Gender and Representation:
A Tradeoff Between Constituency Service and Policy?

Danielle M. Thomsen
Syracuse University

Bailey K. Sanders
Duke University

Abstract

Previous research shows that women legislators outperform their male counterparts in the legislative arena, but scholars have yet to examine whether similar patterns emerge in non-policy aspects of representation as well. We conducted a field study of 6,500 U.S. state legislators to analyze whether female legislators outperform their male counterparts on constituency service in light of the extra effort they spend on policy. We find that women are more likely to respond to constituent requests than male legislators, even after accounting for their heightened level of policy activity. We explore two mechanisms for why women are more responsive to constituent requests, and our analyses suggest that Anzia and Berry's (2013) sex-based selection argument is also applicable to gender differences in constituency service. We then demonstrate that this finding is not a function of staff responsiveness, legislator ideology, or increased responsiveness to female constituents or gender issues. The results provide additional evidence that women perform better than their male counterparts across a range of representational activities.

Much of the research on gender and politics in the United States examines why women are underrepresented in elected office and whether they make a difference once they are there. These two questions are linked, as the dearth of women in politics becomes even more important if women represent citizens differently than male legislators. This paper addresses the impact of women in office: Do women change the political environment? Are they different from their male counterparts? A long line of research has demonstrated that women devote more attention to women's issues (Dodson 2006; Gerrity et al. 2007; Holman 2015; Osborn and Mendez 2010; Swers 2002), but a growing body of research suggests that female legislators improve the quality of representation for both male and female constituents. Female legislators are more effective at moving bills through the legislative process than male legislators (Volden and Wiseman 2011; Volden et al. 2013). Congresswomen speak on the House floor at greater rates than congressmen on a range of policy issues (Pearson and Dancey 2011). Constituents benefit directly too, as women bring more money to their districts than male legislators (Anzia and Berry 2011).

While several studies suggest that women legislators outperform their male counterparts on legislative productivity and performance, scholars have yet to examine whether female legislators outperform their male counterparts in the non-policy aspects of representation as well. In fact, we know little about gender differences in service responsiveness even though legislators spend ample time and resources on constituent concerns (Ellickson and Whistler 2001; Fenno 1978; Freeman and Richardson 1996). Constituency service is also a key way in which representatives gain electoral support. Citizens are generally satisfied with the response they receive, second-hand reports to family and friends are similarly positive, and those filing casework requests report higher levels of voting (Cain et al. 1987). Legislator biases in constituency service have been examined with respect to race and class (Broockman 2013;

Butler 2014; Butler and Broockman 2011; Carnes and Holbein 2015), but gender disparities have equally significant implications for the quality of representation.

We conducted a field study of 6,500 U.S. state legislators to examine whether female legislators outperform their male counterparts on constituency service in light of recent findings that they do so in the legislative realm. We find that women are more likely to respond, and to respond helpfully, to constituent requests than men, even after accounting for their heightened level of policy activity. We explore two distinct mechanisms for why women are more responsive to constituent requests: sex-based selection into elections and the underrepresentation of women in office. Our analyses suggest that Anzia and Berry's (2013) sex-based selection argument is also applicable to gender differences in service responsiveness. We then address a variety of alternative explanations and demonstrate that this finding is not a function of staff responsiveness, legislator ideology, or increased responsiveness to female constituents or gender issues. The results provide additional empirical evidence that women perform better than their male counterparts across a range of representational activities.

Outperformance Versus Representational Tradeoffs

The outperformance of women in terms of legislative performance has been linked to two distinct mechanisms.[1] Anzia and Berry (2011) develop a theory of sex-based selection into elections to explain their finding that female legislators bring more money to their district, on average, than men. The central argument is that only the most ambitious and qualified women run due to perceived or actual discrimination in the electoral process (see also Pearson and

[1] Volden et al. (2013) attribute the greater legislative effectiveness of minority party women to their ability to work with the majority party. This mechanism is less relevant here because negotiation and compromise are not necessary for constituent service in the same way they are for policy activity.

McGhee 2013). One way they test their proposed mechanism of sex-based selection is to leverage variation in discrimination across districts, and they use average constituent ideology in the district as a proxy for the prevalence of sex-based selection in a district. If more conservative districts tend to have higher levels of sex discrimination, the spending advantage of women legislators should be greater than that in more liberal districts. Indeed, they find that the positive effect of female representation on spending is larger in conservative districts where public attitudes are likely to be less open to the idea of women in politics (Anzia and Berry 2011).

In contrast, Pearson and Dancey (2011) attribute their finding that congresswomen speak more on the House floor than their male colleagues to the incentives that women have to prove themselves in a male-dominated institution. Women use floor speeches to increase their visibility and demonstrate their expertise to colleagues and constituents. Because the empirical focus is on the U.S. House in two congresses, the authors are unable to examine differences in floor speech patterns across many environments where this institutional incentive differs. Although there is minimal variation in women's representation at the federal level, the theoretical argument would likely predict that sex differences in floor speech patterns would diminish as the number of women in office increased and as the pressure to prove their legislative credentials decreased.

Although Anzia and Berry (2011) and Dancey and Pearson (2011) do not focus on constituency service, we would expect either mechanism to lead women legislators to outperform their male counterparts in this area of legislative activity as well. What limited research there is on the relationship between legislator gender and service responsiveness suggests that women legislators do, in fact, spend more time on casework than men. In a four-state survey of state legislators, Richardson and Freeman (1995) find that women receive more requests from constituents and also believe they put more emphasis on constituency service than

other legislators in their state. Thomas (1992) draws on a survey of city council members and shows that women spend more time on constituent concerns than male councilors. Additionally, several articles in the 1970s and 1980s found that women tend to emphasize their obligations to the community and the public interest more than their male counterparts (Antolini 1984; Diamond 1977; Flammang 1984; Johnson and Carroll 1978).

However, while these studies suggest that women legislators do outperform their male counterparts in service work, there is also reason to suspect the opposite might be true. First, the findings just discussed were based on women legislators' *perceptions* of the time they spent on casework, rather than objective measures of responsiveness, and women legislators may over report their efforts due to social expectations. Second, and perhaps more importantly, these previous studies of male and female legislators focus on a single dimension of representation; there are no analyses that examine gender differences in service aspects of representation in conjunction with policy aspects of representation. Yet we know that legislators have limited time and resources to allocate to their various duties, and they face important tradeoffs in how to fulfill their responsibilities (Ellickson and Whistler 2001; Freeman and Richardson 1996).

Harden's (2016) analysis of the multidimensional nature of representation, for instance, demonstrates that many factors can lead legislators to focus more on one dimension of representation and less on another. Some legislators devote more time and resources to policy responsiveness while others spend more on constituent service. Gender scholars have examined the policy dimension of representation, but they have yet to consider representational tradeoffs: whether women underperform their male counterparts on constituency service as a result of their increased legislative activity. The legislator surveys that uncovered gender differences in constituency service in the 1970s and 1980s were not analyzed alongside other legislative

activities, nor have the legislative productivity studies in recent years been discussed in relation to non-policy aspects of representation. It may be that women legislators are policy types but not casework types, devoting more attention to policy than their male counterparts but less to constituent service. Male and female legislators have limited time and resources, and women legislators may trade off constituency service in order to pursue their policy agenda

In sum, there are theoretical reasons to expect women to outperform or underperform on service work relative to their male counterparts. It may be that sex-based selection in the electoral environment or the pressure for women to prove their credentials in male-dominated institutions leads female legislators to outperform their male counterparts not only in the legislative realm but also in non-policy aspects of representation. On the other hand, the resource and time constraints that all legislators face may mean that female legislators' higher policy productivity leads to lower service productivity than their male legislators.

