, we would expect to observe that women receive fewer electoral rewards than men for similar work. We test this hypothesis by studying how legislators’ aggregate vote shares respond to their behavior in office. The dependent variable in our analysis is the two-party vote share received by House members in elections from 1974 to 2012. While Volden, Wiseman, and Wittmer (2013) show than women tend to be more effective legislators and work harder during their time in office, the electoral implications of this distinction remain unclear.

We evaluate legislators’ effort on the basis of whether they sponsored legislation on a high-profile policy matter. Writing such legislation is likely an indicator of legislative skill, and requires more resources to be invested than legislation that addresses less significant or ceremonial matters. Moreover, while constituents are unlikely to have detailed knowledge of all of their representative’s work while in office, it is considerably more likely that they have knowledge of their high-profile legislative efforts. We use data from Volden and Wiseman (2014) to distinguish
whether legislator \(i\) sponsored a “substantively significant” legislative act in congress \(c\). Overall, only 29 percent of legislators who stood for re-election had this kind of task on their record. The percentage of legislators in a given congress with at least one significant legislative sponsorship ranged from a high value of 45 percent in the 102nd Congress to a low of 9 percent in the 111th. Given the relative infrequency with which legislators perform this task, the measure provides a reasonable way to distinguish legislators by effort and skill.

We use a differences-in-differences framework to estimate the electoral returns to legislative work. Specifically, we regress a legislator’s vote share on whether they sponsored at least one substantively significant piece of legislation in the congress that immediately preceded it. For instance, a legislator’s work in the 109th Congress (2009-10) would be used to explain her vote share in the 2010 midterms. We use a within-legislator design by including legislator fixed effects, which holds constant the time-invariant characteristics of legislators and their constituencies that relate to their electoral performance. We also include congress fixed effects to account for variation across years in baseline levels of legislative effectiveness and which could be related to, for instance, trends in congressional polarization, partisan control, and legislative agendas.

Using this framework, our coefficient of interest is identified by variation in a given legislator’s efforts from one congress to the next. We interact the indicator for legislative effort with an indicator for whether the legislator is a woman. While the base term on this indicator is not identified due to the model’s use of legislator fixed effects, the coefficient for the interaction term reflects whether the slope on legislative effort differs across men and women. If our hypothesis is correct, we expect a negative coefficient on the interaction term, which would indicate that women received fewer electoral rewards for legislative work relative to men. In addition, we also estimate models that account for a variety of other factors that could confound the relationship between legislative behavior and reelection, including the member’s seniority, chairmanship

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\(^8\) Volden and Wiseman (2014) identify a bill as substantively significant if it were the subject of a year-end write-up in the *Congressional Quarterly Almanac*.

\(^9\) Only 16% had more than one, and only 9% had more than two. Therefore, our indicator for whether a legislator had at least one appears to be a reasonable way of distinguishing legislators based on the effort they put into legislation.
status, membership on important committees, and ideology (measured by Nokken-Poole NOMINATE scores). We also estimate robust standard errors clustered on legislator. Finally, we help address concerns about potential omitted variable bias by fully interacting each of our independent variables with the indicator for women legislators.

**Results: Election Outcomes, Gender, and Legislative Effort**

The results of these models are presented in Table 1. Model (1) shows the baseline model and includes the indicator for legislative effort and its interaction with women legislators along with congress and legislator fixed effects. The coefficient for *Legislative effort* is negative, small in magnitude, and not statistically distinguishable from zero, indicating the absence of a systematic relationship between legislative effort and electoral success among men legislators. The coefficient on the interaction term, however, is negative and statistically significant at $p < .10$. Not only do women receive fewer electoral *rewards* for their legislative work, but this coefficient also indicates that women legislators experience a relatively small but statistically significant electoral *penalty* for their legislative work. The sponsorship of substantively significant legislation is associated with a 1.4 percentage point reduction in vote share.

We find similar results in model (2), which contains the additional control variables referenced above. The coefficient for the base term for *Legislative effort* is now positive, yet it continues to be statistically indistinguishable from zero. The interaction term is again negative and statistically significant, indicating that the electoral returns to legislative efforts are significantly lower for women than they are for men.

