

The Gender Pay Gap in Congressional Offices*

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ABSTRACT

A growing literature examines the behavioral differences between men and women as candidates and elected officials, especially in Congress, but little work studies how gender differences translate to the staffers members of Congress hire once in office. In this paper, we analyze the gender dynamics of congressional staffing in the House and Senate. Using a comprehensive dataset of congressional staff employment histories and salaries from 2000–2014, we find significant differences in how members pay their staff by gender. We find that the pay gap varies across chambers and conditional on the party and gender of the member of Congress. We find larger pay gaps among senior staff and that the pay gap increases with staffer experience. Finally, we show that offices that employ more women staffers and more women policy staff produce more legislation than comparable offices, suggestive of a discrimination-based selection mechanism.

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Introduction

A substantial and growing body of work analyzes gender dynamics in Congress, finding differences between men and women as candidates and legislators with important implications for policymaking and representation (Swers, 2002; Lawless and Fox, 2005; Lazarus and Steigerwalt, 2018; Volden, Wiseman and Wittmer, 2013; Dittmar, Sanbonmatsu and Carroll, 2018). A separate literature finds that congressional staff are influential actors behind the scenes on Capitol Hill, responsible for many of the roles typically associated with the members themselves (Price, 1971; Malbin, 1980; Salisbury and Shepsle, 1981; Romzek and Utter, 1997). Staff play a major role in influencing legislative effectiveness (Montgomery and Nyhan, 2017; Crosson et al., 2018; McCrain, 2019), shaping agendas (Hall, 1996; Wilson, 2013; Rosenthal and Bell, 2002, 2003), and framing constituent opinions (Hertel-Fernandez, Mildemberger and Stokes, 2018).

In this paper we investigate an important aspect of gender dynamics in Congress, the gender wage gap among congressional office staff. Using a comprehensive administrative dataset of congressional staff employment information from 2000–2014, which includes salary, job title, and office of employment, we find a substantial pay gap between men and women congressional staff. The average gap in pay between men and women staffers is over \$5,500 in the House and over \$7,500 in the Senate. The size of this pay differential varies with the party and gender of the member of Congress for which the staffer works. The largest differentials are found in Republican offices in the House and Senate and persist among junior and senior staff.

This paper builds on a large body of economic scholarship on gender pay differentials (for a review, see Bertrand, 2011; Blau and Kahn, 2017) by linking it to political institutions that have meaningful impacts on policy outcomes and representation. Though no pay gap exists between men and women elected officials because their salaries are set by legislation, studying congressional staff is an important contribution to the economic literature on the

gender pay gap. As each office in Congress is given full flexibility in its allocation of staffing funds, one can think of individual offices as firms or enterprises (e.g., Salisbury and Shepsle, 1981). Congress, then, represents a unique setting for uncovering the illusive determinants of gender pay differentials by analyzing 435 distinct firms in the House and 100 firms in the Senate that all fall under similar constraints with observable, time-varying differences. With the ability to hold constant features of the firm, such as levels of funding, areas of responsibility, and the dynamics of the labor market, congressional offices represent a fertile ground for testing existing explanations for the gender pay gap.¹

After estimating the gender pay gap in congressional offices, we then examine the potential impacts of the gender dynamics we uncover on congressional office performance. In a research design similar to Anzia and Berry (2011), we analyze the performance of congressional offices based on their ability to introduce legislation. Including measures of the gender makeup of the staff from the office, and holding time-invariant district traits fixed, we find that offices that employ more women staff—and more women in policy-oriented roles—outperform other offices in their legislative productivity.

To proceed, we first discuss the literature on gender dynamics within congress and tie it into research on congressional staff and their impacts on the policy process. We then briefly outline the economics research on gender pay differentials and relate it to the congressional office as an enterprise, which leads to specific empirical expectations. We then turn to detailing the data used in our analysis and our empirical strategy before finally discussing the results and their implications for future work.