Field Study of State Legislators

We conducted a field study of 6,500 state legislators to examine whether female legislators are more or less responsive to constituent requests than their male counterparts.[2] Our design is similar to Butler and Broockman's (2011) and Butler's (2014). We used a 2x2 design and we randomized the gender of the sender and the gendered content of the email, but here we focus mainly on gender differences in responsiveness. We used a total of 10 aliases, 5 male and 5 female.[3] The text of the email that was sent to state legislators is provided in Box A1 in the

[2] We received IRB approval from both universities before conducting the study. See Appendix A for a description of the study and implementation.

[3] The names of the aliases are provided in Appendix A. We took the most common surnames from the 2000 census and the five most popular female and male names of the 1960s recorded by the SSA.

Appendix. All legislators received a request for voter registration information. We chose voter registration for a few reasons. We wanted our requests to require little effort due to ethical concerns.[4] We also sought to use an issue that has minimal partisan divides because we did not want to signal the ideology of the individual.[5] In addition, voter registration has already been used in several studies, so we could compare our results with those for additional validation.

Our sample includes state senators and representatives serving in all 50 U.S. states. We obtained their email addresses in March 2016 through state legislature websites and online searches. Like previous studies, we treat responses from either the legislator or a staff member as equivalent, with the level of analysis being the legislator's office (Butler 2014; Butler and Broockman 2011; Carnes and Holbein 2015).[6] Many decisions that affect representation are made at this level, and elected officials rely on staff to help with various aspects of their work. Unlike most previous studies, we also examine whether the reply was helpful because we are interested in the quality of the response as well. Replies were coded as helpful if they included any of the following information: an email link to online voter registration; an email link to information on how to register; an address, email address, or phone number of a government office; a name, email address, or phone number of an individual at a government office; or an

[4] We discuss ethical concerns and the potential for harm in Appendix B.

[5] While voter registration has been interpreted as a partisan issue, it is not the case that Republicans are less likely to respond to requests for voter registration information than Democrats, and in fact, they are more likely to do so. Voter registration also has a normative importance that is nonpartisan.

[6] About five percent of the emails came back as undeliverable, which is similar to the undeliverable rate in other studies (see Butler and Broockman 2011, 467). These emails are excluded from the analysis.

offer to personally deliver a voter registration card.[7] The majority of helpful replies consisted of email links to or contact information of the county or state board of elections.

We merged the field study data with bill sponsorship data from LegiScan (2016). LegiScan provides data on all bills that were sponsored in each of the 50 state legislatures, as well as the various sponsors and co-sponsors in the legislative session in which we sent out the email request. Of our full sample of state legislators, we were able to match 98.3 percent of them to the bill sponsorship data. Bill sponsorship is measured as the logged value of the total number of bills the legislator sponsored. The average number of bills that were sponsored by state legislators in this session is 124, but there is significant variation across states. For example, in California, one of the most professionalized legislatures, the average number of bills sponsored by a legislator is 280, which stands in sharp contrast to Wyoming's mean of 17. The reason for this variation is not our concern here, but state fixed effects are included in all of the models.

We also include a host of legislator and district characteristics, including the party of the legislator, state legislative chamber, party leader, minority party status, previous vote share, up for reelection, district ideology, district population, and median income of the district. The party and state legislative chamber data were obtained when we gathered the state legislators' email addresses, and the party leader and minority party status data were obtained from the National Conference of State Legislatures. We collected the legislator's previous vote share and whether the legislator was up for reelection in 2016 from Ballotpedia. We used Tausanovitch and Warshaw's (2013) district ideology estimates, and we used census data for district population and data from the National Historical Geographic System for the median income of the district.

[7] Our coding and analysis of helpful responses is similar to Broockman's (2013, Appendix). We also examined whether a reply was helpful among those who reply, and the results are the same (Appendix C).

Legislator Gender and Constituency Service

We use OLS regression to examine whether women are less responsive to constituent requests than men in light of their additional policy efforts.[8] The results of the field study are provided in Table 1.[9] We can see that female legislators are more, not less, responsive to constituent requests than male legislators. In addition, not only are female legislators more likely to respond to voter registration requests (Column 1), they are also more likely to provide information that will help constituents navigate the registration process (Column 2). The predicted probability of responding is five percentage points higher for female legislators than for men (59 and 54 percent, respectively) and the probability of providing a helpful response is six percentage points higher for women than for men (39 and 33 percent, respectively), controlling for legislator and district characteristics.[10] The magnitude of the effect is similar to that in Butler and Broockman's (2011) study as well.[11]

[8] Similar to previous research, our bill sponsorship data also show that women sponsor more bills, on average, than their male counterparts (Appendix D).

[9] We also ran multilevel models with legislators nested in districts and states, and the results are the same (Appendix E).

[10] All other variables are set at their mean or mode. The relationships are the same without the control variables: 57 percent of women and 53 percent of men responded to our email request, and 39 percent of women and 33 percent of men provided a helpful response (both are significant at $p<0.05$). We report OLS regression coefficients here, but logistic regression models are provided in the Appendix.

[11] We also examined gender differences in responsiveness in multi-member districts. The same patterns emerge, but the sample is very small and the relationship is not significant at $p<0.05$ (Appendix F).

Table 1: Gender and Legislative Responsiveness

	Reply	Helpful Reply	Reply	Helpful Reply
Female	0.05**	0.06**	0.04**	0.05**
	(0.01)	(0.01)	(0.01)	(0.01)
Bills Sponsored			0.04**	0.03**
			(0.01)	(0.01)
Republican	0.03†	−0.02	0.03*	−0.02
	(0.02)	(0.01)	(0.02)	(0.01)
Senator	0.05**	0.02	0.04*	0.02
	(0.02)	(0.02)	(0.02)	(0.02)
Party Leader	0.07†	0.07†	0.07	0.07
	(0.04)	(0.04)	(0.04)	(0.04)
Minority Party Member	−0.03*	−0.03*	−0.03*	−0.03*
	(0.01)	(0.01)	(0.01)	(0.01)
Previous Vote Share (10s)	−0.00	−0.01*	−0.01†	−0.01**
	(0.00)	(0.00)	(0.00)	(0.00)
Up for Reelection	0.31**	0.24**	0.49**	0.19†
	(0.09)	(0.09)	(0.10)	(0.11)
District Ideology	0.07**	−0.01	0.07**	−0.01
	(0.03)	(0.02)	(0.03)	(0.02)
District Population (100,000s)	−0.03*	−0.01	−0.03*	−0.01
	(0.01)	(0.01)	(0.01)	(0.01)
District Median Income ($10,000s)	0.00	0.02**	0.00	0.02**
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.34**	0.19**	0.26**	0.14**
	(0.05)	(0.05)	(0.06)	(0.05)
Observations	6,544	6,544	6,432	6,432
R^2	0.13	0.15	0.13	0.15

All models include state fixed effects. †p<0.1; *p<0.05; **p<0.01

We are also interested in whether this relationship holds when we take into account the increased policy activity of female legislators. Columns 3 and 4 suggest that it does. In fact, the coefficients remain virtually unchanged with the inclusion of bill sponsorship data. Even when accounting for bill sponsorship activity, women legislators are more likely to respond, and to respond helpfully, to constituent requests than their male counterparts. Bill sponsorship is actually positively associated with legislative responsiveness to our email request. Thus, it is not the case that women legislators devote less time to constituent service because of the extra attention they devote to policy work.[12] In our sample of state legislators, there is limited evidence of a tradeoff between policy activity and constituency service; rather, those who sponsor more bills are also more responsive to constituent requests.