These patterns are consistent when we focus our attention on contested races, as the right columns of Table 1 shows. To ensure that the results discussed above are not driven by idiosyncrasies related to House members who face no or only token major-party opposition and thus may have somewhat different electoral incentives, we estimate the same models on legislators who received less than 90 percent of the vote in the previous election.¹⁰ As the results show, we

¹⁰Our results are robust to a variety of other thresholds, but in the interest of preserving statistical power do
continue to find statistically significant evidence that women receive systematically less credit than men for their legislative efforts. The models indicate that women are penalized by nearly two percentage points for sponsoring substantively significant legislation whereas there is no such penalty among men.

Table 1: Gender and the Electoral Consequences of Legislative Effort

<table>
<thead>
<tr>
<th>DV = Legislator vote share</th>
<th>All elections</th>
<th>Contested elections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legislative effort</td>
<td>-0.173</td>
<td>0.318</td>
</tr>
<tr>
<td></td>
<td>(0.414)</td>
<td>(0.446)</td>
</tr>
<tr>
<td>Legislative effort × Woman</td>
<td>-1.392*</td>
<td>-1.428*</td>
</tr>
<tr>
<td></td>
<td>(0.838)</td>
<td>(0.849)</td>
</tr>
<tr>
<td>(Intercept)</td>
<td>71.229**</td>
<td>73.104**</td>
</tr>
<tr>
<td></td>
<td>(1.041)</td>
<td>(1.733)</td>
</tr>
</tbody>
</table>

Legislative fixed effects ✓ ✓ ✓ ✓ Congress fixed effects ✓ ✓ ✓ ✓ Controls ✓ ✓ Observations 7,222 7,222 4,984 4,984 Legislators 1,483 1,483 1,170 1,170

Note: Entries are linear regression coefficients with standard errors clustered on legislator in parentheses. Controls include seniority, the legislator’s Nokken-Poole NOMINATE score, and whether the legislator is a member of the majority party, a committee chair, or serves on a powerful committee (Appropriations, Ways and Means, or Rules). The indicator for women legislators is interacted with all other covariates in the models. The dependent variable is the legislator’s general election vote share.

* indicates p < .10 and ** indicates p < .05 (two-tailed tests).

Using the broad sweep of electoral history in Congress over the last four decades, the results in Table 1 provide evidence consistent with our argument. Women legislators receive systematically less credit for their legislative efforts relative to men. Using panel data and a within-legislator design, our results suggest that not only do women receive less credit than men for legislative effort, but that sponsoring important legislation may be an electoral liability for women. Moreover, not wish to use too low a threshold. We also find substantively similar results when distinguishing legislators who received less than 90 percent of the vote in the current election, but are reluctant to place as much emphasis on those results because the choice of threshold is itself post-treatment to a legislator’s accomplishments.
to our knowledge, this is the first analysis to identify the electoral returns to legislative effectiveness – and, consistent with our hypothesis, the electoral implications appear to be asymmetrically distributed across men and women.

**Attribution Bias in Individual-Level Evaluations**

We extend the analyses above in two key ways. First, rather than study aggregate election returns, we turn to an individual-level analysis to study how constituents evaluate their representatives. Moving beyond election results also allows us to understand how constituents who may not always vote evaluate their representatives. Second, by focusing on constituent-level evaluations we are able to study how legislator gender interacts with constituent gender.

To do so, we study constituent evaluations of members of the House of Representatives using data collected in the Cooperative Congressional Election Study (CCES) from 2006 to 2014. We limit our analysis to the even years of the study so that respondents are evaluating their representatives based upon the entire term. The CCES includes large samples of respondents from virtually every congressional district. Though the samples are not perfectly representative of the populations in each district (nor were they designed to be), these data provide the best available means for evaluating how gender affects the relationship between legislative behavior and constituent evaluations. Overall, constituents were represented by 743 unique legislators during this time period.

More specifically, we study how constituent approval ratings reflect representatives’ legislative work in a given congress. Constituent approval was originally evaluated using either a four- or five-point measure depending on the year; for simplicity, however, we collapse these responses into a binary measure that distinguishes approvers from all others. Across the five years of study, 47% of CCES respondents approved of their House representative. Our main independent variable mirrors the measure we used in the aggregate electoral analysis and is an indicator for whether a legislator sponsored a substantively significant legislative act. As before, not only are constituents
more likely to know of such efforts, but these bills present the most opportune occasions for credit claiming and position taking (Mayhew 1974).