Gender Dynamics in Congress and Congressional Staff

Scholars have amassed a substantial body of evidence that women and men differ both as candidates and as elected officials. One of the more well-established facts in this literature

¹Ritchie and You (2019) takes a similar approach to analyzing dynamics in congressional offices, but with a primary focus on the promotion of women within offices.

is that men and women candidates who choose to run for Congress look different across a number of observable traits (Lawless and Fox, 2005). This observation derives from a psychological literature that finds women are more likely to shy away from competition and under-appreciate their own likelihood of success (Niederle and Vesterlund, 2007; Correll, 2001).² There are additional factors that limit women from running for office, including gatekeeping by men-dominated party elites responsible for recruiting (Sanbonmatsu, 2006; Fox and Lawless, 2010) and a gender gap in political ambition (Fox and Lawless, 2014; Schneider et al., 2016; Holman and Schneider, 2018).

However, conditional on running, women are just as successful as men candidates in terms of fundraising (Burrell, 2010) and votes received (Seltzer, Newman and Leighton, 1997; Lawless and Pearson, 2008), and *more* successful at securing federal funds for their constituents (Anzia and Berry, 2011). Generally, a large body of evidence finds women behave differently once in Congress. Lazarus and Steigerwalt (2018) argue that the factors that drive fewer women to run for office also contribute to their behavior once in office by inducing women members of Congress to work harder for their constituents (because they are more likely to feel vulnerable) and, as a result, women also deliver more constituency service and respond better to constituent demands on policy. Other mechanisms that drive observed differences in behavior as legislators include that women have a greater tendency towards collaboration (Holman and Mahoney, 2018; Lawless, Theriault and Guthrie, 2018), a focus on different substantive policy issues (Mansbridge, 1999; Swers, 2002; Taylor-Robinson and Heath, 2003), and respond to marginalization due to minority status (Reingold, 2003; Fiske, 2010).³

While much, if not all, of the existing research on gender differences in Congress focuses on members, it is reasonable to believe women staffers are subject to many of the same

²Scholars also argue that these psychological differences interact with social and cultural norms about gender roles and further decrease women political involvement (e.g., Fowlkes, Perkins and Rinehart, 1979; Fox and Lawless, 2010).

³For an excellent review of this literature, see Lawless (2015).

dynamics as women members. For instance, Representative Loretta Sanchez wrote about her time on Capitol Hill: “Sexist, patronizing, and dismissive attitudes are a sad fact of life for women on the Hill. Without a doubt, there are certain members of Congress who still believe women don’t belong there” (Sánchez and Sánchez, 2008). There is little question that many women staffers are subject to the same treatment given the recent wave of sexual harassment allegations by women staffers against men members of Congress (Tully-McManus, 2019).

Moreover, there is good reason to focus on gender dynamics among congressional staff given the extant scholarship on staff in Congress. A large literature using extensive interviews with members and their staff finds that staff possess a great deal of autonomy within Congress and often enable the entrepreneurial efforts of their elected bosses (Price, 1971; Fox and Hammond, 1977; Malbin, 1980; DeGregorio, 1988). Staff also pre-configure the information that is acquired and passed onto members of Congress which likely shapes the policy activity in which members choose to engage and their voting decisions (Whiteman, 1995; Hall, 1996; Curry, 2015). Recent empirical evidence finds that members that share staff vote more similarly than we would otherwise expect (Montgomery and Nyhan, 2017) and that members with more experienced policy staff are more productive legislators (Crosson et al., 2019; McCrain, 2019). Taken as a whole, this research provides substantial qualitative and quantitative evidence that staff influence all aspects of the policymaking process and directly affect members’ representational efforts.