Sex-Based Selection vs. Male-Dominated Institutions

The analyses above demonstrated that women legislators are more likely to respond to constituent requests than their male counterparts. We now focus on understanding *why* they do so. Scholars have identified two mechanisms for why women outperform their male counterparts in the legislative realm: sex-based selection in elections and the underrepresentation of women in office. Anzia and Berry (2013) suggest that women bring more money to their districts because only the most ambitious and qualified women run for office and that sex-based patterns of selection into elections are due to perceived or actual discrimination in elections. However, Pearson and Dancey (2011) instead attribute the heightened involvement of women in legislative debate to the incentives that women have to prove themselves and their expertise in a male-

[12] We interacted legislator gender and bill sponsorship activity, and the interaction term is not significant (Appendix G).

dominated institution. We test these two mechanisms by considering whether the positive effect of female representation on responsiveness is larger in more conservative state legislative districts and in legislative institutions with lower proportions of women in office.

We examine the sex-based selection mechanism by including an interaction between Tausanovitch and Warshaw's (2013) measures of state legislative district ideology and state legislator sex, which is similar to the empirical approach in Anzia and Berry (2013) but at the state legislative level. Higher values of district ideology correspond to increasing conservatism, and we would expect the coefficient on the interaction term to be positive and significant. We examine the male-dominated institution mechanism by including an interaction between the percentage of women in the state legislative chamber and state legislator sex. We use data from the Center for American Women and Politics (CAWP) (2016) for the number of female legislators in the lower or upper chamber, and we use Klarner's (2013) data for the total number of legislators in each chamber. In this case, the coefficient on the interaction term is expected to be negative and significant, as women should face less pressure to prove themselves as the number of women in office increases.

The results are presented in Table 2 below. We find evidence that is consistent with Anzia and Berry's (2011) sex-based selection argument. The interaction between district conservatism and state legislator sex is positive and significant in both models; the effect of female representation on legislator responsiveness is significantly larger in more conservative districts. The size of the coefficient is substantively large as well.

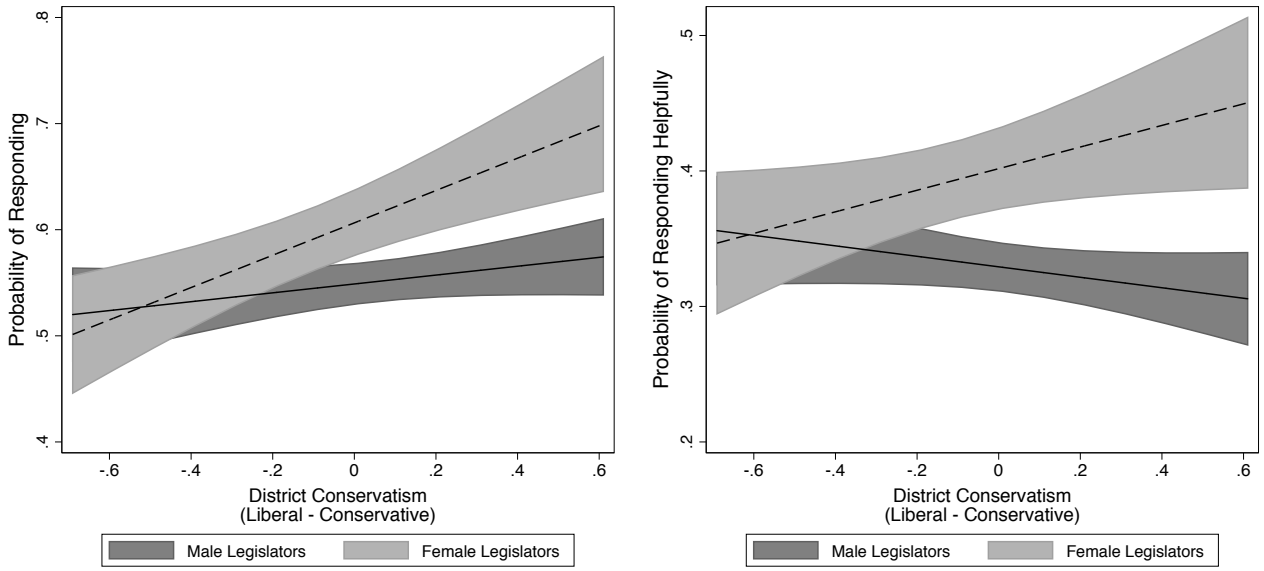
Table 2: Sex-Based Selection vs. Male-Dominated Institutions

	Reply	Helpful Reply	Reply	Helpful Reply
Female	0.06**	0.07**	0.02	0.03
	(0.02)	(0.01)	(0.05)	(0.04)
District Ideology	0.04	−0.04	0.07**	−0.01
	(0.03)	(0.03)	(0.03)	(0.02)
Female x District Ideology	0.12**	0.12**		
	(0.04)	(0.04)		
Percent Women			0.14	0.17
			(0.18)	(0.17)
Female x Percent Women			0.07	0.10
			(0.18)	(0.17)
Bills Sponsored	0.04**	0.03**	0.04**	0.03**
	(0.01)	(0.01)	(0.01)	(0.01)
Republican	0.03*	−0.02	0.03*	−0.02
	(0.02)	(0.01)	(0.02)	(0.01)
Senator	0.04*	0.02	0.04*	0.02
	(0.02)	(0.02)	(0.02)	(0.02)
Party Leader	0.07†	0.07	0.06	0.06
	(0.04)	(0.04)	0.04	0.04
Minority Party Member	−0.03*	−0.03*	−0.03*	−0.03*
	(0.01)	(0.01)	(0.01)	(0.01)
Previous Vote Share (10s)	−0.00	−0.01*	−0.01†	−0.01**
	(0.00)	(0.00)	(0.00)	(0.00)
Up for Reelection	−0.43**	−0.46**	−0.43**	−0.46**
	(0.06)	(0.06)	(0.06)	(0.06)
District Population (100,000s)	−0.03*	−0.01	−0.03*	−0.01
	(0.01)	(0.01)	(0.01)	(0.01)
District Median Income ($10,000s)	0.00	0.02**	0.00	0.02**
	(0.00)	(0.00)	0.00	(0.00)
Constant	0.65**	0.47**	0.63**	0.45**
	(0.06)	(0.07)	(0.07)	(0.07)
Observations	6,432	6,432	6,432	6,432
R^2	0.13	0.15	0.13	0.15

All models include state fixed effects. †p<0.1; *p<0.05; **p<0.01

Figure 1 presents the predicted probability of responding and responding helpfully for male and female state legislators across values of district conservatism. The probability that female legislators respond is 56 percent for an average district in California, compared to 65 percent for an average district in Alabama. (Average district conservatism is -0.32 in California and 0.26 in Alabama.) In addition, the 9 percentage point difference in the probability of responding between the average male and female legislator in Alabama (56 and 65 percent, respectively) is approximately double that of the effect of gender above. Similarly, the predicted probability that a female legislator responds helpfully is 38 percent in California and 42 percent in Alabama. The relationship between district conservatism and legislator responsiveness is not significant for male legislators in either model. Interestingly, the likelihood of responding does not differ between male and female legislators in very liberal districts, but there are also few observations and the coefficient on the female variable is positive and significant in the model.

Figure 1: Predicted Probability of Responding and Responding Helpfully by District Conservatism and State Legislator Sex



Note: Predicted probabilities are calculated from the models in Table 2.

We find little support for the male-dominated institution mechanism, however. The interaction is not statistically significant, and the probability of responding and responding helpfully overlaps for male and female legislators across levels of women's representation in the chamber. However, one crucial point to note is that women are dramatically underrepresented across state legislative institutions and perhaps there are too few legislatures at the very high end of this range for us to adequately test the argument. There are only 103 male legislators and 80 female legislators in the sample who were in legislative chambers with more than 40 percent women, which is only 3 percent of the sample of state legislators. The average percentage of women in the legislative chamber is 24 percent, and the lack of cases at the upper end of the distribution limits how fully we can test this mechanism. Nevertheless, in the sample of state

legislators here, there is little evidence of a relationship between the presence of women in legislative institutions and the likelihood of constituent responsiveness across female legislators.