We estimate linear probability models using an indicator for whether a constituent $i$ approves of the job performance of the legislator representing their district $j$ in year $t$ as our dependent variable. We include district and congress fixed effects to account for factors specific to particular districts or years that influence constituent evaluations, and party-by-year fixed effects to account for partisan tides in particular years that may disproportionately affect legislators from one party. Given this specification, our coefficients of interest are identified with changes in legislative behavior and changes in the gender of the legislators who represent a given district.

We also estimate models that account for a variety of other factors that could confound the relationship between legislative behavior and approval, including whether the constituent shares the legislator’s partisanship and the member’s seniority, chairmanship status, membership on important committees, and ideology (measured by Nokken-Poole NOMINATE scores). As above, we fully interact the indicator for women legislators with the other terms in the regression. We use survey weights in our analyses and cluster standard errors on district-year. Given the importance of credit claiming and position taking to the political fortunes of legislators, we expect bill sponsorship to be positively associated with constituent approval ratings. To the degree women legislators are subject to attribution biases, however, we expect that this association will be attenuated, in which case we would find negative coefficients for women.

The results of these analyses are presented in Table 2. Column (1) shows the findings from the minimally-specified model and column (2) reports results from the fully-specified model. The results are quite consistent across model specifications. First, as the coefficient estimates for Legislative effort show, legislative effort is positively associated with constituent approval when the constituent is represented by a man. However, we also note that these results are relatively small in magnitude and not statistically distinguishable from zero.

Most importantly for our argument, the interaction terms between legislative efforts and legislator gender are negatively signed and statistically significant. Men legislators may receive some
modest benefits in the form of somewhat higher approval ratings from their constituents from sponsoring substantively significant legislation. This is not the case among women. Instead, and consistent with the aggregate electoral findings shown above, women appear to be penalized for sponsoring substantively significant legislation, with a reduction in the probability in approval of four to six percentage points. Therefore, evidence from individual-level constituent evaluations is consistent with our hypothesis and indicates that constituents evaluate legislators differently based on the gender of those legislators.

Table 2: Gender, Legislative Efforts, and Constituent Approval Ratings

<table>
<thead>
<tr>
<th></th>
<th>Substantively significant legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DV = Legislator approval (binary)</td>
</tr>
<tr>
<td></td>
<td>(1) (2)</td>
</tr>
<tr>
<td>Legislative effort</td>
<td>0.006 0.011</td>
</tr>
<tr>
<td></td>
<td>(0.007) (0.008)</td>
</tr>
<tr>
<td>Woman</td>
<td>-0.010 -0.032</td>
</tr>
<tr>
<td></td>
<td>(0.015) (0.037)</td>
</tr>
<tr>
<td>Legislative effort × Woman</td>
<td>-0.061** -0.058**</td>
</tr>
<tr>
<td></td>
<td>(0.017) (0.016)</td>
</tr>
<tr>
<td>(Intercept)</td>
<td>0.467** 0.296**</td>
</tr>
<tr>
<td></td>
<td>(0.006) (0.015)</td>
</tr>
<tr>
<td>District fixed effects</td>
<td>✓</td>
</tr>
<tr>
<td>Year fixed effects</td>
<td>✓</td>
</tr>
<tr>
<td>Party-year fixed effects</td>
<td>✓</td>
</tr>
<tr>
<td>Controls</td>
<td>✓</td>
</tr>
<tr>
<td>Observations</td>
<td>228,541 228,541</td>
</tr>
</tbody>
</table>

Note: Entries are linear regression coefficients with standard errors clustered on district-year in parentheses. Controls include seniority, the legislator’s Nokken-Poole NOMINATE score, and whether the legislator is a member of the majority party, a committee chair, or serves on a powerful committee (Appropriations, Ways and Means, or Rules), and whether the legislator and constituent share the same partisanship. The indicator for women legislators is interacted with all other covariates in the models. The dependent variable is an indicator for whether respondents report approving of their representative from the 2006-2008-2010-2012-2014 CCES. * indicates p < .10 and ** indicates p < .05 (two-tailed tests).