There are further reasons to focus on staff in a gender and politics context. If structural features of Congress such as systematic pay differentials or discrimination results in fewer women staffers – or fewer women staffers in positions of authority – then this may have impacts on policy outcomes and representation more broadly. Karpowitz and Mendelberg (2014), for instance, finds that the smaller the minority of women in a group, the less likely the women members of the group are to influence discussion and decision making (see also Kanthak and Krause, 2010; Fiske, 2010; Oliphant, Mendelberg and Karpowitz, 2014). In congressional settings, Kathlene (1994) finds that women are more likely to behave as

facilitators during hearings while Ban et al. (2018) find that women are less likely to interrupt others at hearings and when proportionally more women attend, other women are more likely to participate.

Finally, evidence from other institutional settings suggests that involving women results in changes in outcomes of interest. The mechanism, which is relevant to this paper, is that men change their views by learning more about issues facing women when they are incidentally exposed to more women (as opposed to, for instance, homophily driven explanations). For example, in the courts literature Boyd, Epstein and Martin (2010) find that when women are (randomly) assigned to a panel of judges, men judges on the panel are more likely to rule in favor of the party alleging sex-based discrimination (relative to all-men panels). If women staffers are marginalized on the Hill, then their ability to affect the deliberative and policy process may be limited.

The Benefits of Studying the Gender Wage Gap in Congress

A robust literature in economics seeks to uncover the determinants of the gender wage gap (for reviews, see Bertrand, 2011; Blau and Kahn, 2017). There are many challenges in determining what drives empirical differences in the wages between men and women including job preference selection effects, unobserved discrimination, variation in firm types, willingness to negotiate for higher salaries (and the substitutability of other benefits for salary raises), and differences in human capital. As Goldin (2014, 1093) notes, these studies produce “estimates of an ‘explained’ and a ‘residual’ portion. The ‘residual’ is often termed ‘wage discrimination’ since it is the difference in earnings between observationally identical men and women.” To date, no study has examined wage gaps in Congress. As we now briefly detail, the congressional setting (and the available data) presents many benefits towards the task of learning about the causes of the gender wage gap.

First, it is necessary to detail some of the structural features of staffing within Congress. Members of Congress are given a fixed sum of money they can use towards staffing and

other representation tasks, such as district office leasing and district communication efforts (this is called the Member Representation Allowance or MRA). In the House, the amount of money representatives can use towards personnel is fixed across members (in 2017 it was \$944,671). In the Senate, the amount varies based on the population of the state they represent. Members of the House are also limited to 18 full-time equivalent employees. Within these limits, though, members are completely autonomous in their staffing choices, including how many to hire, how much to pay them, how many to allocate in the DC versus the district, and even whether they choose to use their entire staffing budget (See the data discussion below for descriptives on numbers of staff and salary). However, there is relative homogeneity across offices in terms of job title and hierarchy within an office, especially in the House (see Petersen, 2011).⁴ A product of the budget constraints, especially in the House, is that most staff are low paid relative to other jobs with similar levels of responsibility and that offices have little ability to offer pay increases or bonuses unless another staffer leaves the office (e.g., Congressional Management Foundation, 2012; Cain and Drutman, 2014; McCrain, 2018).

What opportunities does studying congressional staff offer in understanding the determinants of the gender wage gap? First, by comparing offices within each chamber to each other, we are able to hold constant a large set of features that confound other cross-firm analyses of gender pay differentials (Webber, 2016). This is especially valuable when looking at House offices, as every member faces identical constraints on their budget and number of staffers. Further, the differences across these firms (offices) are largely observable, such as partisanship, seniority, electoral security, member gender, and institutional position (e.g., committee chair). In general, then, the staffing labor market is largely uniform across firms. This is a challenge in other studies that seek to examine a set labor market, such as cohorts

⁴For example, nearly every office within our sample employs a chief of staff, a legislative director and at least one legislative assistant. There are also typically caseworkers and lower-level staffers such as staff assistants and legislative correspondents. In the Senate, it is typical to see more staffers dedicated to policy-specific tasks and communication specific-tasks.

of MBA graduates (Bertrand, Goldin and Katz, 2010), because men and women employees can still select into firms based on traits that may confound the relationship of interest.⁵

Additionally, the longitudinal nature of the data (discussed in detail below) allow us to disentangle potentially confounding effects of gender pay differentials such as experience of the employee, which is partially observable. In the conclusion we discuss additional potential benefits of studying the gender wage gap among congressional staff in the context of the economics literature that are beyond the scope of this study.