Alternative Explanations

The results provide additional evidence that female legislators outperform their male counterparts across a range of representational activities. This section briefly examines several alternative explanations that would cast doubt on the idea that quality differences between male and female legislators are the reason that women are more responsive to constituent requests than men. First, it is possible that female legislators hire more competent staff than male legislators, and staff responses, rather than legislator responses, can account for this relationship. To address this possibility, we looked at states with no legislative staff (Columns 1 and 2 of Table 3), and we also coded whether the reply came from the legislator or a member of her staff so we could exclude staff replies (Columns 3 and 4). The pattern is the same: female legislators are more responsive to constituent requests than men even in states with no legislative staff and excluding staff replies. Thus, there is little evidence that this gender difference is due to staff responses.

Another possibility is that women legislators are more likely to hire female staff and that female staff are more competent than male staff. We cannot measure this directly, but one implication is that staff replies from the offices of female legislators should be more likely to come from women than staff replies from the offices of male legislators. We coded whether the staff reply came from a male or female name, and replies from the offices of female legislators are as likely to come from women as replies from the offices of male legislators.[13]

[13] We additionally controlled for staff to legislator ratio and whether the legislator hires her own staff, and the findings are the same (Appendix H provides a full discussion of staff differences).

Table 3: Legislative Responsiveness, Considering Staff and Legislator Ideology

	Reply (No Staff)	Helpful Reply (No Staff)	Reply (Leg Only)	Helpful Reply (Leg Only)	Reply	Helpful Reply
Female	0.06*	0.04*	0.04*	0.04*	0.04*	0.04**
	(0.03)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Legislator Ideology					0.05**	0.04**
					(0.02)	(0.02)
Bills Sponsored	0.08**	0.02†	0.04**	0.02*	0.04**	0.04**
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Republican	0.01	−0.07**	0.03†	−0.02†	0.09**	0.05*
	(0.03)	(0.02)	(0.02)	(0.01)	(0.03)	(0.03)
Senator	0.05	−0.03	−0.01	−0.04*	0.04†	0.03
	(0.04)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Party Leader	−0.08	−0.01	0.03	0.06	0.08†	0.09*
	(0.08)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Minority Party Member	−0.02	−0.04†	−0.03	−0.02†	−0.03†	−0.02
	(0.03)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)
Previous Vote Share (10s)	0.00	0.00	−0.00	−0.01*	−0.01†	−0.01**
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Up for Reelection	−0.08	0.12	0.36**	0.08	0.24*	−0.00
	(0.15)	(0.13)	(0.11)	(0.12)	(0.12)	(0.14)
District Ideology	0.08	0.05	0.06*	−0.01	0.07*	−0.02
	(0.05)	(0.04)	(0.03)	(0.02)	(0.03)	(0.03)
District Population (100,000s)	−0.01	0.05	−0.03**	−0.01	−0.03*	−0.02
	(0.07)	(0.06)	(0.01)	(0.01)	(0.01)	(0.01)
District Median Income ($10,000s)	0.01	0.02**	−0.00	0.01*	0.01†	0.02**
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.10	0.05	0.42**	0.32**	0.45**	0.26**
	(0.09)	(0.07)	(0.09)	(0.08)	(0.08)	(0.08)
Observations	1,932	1,932	4,973	4,973	5,036	5,036
R^2	0.08	0.09	0.10	0.09	0.14	0.15

All models include state fixed effects. †p<0.1; *p<0.05; **p<0.01

Alternatively, female state legislators might be more responsive because they are more liberal, on average, than their male counterparts (Carroll and Sanbonmatsu 2013). Liberal legislators may spend more time and energy on constituency service than conservative legislators who believe the role of government should be limited (Cain et al. 1987; Ellickson and Whistler 2001; Freeman and Richardson 1996). We include Bonica's (2014) estimates of state legislator ideology, with higher values corresponding to ideological liberalism. The results are presented in Columns 5 and 6 of Table 3. Liberal legislators are more likely to respond to constituent requests, but women are still more responsive than their male counterparts.

Finally, it may be that women are more likely to respond to female constituents than men.[14] In addition, a host of studies have shown that women legislators are more responsive on women's issues, so perhaps women are more responsive to gender-related appeals. As noted above, we included an experimental aspect in our study to delve into both possibilities further. In half of the emails, we added a gender appeal to examine whether legislators respond differently to requests that reference gendered concerns. We invoked gender by noting that the individual was a mother or father of two and concerned about the rising costs of childcare.[15] The results with the gender of the constituent and the gendered nature of the appeal are provided in Table 4. The relationships are again the same. Women respond at higher rates to all requests, regardless

[14] It is also possible that women receive more requests from constituents and are thus better at dealing with such requests. We examined this possibility in Appendix I, but we find little evidence for this.

[15] Because the emails were sent from male and female aliases, we sought to invoke gender in a way that would sound plausible coming from men and women. We did not want the atypical nature of the request to influence responsiveness (such as requests from men on how to apply for food stamps or enforce child support payments). Also, some gender issues more explicitly intersect with race than others, and we chose a gender issue that was less overtly tied to race in contemporary U.S. politics.

of the gender of the constituent or the gendered content of the email.[16] In sum, the findings are consistent across a host of specifications and analyses: women legislators are more likely to respond, and to respond helpfully, to constituent requests than their male counterparts, even after accounting for their increased legislative activity.

[16] We also interacted female legislator with constituent gender and gender appeal, and neither of the interaction terms are statistically significant (Appendix J).

Table 4: Legislative Responsiveness and Gender-Based Representation

	Reply	Helpful Reply	Reply	Helpful Reply
Female	0.04**	0.05**	0.04**	0.05**
	(0.01)	(0.01)	(0.01)	(0.01)
Female Constituent	−0.01	−0.01		
	(0.01)	(0.01)		
Gender Appeal			−0.00	0.01
			(0.01)	(0.01)
Bills Sponsored	0.04**	0.03**	0.04**	0.03**
	(0.01)	(0.01)	(0.01)	(0.01)
Republican	0.03*	−0.02	0.03*	−0.02
	(0.02)	(0.01)	(0.02)	(0.01)
Senator	0.04*	0.02	0.04*	0.02
	(0.02)	(0.02)	(0.02)	(0.02)
Party Leader	0.07	0.06	0.07	0.06
	(0.04)	(0.04)	(0.04)	(0.04)
Minority Party Member	−0.03*	−0.03*	−0.03*	−0.03*
	(0.01)	(0.01)	(0.01)	(0.01)
Previous Vote Share (10s)	−0.01†	−0.01**	−0.01†	−0.01**
	(0.00)	(0.00)	(0.00)	(0.00)
Up for Reelection	0.48**	0.19†	0.49**	0.19†
	(0.10)	(0.11)	(0.10)	(0.11)
District Ideology	0.07**	−0.01	0.07**	−0.01
	(0.03)	(0.02)	(0.03)	(0.02)
District Population (100,000s)	−0.03*	−0.01	−0.03*	−0.01
	(0.01)	(0.01)	(0.01)	(0.01)
District Median Income ($10,000s)	0.00	0.02**	0.00	0.02**
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.27**	0.15**	0.26**	0.13**
	(0.06)	(0.05)	(0.06)	(0.05)
Observations	6,432	6,432	6,432	6,432
R^2	0.14	0.15	0.13	0.15

All models include state fixed effects. †p<0.1; *p<0.05; **p<0.01

Conclusion

There has been a steady accumulation of evidence indicating that female legislators have a positive impact on representation. The difference women make in office has largely been examined with respect to legislative outcomes and behavior, but constituent service is a critical component of what elected officials do as well. We conducted a field study of 6,500 U.S. state legislators to test whether women legislators underperform their male counterparts on constituent service in light of their additional policy efforts. We also incorporate policy activity and constituent service under the same umbrella and are able to account for bill sponsorship patterns as well. We find that women are more, not less, responsive to constituent requests than their male counterparts, even after accounting for their increased policy activity.