Finally, we explore how these relationships vary across men and women constituents. The top panel of Table 3 shows results for the models estimated in Table 2 among women constituents.
and the bottom panel shows results when focusing on men constituents. We are primarily interested in comparing the patterns between the top and bottom panels of the table. This comparison yields several findings. First, both men and women constituents appear to be responsive to a legislator’s efforts, as the coefficients for substantively significant legislative sponsorships are consistently positive. Second, consistent with the experimental results we showed above, we find little systematic evidence of bias on the basis of legislator gender among either men or women constituents. Women constituents reported more positive evaluations of women legislators than men legislators, yet these differences are not statistically distinguishable from zero. Among women respondents, the coefficients are inconsistently signed. Third, and of greatest interest, we find some evidence that attribution bias is not being driven by men. Instead, women constituents appear to give women representatives less credit for their efforts relative to men representatives. In general, these findings weigh against the possibility that the results in Table 2 are driven by disproportionate biases exhibited by men constituents against women representatives and indicate that attribution bias shapes how both men and women constituents perceive and respond to their legislators’ efforts.

Overall, our results provide new evidence that women legislators receive substantially less credit for their work in office relative to men. Legislative effort is a much less important factor when constituents evaluate women legislators than when they evaluate men, and these relationships are not explained by disproportionately high sexism among male constituents. Instead, women appear to give less credit to women legislators for their performance in office along legislative dimensions. Altogether, the results provide support for our hypothesis that attribution bias affects the potential for political success among women legislators and that its presence could hinder women legislators’ abilities to retain their seats after they have initially won them.
Table 3: Attribution Bias and the Interaction of Legislator and Constituent Gender

<table>
<thead>
<tr>
<th>Women respondents</th>
<th>Substantively significant legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV = Legislator approval (binary)</td>
<td>(1)</td>
</tr>
<tr>
<td>Legislative effort</td>
<td>0.006</td>
</tr>
<tr>
<td></td>
<td>(0.009)</td>
</tr>
<tr>
<td>Woman</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
</tr>
<tr>
<td>Legislative effort × Woman</td>
<td>−0.095**</td>
</tr>
<tr>
<td></td>
<td>(0.021)</td>
</tr>
<tr>
<td>(Intercept)</td>
<td>0.433**</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
</tr>
<tr>
<td>District fixed effects</td>
<td>✓</td>
</tr>
<tr>
<td>Year fixed effects</td>
<td>✓</td>
</tr>
<tr>
<td>Party-year fixed effects</td>
<td>✓</td>
</tr>
<tr>
<td>Controls</td>
<td>✓</td>
</tr>
<tr>
<td>Observations</td>
<td>119,670</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Men respondents</th>
<th>Substantively significant legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV = Legislator approval (binary)</td>
<td>(1)</td>
</tr>
<tr>
<td>Legislative effort</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
</tr>
<tr>
<td>Woman</td>
<td>−0.027</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
</tr>
<tr>
<td>Legislative effort × Woman</td>
<td>−0.023</td>
</tr>
<tr>
<td></td>
<td>(0.023)</td>
</tr>
<tr>
<td>(Intercept)</td>
<td>0.505**</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
</tr>
<tr>
<td>District fixed effects</td>
<td>✓</td>
</tr>
<tr>
<td>Year fixed effects</td>
<td>✓</td>
</tr>
<tr>
<td>Party-year fixed effects</td>
<td>✓</td>
</tr>
<tr>
<td>Controls</td>
<td>✓</td>
</tr>
<tr>
<td>Observations</td>
<td>108,871</td>
</tr>
</tbody>
</table>

Note: Entries are linear regression coefficients with standard errors clustered on district-year in parentheses. Controls include seniority, the legislator’s Nokken-Poole NOMINATE score, and whether the legislator is a member of the majority party, a committee chair, or serves on a powerful committee (Appropriations, Ways and Means, or Rules), and whether the legislator and constituent share the same partisanship. The indicator for women legislators is interacted with all other covariates in the models. The dependent variable is an indicator for whether respondents report approving of their representative from the 2006-2008-2010-2012-2014 CCES. * indicates p < .10 and ** indicates p < .05 (two-tailed tests).
Conclusion

Persistent gender disparities in U.S. government remain something of a puzzle. Women who run for office do not win election at lower rates than men, and survey-based research finds little evidence of overt discrimination against the idea of women politicians. In this paper, we suggest an answer to this puzzle by suggesting that constituents systematically discount the legislative achievements of women legislators. Constituent evaluations of women legislators are systematically less associated with their legislative work than is true for men legislators. These patterns of attribution bias may help to explain both why women legislators significantly outperform men legislators and exhibit lower levels of political ambition.