In short, the congressional staff setting provides a number of benefits in studying the gender wage gap. We are able to hold fixed key features about the labor market and examine wage dynamics within 435 firms in the House and 100 firms in the Senate over multiple years. Differences between firms are often observable and also provide variation directly related to quantity of interest (e.g., whether the member is a man or woman and their partisanship.) The richness of the data, which we discuss next, permits a detailed analysis examining the value of experience, divergence of salary growth among cohorts, and features of offices that may cause selection effect differences between men and women that bias other studies of this nature (e.g. the “flexibility” offered by a given job; Goldin, 2014).

Data and Empirical Strategy

We employ a comprehensive administrative dataset of congressional staff employment histories within the House and Senate from 2000-2014. These data are released publicly by both chambers at the semester (pre-2008) and quarterly level. The data list the staffer’s name, position title, office and salary. In this study, we use a version of the data acquired from the private firm Legistorm. Legistorm takes the publicly released data and performs a variety

⁵For instance, in a population survey-based study of gender pay (e.g. Mulligan and Rubinstein, 2008), observed gender pay gaps may be endogenous to men and women selecting into different industries or firms based on their personal utility of gaining firm-specific skills or the benefits of non-pecuniary benefits such as flexibility (see also Goldin, 2014). In congressional staffing, we can largely hold these features constant due to the uniformity of the staffing market and the observability of differences between offices.

of cleaning tasks before manually checking discrepancies.

Among the benefits of using the Legistorm data is that they digitize the earlier PDF-only versions of the public disbursement and manually fix complications from the process. They then clean and consolidate staffer names and job titles before matching them to offices which are given unique identifiers.⁶ As mentioned previously, job titles on Capitol Hill are largely homogenous, though in the raw data some differences remain in how they are reported in the disbursements. For instance, one office might label their legislative assistants “Legis. Assist.” while another might label them “Legislative Assistant.” Legistorm unifies these differences into one distinct title. Legistorm also collects a limited amount of personal information about each staffer, including their gender.

To create a staffer-year (and for some models, staffer-congress) panel, we aggregate the semesterly- and quarterly-level data to the year level. We take the office and job information from the last observation of a staffer within a year (so for four quarterly-level observations per staffer, we only keep the fourth quarter information). However, we aggregate the salary information up to the year level. For most staffers this is straightforward, but to reduce measurement error for staffers that leave the Hill mid-year we estimate the staffer’s salary for the full year.⁷ Finally we adjust salaries for inflation to 2016 dollars.⁸

To tractably assess the gender wage gap within different levels of hierarchy within an office, we bin job titles into categories of responsibility. This process is motivated by Petersen (2011) and follows the convention in the literature (Montgomery and Nyhan, 2017; Madonna and Ostrander, N.d.; McCrain, 2018) and is possible because of the homogeneity of job titles in Congress. For example, chiefs of staff and legislative directors are binned into a ‘senior staff’ category, while legislative assistants and individuals with “policy” in their title fall into

⁶In the raw data it is common to find staffers with subtle differences in names. One might find James M. Smith in one quarter and then Jim Smith in the next. Legistorm assigns this staffer the same unique ID after verifying that it is indeed the same person.

⁷For example, if a staffer’s salary was \$37,500 for a year but was only in the data for 75% of the year, this staffer’s salary is adjusted to \$50,000. Results are robust to unadjusted versions of the salary.

⁸Inflation adjustment data comes from the Bureau of Labor Statistics.

a ‘policy staff’ category. Finally, we merge in member-level information from Volden and Wiseman (2014), including the member’s seniority (tenure in Congress), their institutional status, such as committee chair, their party, gender, and vote share from the most recent election.