In addition, this result emerges regardless of constituent gender and regardless of the content of the request. Women are not more likely to respond to female constituents, nor are men more likely to respond to male constituents; female legislators are simply more likely to respond to everyone. Thus, although female legislators often take additional initiative—in terms of bill drafting, sponsorship, and support—on women's issues, they devote equal amount of time to constituent requests regardless of constituent gender. We also demonstrate that this gender difference in legislator responsiveness is not due to staff differences, legislator ideology, or increased responsiveness to gender-related issues.

We also explored two potential mechanisms for why women are more responsive to constituent requests than men: the selection of higher quality women into elections due to perceived or actual discrimination in the electoral process and the need for women to prove themselves in a male-dominated legislative institution. We find support for Anzia and Berry's (2013) argument regarding sex-based patterns of selection into elections, and we demonstrate

that the positive effect of female representation on legislator responsiveness is larger in more conservative districts. However, we do not find a relationship between the proportion of women legislators and their responsiveness to constituent requests. Future research should continue to analyze how various electoral and legislative environments shape patterns of women's representation and the types of women and men who are elected to office (Thomsen 2015, 2017).

More generally, the results provide additional evidence that women legislators outperform their male counterparts across a range of representational activities, and they offer further motivation for increasing the number of women in politics. The election of women to office not only helps to rectify descriptive inequities in legislatures, but it also improves representative-constituent linkages more generally. The benefits of women's descriptive representation have traditionally been associated with female constituents and women-specific policy goods, but our findings contribute to a growing body of research suggesting that these benefits extend more broadly and to men and women alike. Whether representation is measured as legislative productivity, the allocation of district-level goods, or assistance with constituent concerns, the evidence is mounting that the quality of legislative representation is simply better for male as well as female citizens who are represented by women.

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List of Appendices

Appendix A: Implementation of Field Study

We received IRB approval from both universities before conducting the study (protocol numbers 16-053 and D0473). The text of the email sent to state legislators is provided below. We used a 2x2 design, and we randomized constituent gender and the gendered nature of the request.

Box A1: Email Sent to State Legislators

From: **[*Female / Male Name*]**
To: **[Legislator's Email Address]**
Subject: Voter Registration

My name is **[*Female / Male Name*]** and I'm trying to figure out how to register to vote for the upcoming election. **[{*Blank*} / {*As a Mother / Father of two, I'm concerned about the rising costs of childcare and that's why it is so important for me to vote.*}]** I heard the voter registration deadline is soon and I do not want to miss it. Who should I call in order to register?

Sincerely,

[*Female / Male Name*]

This resulted in four treatments, one of which was received by each legislator.

Table A1: Treatments

	Male	**Female**
Gender Treatment	Male, Gendered	Female, Gendered
No Gender Treatment	Male, Non-Gendered	Female, Non-Gendered

For our constituent gender treatment, we created ten different aliases, five male and five female (Michael/Lisa Smith; David/Mary Johnson; John/Susan Williams; James/Karen Miller; Robert/Kimberly Jones). Each email address was linked to its own individual domain name. For example, Michael Smith's email address was michael@michaelsmith10.com while Lisa Smith's was lisa@lisasmith10.com. We created different aliases to decrease the chance that legislators serving in the same legislature would receive identical emails from identical constituents.

In order to ensure that the random assignments of constituent gender and gender appeal fell evenly across the population of legislators, we used a two-step randomization process. We first randomly assigned each legislator to one of the four treatment conditions. We then randomly assigned the corresponding gendered aliases to each of the four resulting treatment blocks. For example, those legislators who received the female, non-gendered treatment were randomly assigned one of the five female aliases, as were the legislators who received the female, gendered treatment. Similarly, the legislators who received the male, non-gendered treatment and the male, gendered treatment were randomly assigned one of the 5 male aliases. Tables A2 and A3 demonstrate that the gender treatment and gender appeal treatment were evenly distributed across parties and sex of legislator.

Table A2: Gender Appeal

	Gender Treatment	**No Gender Treatment**
Republican	2097 (50%)	2023 (50%)
Democrat	1595 (51%)	1523 (48%)
Male Legislator	2816 (51%)	2697 (48%)
Female Legislator	906 (50%)	886 (49%)

Table A3: Constituent Gender

	Male Constituent	**Female Constituent**
Republican	2072 (50%)	2048 (40%)
Democrat	1554 (49%)	1564 (50%)
Male Legislator	2773 (50%)	2740 (49%)
Female Legislator	886 (49%)	906 (50%)

Table A4 presents a randomization check verifying that the random assignments of constituent gender and gender appeal were also uncorrelated with observable characteristics of the replies.

Table A4: Randomization Check

	Gender Appeal	Female Sender
Female Legislator	0.01	−0.05
	(0.06)	(0.06)
Republican	−0.00	−0.03
	(0.07)	(0.07)
Senator	−0.02	0.03
	(0.06)	(0.06)
Party Leader	−0.10	0.22
	(0.18)	(0.18)
Minority Member	−0.02	0.01
	(0.06)	(0.06)
Previous Vote Share (10s)	−0.00	0.00
	(0.00)	(0.00)
Up for Reelection	0.03	0.07
	(0.08)	(0.08)
District Ideology	0.08	0.02
	(0.09)	(0.09)
District Population (100,000s)	0.00	−0.01
	(0.02)	(0.02)
District Median Income ($10,000s)	−0.03†	0.01
	(0.02)	(0.02)
Constant	0.10	−0.18
	(0.14)	(0.14)
Observations	6,544	6,544
Log Likelihood	−4,531.64	−4,532.86

†p<0.1; *p<0.05; **p<0.01

We also checked to see if the response rate differed across the ten aliases. For the most part, the aliases received similar response rates, as shown in Table A5. The response rate to the Kimberly Jones alias, however, did differ from the other nine aliases (49 vs. 55 percent; $p<0.01$). With respect to helpful replies, the response rate to the Michael Smith alias was slightly higher than that to the other nine aliases (37 vs. 34 percent; $p<0.10$).

Table A5: Response Rates by Alias

Reply		**Helpful Reply**	
Michael Smith: 56%	Lisa Smith: 57%	Michael Smith: 37%	Lisa Smith: 35%
David Johnson: 53%	Mary Johnson: 56%	David Johnson: 33%	Mary Johnson: 34%
John Williams: 53%	Susan Williams: 56%	John Williams: 33%	Susan Williams: 34%
James Miller: 52%	Karen Miller: 54%	James Miller: 32%	Karen Miller: 34%
Robert Jones: 57%	Kimberly Jones: 49%	Robert Jones: 36%	Kimberly Jones: 34%

Table A6 presents the models in Table 1 with the addition of a dummy variable for the Kimberly Jones and Michael Smith aliases in the reply and helpful reply models, respectively. The results are the same as those in the article: women are more likely to respond, and to respond helpfully, than their male counterparts.