Our theoretical focus on attribution bias is distinct from existing frameworks often used to study discrimination in elections and markets more generally. Our experimental evidence and our analysis of survey data indicates that, generally speaking, the American electorate appears not to harbor attitudes that are consistent with either taste-based or statistical discrimination such that women receive systematically lower levels of support than comparable men. Instead, as our analysis of election returns and survey responses indicate, Americans’ evaluations of officeholders provide women with systematically lower levels of support than men for the same legislative behaviors. This explanation helps unite literatures which find, on the one hand, that women officeholders are more effective and successful in office than their men counterparts (Anzia and Berry 2011; Lazarus and Steigerwalt 2018; Volden, Wiseman, and Wittmer 2013), while on the other hand showing that voters and the media evince no gender-based discrimination (Brooks 2013; Dolan 2010, 2014a,b; Hayes and Lawless 2015, 2016; Lawless and Fox 2010; Smith and Fox 2001). Therefore, we posit a new mechanism—attrition bias—for the relative undersupply of women candidates and underrepresentation of women in office. In suggesting this mechanism, moreover, we move beyond previous research that focuses on how gender affects the selection of candidates and instead focus on how voters apply retrospective evaluations which result in differential patterns of accountability. In combination with other related research (e.g., Bauer 2015, Forthcoming; Fulton 2012, 2014), our results suggest that biased against women are more subtle
yet pernicious than conventionally understood.

Our findings, however, have some important limitations and present opportunities for further research. First, our results regarding attribution bias are purely observational and preclude strong causal inferences. Respondents were not randomly assigned to be represented by legislators on the basis of legislators’ genders, which thus raises the standard concern that omitted or unobserved variables could explain the patterns shown here. Though we took care to employ research designs to best isolate the effect of legislator gender from other potential variables, we acknowledge the inferential challenges that accompany our observational setting. Second, the substantive magnitudes of our findings are relatively small. We suggest several possible explanations. In the contemporary era, high levels of partisanship and increasingly nationalization could preclude greater responsiveness to legislators on the basis of their records in office. Additionally, we lack a wider battery of measures that systematically characterize legislative accomplishments. Studying the interaction of attribution bias in other settings that are less partisan and with a broader array of legislator outputs is an important opportunity for future research. Third, though we posited the devaluing of women’s work as a mechanism for our observed findings, we did not provide direct evidence. Future scholarship could build upon this work by conducting both qualitative and quantitative research to understand how legislators’ efforts are understood and characterized by constituents and the media. Fourth, and finally, our approach opens up new pathways for exploring how and why women candidates might fare less well in electoral settings than men. By moving beyond standard electoral variables and investigating how voters form impressions of women officeholders along other representational dimensions, our research can hope to reveal new opportunities for studying how conscious and subconscious biases toward women politicians affect their opportunities for political success.
References


**URL:** https://doi.org/10.7910/DVN/II2DB6


Schneider, Monica C., and Angela L. Bos. 2014. “Measuring Stereotypes of Female Politicians.” *Political Psychology* 35 (2): 245–266.


Supplementary Materials for
“Partial Credit: Attribution Bias and the Political
Representation of Women”

Contents

A  Summary Statistics 1
## A Summary Statistics

**Table A.1:** Means of Outcome Variables by Candidate Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>0.725</td>
<td>0.789</td>
</tr>
<tr>
<td>Likelihood of Voting for Candidate</td>
<td>0.584</td>
<td>0.653</td>
</tr>
<tr>
<td>Likeability</td>
<td>0.590</td>
<td>0.629</td>
</tr>
<tr>
<td>Sponsor Legislation</td>
<td>0.754</td>
<td>0.806</td>
</tr>
<tr>
<td>Procure Grants</td>
<td>0.775</td>
<td>0.829</td>
</tr>
<tr>
<td>Constituency Service</td>
<td>0.799</td>
<td>0.849</td>
</tr>
<tr>
<td>Ideology</td>
<td>2.853</td>
<td>2.915</td>
</tr>
<tr>
<td>Ideological Distance</td>
<td>0.293</td>
<td>0.054</td>
</tr>
</tbody>
</table>