Table A6: Gender and Legislative Responsiveness, Controlling for the Kimberly Jones and Michael Smith Aliases

	Reply	Reply	Helpful Reply	Helpful Reply
Female	0.05**	0.04**	0.06**	0.05**
	(0.01)	(0.01)	(0.01)	(0.01)
Kimberly Alias	−0.06**	−0.06**		
	(0.02)	(0.02)		
Michael Alias			0.03†	0.03†
			(0.02)	(0.02)
Bills Sponsored		0.04**		0.03**
		(0.01)		(0.01)
Republican	0.03†	0.03†	−0.02	−0.02
	(0.02)	(0.02)	(0.01)	(0.01)
Senator	0.05**	0.04*	0.02	0.02
	(0.02)	(0.02)	(0.02)	(0.02)
Party Leader	0.07†	0.07	0.07†	0.07
	(0.04)	(0.04)	(0.04)	(0.04)
Minority Party Member	−0.03*	−0.03*	−0.03*	−0.03*
	(0.01)	(0.01)	(0.01)	(0.01)
Previous Vote Share (10s)	−0.00	−0.01†	−0.01*	−0.01**
	(0.00)	(0.00)	(0.00)	(0.00)
Up for Reelection	0.31**	0.48**	0.24**	0.19†
	(0.09)	(0.10)	(0.09)	(0.11)
District Ideology	0.07**	0.07**	−0.01	−0.01
	(0.03)	(0.03)	(0.02)	(0.02)
District Population (100,000s)	−0.03*	−0.02*	−0.01	−0.01
	(0.01)	(0.01)	(0.01)	(0.01)
District Median Income ($10,000s)	0.01	0.00	0.02**	0.02**
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.35**	0.27**	0.19**	0.14**
	(0.05)	(0.06)	(0.05)	(0.05)
Observations	6,544	6,432	6,544	6,432
R^2	0.13	0.14	0.15	0.15

All models include state fixed effects. †p<0.1; *p<0.05; **p<0.01

Appendix B: Ethical Concerns and Potential for Harm

It is important to discuss the ethical concerns that arise when conducting a field study such as ours.[17] As Butler and Broockman (2011) note, there are three main points of concern: the use of deception, the potential for harm, and the potential burden of the treatment. First, the nature of this field study requires that we deceive state legislators by using fictional aliases and by manipulating the type of email message received. This was a necessary component of the study, because we wanted to see whether or not male and female legislators differed in response rates when responding to "real" male and female constituents. If we had obtained consent prior to the study, we could not have been certain that legislator behavior had not changed as a result. Second, deception was necessary in order to ensure that we could randomly assign both the gender and gender appeal treatments equally across the population of legislators.

We also had to take into account the potential for harm. Following Butler and Broockman (2011), we took steps to maintain the anonymity of the legislators' responses. The results presented are average comparisons and, given that each legislator only received one email, we cannot say whether or not they would have responded to the other treatments. Finally, we needed to consider the burden placed on both legislators and their constituents, and we were careful to design a treatment that did not take too much time nor divert attention away from real constituents' concerns. Although some legislators clearly went above and beyond the call of duty in their helpful responses to our "constituent" emails, the vast majority of emails we received would have taken only a couple of minutes to compose. Responding to our treatment should not have caused any significant harm to legislators or their constituents, and we are confident we left a very small footprint in the wake of our study.

[17] For additional discussion, see Teele (2014).

Appendix C: Legislator Gender and Helpful Response, Among Those Who Replied

	Helpful Reply	Helpful Reply (Leg Only)
Female	0.06**	0.04†
	(0.02)	(0.02)
Bills Sponsored	0.01	0.01
	(0.01)	(0.02)
Republican	−0.07**	−0.11**
	(0.02)	(0.03)
Senator	−0.01	−0.07*
	(0.02)	(0.03)
Party Leader	0.04	0.09
	(0.05)	(0.07)
Minority Party Member	−0.02	−0.02
	(0.02)	(0.02)
Previous Vote Share (10s)	−0.00	−0.01
	(0.00)	(0.01)
Up for Reelection	0.37**	0.17†
	(0.10)	(0.10)
District Ideology	−0.09**	−0.11*
	(0.03)	(0.04)
District Population (100,000s)	0.01	0.02
	(0.01)	(0.04)
District Median Income ($10,000s)	0.02**	0.02**
	(0.00)	(0.01)
Constant	0.53**	0.82**
	(0.09)	(0.13)
Observations	3,523	2,064
R^2	0.18	0.17
All models include state fixed effects.	†p<0.1; *p<0.05; **p<0.01	

Appendix D: Legislator Gender and Bill Sponsorship

	Bills Sponsored	
Female	0.08**	0.07**
	(0.02)	(0.02)
Republican		−0.06**
		(0.02)
Senator		0.21**
		(0.02)
Party Leader		−0.12
		(0.09)
Minority Party Member		−0.03
		(0.02)
Previous Vote Share (10s)		0.01*
		(0.00)
Up for Reelection		3.44**
		(0.10)
District Ideology		−0.11**
		(0.03)
District Population (100,000s)		−0.05**
		(0.01)
District Median Income ($10,000s)		0.02**
		(0.01)
Constant	3.45**	2.14**
	(0.07)	(0.08)
Observations	6,827	6,432
R^2	0.80	0.80
All models include state fixed effects.	†p<0.1; *p<0.05; **p<0.01	

Appendix E: Multilevel Models with Legislators Nested in Districts and States

	Reply	Helpful Reply	Reply	Helpful Reply
Female	0.05**	0.06**	0.04**	0.06**
	(0.01)	(0.01)	(0.01)	(0.01)
Bills Sponsored			0.04**	0.03**
			(0.01)	(0.01)
Republican	0.03†	−0.02	0.03†	−0.02
	(0.02)	(0.01)	(0.02)	(0.01)
Senator	0.05**	0.01	0.04*	0.01
	(0.02)	(0.02)	(0.02)	(0.02)
Party Leader	0.07†	0.07†	0.07	0.07†
	(0.04)	(0.04)	(0.04)	(0.04)
Minority Party Member	−0.03*	−0.03*	−0.03*	−0.03*
	(0.01)	(0.01)	(0.01)	(0.01)
Previous Vote Share (10s)	−0.00	−0.01*	−0.01†	−0.01*
	(0.00)	(0.00)	(0.00)	(0.00)
Up for Reelection	−0.03	−0.06	−0.03	−0.07
	(0.08)	(0.07)	(0.08)	(0.07)
District Ideology	0.06*	−0.01	0.06**	−0.01
	(0.02)	(0.02)	(0.02)	(0.02)
District Population (100,000s)	−0.02*	−0.00	−0.02*	−0.00
	(0.01)	(0.01)	(0.01)	(0.01)
District Median Income ($10,000s)	0.01	0.02**	0.01	0.02**
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.57**	0.37**	0.45**	0.27**
	(0.08)	(0.08)	(0.08)	(0.08)
Observations	6,544	6,544	6,432	6,432
Log-Likelihood	−4,362.86	−4,003.51	−4,268.01	−3,930.73

†p<0.1; *p<0.05; **p<0.01

Appendix F: Legislator Gender and Multi-Member Districts

We also examined whether gender differences in responsiveness emerge in multi-member districts in which at least one man and one woman represent the same district. The models below are restricted to same-party legislators. District fixed effects are included in all of the models. The same pattern emerges and the size of the coefficient is similar to that in the tables presented in the article, but the size of the sample is very small and the relationship is not significant at $p<0.05$. The sample is limited in terms of its generalizability, but the results are similar in magnitude and direction to those in the article.

	Reply	Helpful Reply	Reply	Helpful Reply
Female	0.07	0.04	0.07	0.06
	(0.05)	(0.04)	(0.05)	(0.04)
Bills Sponsored			0.00	0.02
			(0.05)	(0.02)
Republican			1.09**	0.97**
			(0.27)	(0.19)
Party Leader			0.10	0.24
			(0.21)	(0.19)
Minority Party Member			0.09	0.94**
			(0.30)	(0.21)
Previous Vote Share (10s)			0.00	−0.00
			(0.03)	(0.02)
Constant	0.96**	0.48	−0.18	−1.00*
	(0.04)	(0.48)	(0.53)	(0.40)
Observations	428	428	398	398
R^2	0.46	0.57	0.48	0.61

All models include district fixed effects. $^{\dagger}p<0.1$; $^{*}p<0.05$; $^{**}p<0.01$

Appendix G: Interaction Between Legislator Gender and Bill Sponsorship

	Reply	Helpful Reply
Female	0.06	0.08*
	(0.04)	(0.04)
Bills Sponsored	0.04**	0.03**
	(0.01)	(0.01)
Female x Bill Sponsored	−0.01	−0.01
	(0.01)	(0.01)
Republican	0.03*	−0.02
	(0.02)	(0.01)
Senator	0.04*	0.02
	(0.02)	(0.02)
Party Leader	0.07	0.07
	(0.04)	(0.04)
Minority Party Member	−0.03*	−0.03*
	(0.01)	(0.01)
Previous Vote Share (10s)	−0.00†	−0.01**
	(0.00)	(0.00)
Up for Reelection	−0.43**	−0.46**
	(0.06)	(0.06)
District Ideology	0.07**	−0.01
	(0.03)	(0.02)
District Population (100,000s)	−0.03*	−0.01
	(0.01)	(0.01)
District Median Income ($10,000s)	0.00	0.02**
	(0.00)	(0.00)
Constant	0.65**	0.47**
	(0.07)	(0.07)
Observations	6,432	6,432
R^2	0.13	0.15

All models include state fixed effects. †p<0.1; *p<0.05; **p<0.01

Appendix H: Legislator Gender and Staff Differences

To more fully examine the role of staff on gender differences in responsiveness, we also drew on a survey that was conducted by the National Conference of State Legislatures about state legislative staff (NCSL 2010). The following chambers did not return a survey so we do not have data for these cases: Florida Senate, Massachusetts Senate, Massachusetts House, Minnesota House, New Jersey Senate, New Jersey Assembly, New York Senate, New York Assembly, and Texas House. The missing cases account for 11.7 percent of our sample, but this survey provides the best available data on staff differences for our purposes. We ran the models in Columns 3 and 4 in Table 1, controlling for two additional variables: 1) Staff to legislator ratio, with higher values indicating more staff per legislator, and 2) Whether the legislator hires her own staff, with 1 indicating that the legislator hires her staff and 0 indicating that the legislator does not hire her staff. The results are presented below and are the same as those in the article. Women legislators are more likely to respond, and to respond helpfully, controlling for staff to legislator ratio and whether the legislator hires her staff.

	Reply	Helpful Reply	Reply	Helpful Reply
Female	0.04*	0.06**	0.04*	0.04**
	(0.02)	(0.02)	(0.02)	(0.02)
Bills Sponsored	0.03*	0.03**	0.06**	0.03**
	(0.01)	(0.01)	(0.01)	(0.01)
Republican	0.02	−0.01	−0.01	−0.05**
	(0.02)	(0.02)	(0.02)	(0.02)
Senator	0.01	−0.00	0.04	−0.00
	(0.03)	(0.03)	(0.02)	(0.02)
Party Leader	0.07	0.05	0.03	0.05
	(0.05)	(0.06)	(0.05)	(0.05)
Minority Party Member	−0.03†	−0.03†	−0.04*	−0.04*
	(0.02)	(0.02)	(0.02)	(0.02)
Previous Vote Share (10s)	−0.10†	−0.01*	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)
Up for Reelection	0.63**	0.30*	0.10	−0.05
	(0.13)	(0.14)	(0.19)	(0.19)
District Ideology	0.06†	−0.05	0.07*	0.00
	(0.03)	(0.03)	(0.03)	(0.03)
District Population (100,000s)	0.00	0.01	0.04	0.05†
	(0.02)	(0.02)	(0.03)	(0.03)
District Median Income ($10,000s)	0.00	0.01**	−0.00	0.01**
	(0.00)	(0.00)	(0.01)	(0.00)
Legislator Hires Staff	0.09†	0.08†		
	(0.05)	(0.04)		
Staff Legislator Ratio			0.01	0.03
			(0.03)	(0.03)
Constant	0.16	0.04	0.55**	0.40**
	(0.11)	(0.10)	(0.08)	(0.07)
Observations	3,716	3,716	4,592	4,592
R^2	0.16	0.12	0.16	0.18

All models include state fixed effects. †p<0.1; *p<0.05; **p<0.01

We also examined the gender of the staff member from whom we received the response, and we coded whether the staff reply came from a male or female name. We were interested in whether women legislators are more likely to hire female staff and whether female staff are more competent than male staff. As noted in the article, we cannot measure this directly, but one

observable implication is that staff replies from the offices of female legislators should be more likely to come from women than staff replies from the offices of male legislators. Of our 1,550 staff responses, we were able to code the gender of 1,425 names, or 92 percent of the total. A surprisingly high proportion of staff replies from both male and female legislator offices came from female names: 71.5 percent of staff replies from female legislator offices came from female names, whereas 70.2 percent of the replies from male legislator offices (this difference is not significant). Furthermore, responses from female staffers were actually less likely to be helpful than responses from male staffers (80.2 and 86.4 percent, respectively; $p<0.01$). In short, although we cannot directly measure gender patterns in hiring, it is not the case that staff responses from female legislator offices are more likely to come from female names, nor it is the case that female staff responses are more helpful than male staff responses.

Appendix I: Legislator Gender and Volume of Constituent Requests

We also examined the possibility that women receive more requests from constituents and are thus better at dealing with such requests. We do not have strong theoretical motivation for this, but we analyzed this question from both the perspective of the legislator and the perspective of the constituent. First, we looked at whether female legislators receive more requests than male legislators. We used data from Herrick's (2008) survey of state legislators, which is available through the ICPSR database. We examined the number of communications, such as emails, letters, and phone calls, that female and male legislators say they received per week during the last legislative session. Women receive 237 communications and men receive 198, but the difference is not statistically significant ($p<0.32$).

Second, we looked at whether constituents represented by female legislators are more likely to have contacted their legislator than constituents represented by male legislators. We used data from the 2016 ANES, and we examined whether respondents who are represented by female members of Congress are more likely to have contacted their MC than those who are represented by male members of Congress. Of those who were asked if they had contacted their congressional representative, 6 percent of those who were represented by a female MC did so (25/392) and 7 percent of those who were represented by a male MC did so (237/3253). The difference is not statistically significant ($p<0.49$). There is limited evidence from the perspective of legislators or voters that women are better dealing with constituent requests because they receive a greater volume of requests than male legislators.

Appendix J: Legislator Gender and Gender-Based Representation

	Reply	Helpful Reply	Reply	Helpful Reply
Female	0.04*	0.05**	0.03	0.05*
	(0.02)	(0.02)	(0.02)	(0.02)
Female Constituent	−0.01	−0.01		
	(0.01)	(0.01)		
Female Legislator x Female Constituent	−0.00	0.00		
	(0.03)	(0.03)		
Gender Appeal			−0.01	0.01
			(0.01)	(0.01)
Female Legislator x Gender Appeal			0.02	0.02
			(0.03)	(0.03)
Bills Sponsored	0.04**	0.03**	0.04**	0.03**
	(0.01)	(0.01)	(0.01)	(0.01)
Republican	0.03*	−0.02	0.03*	−0.02
	(0.02)	(0.01)	(0.02)	(0.02)
Senator	0.04*	0.02	0.04*	0.02
	(0.02)	(0.02)	(0.02)	(0.02)
Party Leader	0.07	0.06	0.07	0.06
	(0.04)	(0.04)	(0.04)	(0.04)
Minority Party Member	−0.03*	−0.03*	−0.03*	−0.03*
	(0.01)	(0.01)	(0.01)	(0.01)
Previous Vote Share (10s)	−0.01†	−0.01**	−0.01†	−0.01**
	(0.00)	(0.00)	(0.00)	(0.00)
Up for Reelection	−0.43**	−0.46**	−0.43**	−0.46**
	(0.06)	(0.06)	(0.06)	(0.06)
District Ideology	0.07**	−0.01	0.07**	−0.01
	(0.03)	(0.02)	(0.03)	(0.02)
District Population (100,000s)	−0.03*	−0.01	−0.03*	−0.01
	(0.01)	(0.01)	(0.01)	(0.01)
District Median Income ($10,000s)	0.00	0.02**	0.00	0.02**
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.66**	0.48**	0.66**	0.47**
	(0.06)	(0.07)	(0.07)	(0.07)
Observations	6,432	6,432	6,432	6,432
R^2	0.14	0.15	0.13	0.15

All models include state fixed effects. †p<0.1; *p<0.05; **p<0.01

Appendix K: Gender and Legislative Responsiveness (Table 1), Logit

	Reply	Helpful Reply	Reply	Helpful Reply
Female	0.21**	0.29**	0.19**	0.28**
	(0.06)	(0.07)	(0.07)	(0.07)
Bills Sponsored			0.19**	0.14**
			(0.04)	(0.05)
Republican	0.13†	−0.08	0.15*	−0.07
	(0.07)	(0.08)	(0.07)	(0.08)
Senator	0.24**	0.12	0.16*	0.08
	(0.08)	(0.08)	(0.08)	(0.09)
Party Leader	0.33†	0.35†	0.31	0.34
	(0.19)	(0.21)	(0.19)	(0.21)
Minority Party Member	−0.14*	−0.15*	−0.14*	−0.14*
	(0.06)	(0.07)	(0.06)	(0.07)
Previous Vote Share (10s)	−0.02	−0.04*	−0.02	−0.04**
	(0.01)	(0.02)	(0.01)	(0.02)
Up for Reelection	−2.20**	−2.54**	−1.92**	−2.33**
	(0.32)	(0.39)	(0.32)	(0.39)
District Ideology	0.30**	−0.05	0.32**	−0.04
	(0.12)	(0.12)	(0.12)	(0.12)
District Population (100,000s)	−0.13*	−0.06	−0.11*	−0.05
	(0.05)	(0.05)	(0.05)	(0.05)
District Median Income ($10,000s)	0.02	0.09**	0.02	0.08**
	(0.02)	(0.02)	(0.02)	(0.02)
Constant	1.44**	0.33	0.70*	−0.24
	(0.28)	(0.26)	(0.34)	(0.33)
Observations	6,544	6,544	6,432	6,432
Log Likelihood	−4,042.95	−3,696.66	−3,952.76	−3,628.35

All models include state fixed effects. †p<0.1; *p<0.05; **p<0.01

Appendix L: Legislative Responsiveness, Considering Staff and Ideology (Table 2), Logit

	Reply (No Staff)	Helpful Reply (No Staff)	Reply (Leg Only)	Helpful Reply (Leg Only)	Reply	Helpful Reply
Female	0.26*	0.33*	0.17*	0.22*	0.18*	0.22**
	(0.12)	(0.15)	(0.08)	(0.09)	(0.08)	(0.08)
Legislator Ideology					0.23**	0.25**
					(0.08)	(0.09)
Bills Sponsored	0.37**	0.17†	0.21**	0.14*	0.20**	0.19**
	(0.08)	(0.10)	(0.05)	(0.06)	(0.05)	(0.05)
Republican	0.05	−0.68**	0.15†	−0.14	0.44**	0.32*
	(0.13)	(0.20)	(0.08)	(0.10)	(0.13)	(0.14)
Senator	0.18	−0.18	0.00	−0.24*	0.15†	0.14
	(0.18)	(0.23)	(0.10)	(0.11)	(0.09)	(0.09)
Party Leader	−0.34	−0.10	0.12	0.36	0.37†	0.47*
	(0.35)	(0.44)	(0.23)	(0.25)	(0.20)	(0.21)
Minority Party Member	−0.10	−0.46*	−0.12†	−0.14†	−0.13†	−0.11
	(0.13)	(0.21)	(0.07)	(0.09)	(0.07)	(0.07)
Previous Vote Share (10s)	0.01	0.03	−0.02	−0.05*	−0.03†	−0.05**
	(0.02)	(0.03)	(0.01)	(0.02)	(0.02)	(0.02)
Up for Reelection	0.57†	0.38	−0.70†	−1.31**	−1.59**	−2.26**
	(0.32)	(0.50)	(0.36)	(0.45)	(0.35)	(0.46)
District Ideology	0.35	0.32	0.30*	−0.04	0.32*	−0.07
	(0.23)	(0.29)	(0.13)	(0.15)	(0.14)	(0.14)
District Population (100,000s)	−0.03	0.30	−0.23**	−0.11	−0.12*	−0.10†
	(0.32)	(0.40)	(0.09)	(0.08)	(0.06)	(0.06)
District Median Income ($10,000s)	0.04	0.15**	−0.01	0.05*	0.03†	0.09**
	(0.04)	(0.06)	(0.02)	(0.02)	(0.02)	(0.02)
Constant	−2.65**	−3.39**	−0.39	−0.86*	0.25	−0.74†
	(0.44)	(0.62)	(0.39)	(0.44)	(0.38)	(0.38)
Observations	1,932	1,932	4,973	4,973	5,036	5,036
Log Likelihood	−1,239.80	−819.45	−3,077.01	−2,358.19	−3,081.61	−2,840.02

All models include state fixed effects. †p<0.1; *p<0.05; **p<0.01

Appendix M: Legislative Responsiveness and Gender-Based Representation (Table 3), Logit

	Reply	Helpful Reply	Reply	Helpful Reply
Female Legislator	0.19**	0.28**	0.19**	0.28**
	(0.07)	(0.07)	(0.07)	(0.07)
Female Constituent	−0.06	−0.05		
	(0.05)	(0.06)		
Gender Appeal			−0.01	0.07
			(0.05)	(0.06)
Bills Sponsored	0.19**	0.14**	0.19**	0.14**
	(0.04)	(0.05)	(0.04)	(0.05)
Republican	0.15*	−0.07	0.15*	−0.07
	(0.07)	(0.08)	(0.07)	(0.08)
Senator	0.16*	0.08	0.16*	0.08
	(0.08)	(0.09)	(0.08)	(0.09)
Party Leader	0.30	0.33	0.31	0.33
	(0.19)	(0.21)	(0.19)	(0.21)
Minority Party Member	−0.14*	−0.14*	−0.14*	−0.14*
	(0.06)	(0.07)	(0.06)	(0.07)
Previous Vote Share (10s)	−0.02†	−0.04**	−0.02	−0.04**
	(0.01)	(0.02)	(0.01)	(0.02)
Up for Reelection	−1.92**	−2.33**	−1.92**	−2.32**
	(0.32)	(0.39)	(0.32)	(0.39)
District Ideology	0.32**	−0.04	0.32**	−0.04
	(0.12)	(0.12)	(0.12)	(0.12)
District Population (100,000s)	−0.11*	−0.06	−0.11*	−0.05
	(0.05)	(0.05)	(0.05)	(0.05)
District Median Income ($10,000s)	0.02	0.08**	0.02	0.08**
	(0.02)	(0.02)	(0.02)	(0.02)
Constant	0.74*	−0.21	0.71*	−0.28
	(0.34)	(0.33)	(0.34)	(0.33)
Observations	6,432	6,432	6,432	6,432
Log Likelihood	−3,952.15	−3,627.93	−3,952.75	−3,627.57

All models include state fixed effects. †p<0.1; *p<0.05; **p<0.01