Overall, our dataset contains 158,906 observations from 2000 to 2014, encompassing 45,931 unique staffers and 1,040 congressional offices. Sixty-two percent of the staffers serve in the House, and 38% serve in the Senate.⁹ Overall, women make up 55% of congressional staffers. However, women hold only 34% of the senior staff positions. The average staffer earned an annual salary of \$54,220 (in 2016 dollars) across this time period; the average man staffer earned \$57,547 and the average woman earned \$51,457. Figure 1 plots the percentage of women staff (overall and senior) and the average salary by gender for each Congress in our sample. Across the entire time period women make up a small majority of staff overall but a significant minority of senior staff, and consistently earn less than men staff. Figure 2 presents the share of women staff in each chamber by party. Democrats and Republicans in both chambers employ roughly the same share of women staff overall, but Democrats employ a higher share of women staff in senior positions than Republicans.

Regression Models

Figure 1 illustrates a clear gender gap between men and women staffers in congressional offices. Here, we use regression models to (i) estimate the average gender gap, (ii) identify heterogeneity in the gender gap across congressional offices and staff positions, and (iii) examine changes in the gender gap over time.

We begin with simple pooled regressions of all staffers, by chamber, with year fixed effects to account for Congress-wide changes to congressional office budgets and other common

⁹While the House accounts for 82% of the unique offices in Congress, Senators have larger staffs than Representatives.

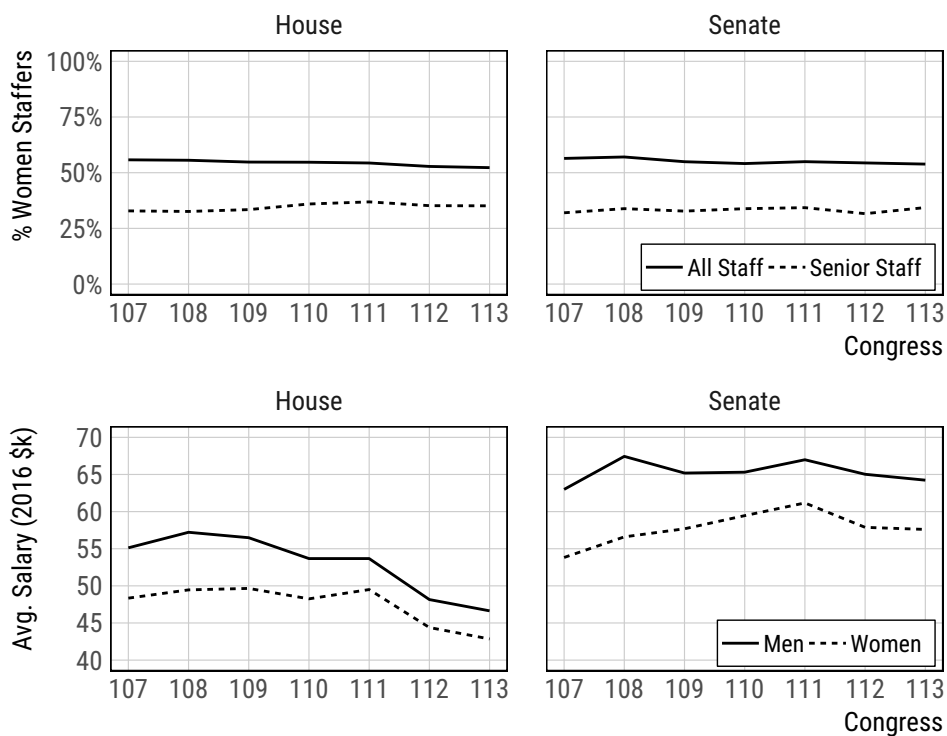


Figure 1: Staffing and Salaries by Gender

This figure plots patterns in staffing by gender over time. The top two figures display the percent of women staff broken down by all staff and senior staff. The bottom two figures display the average salary by gender across the same time period.

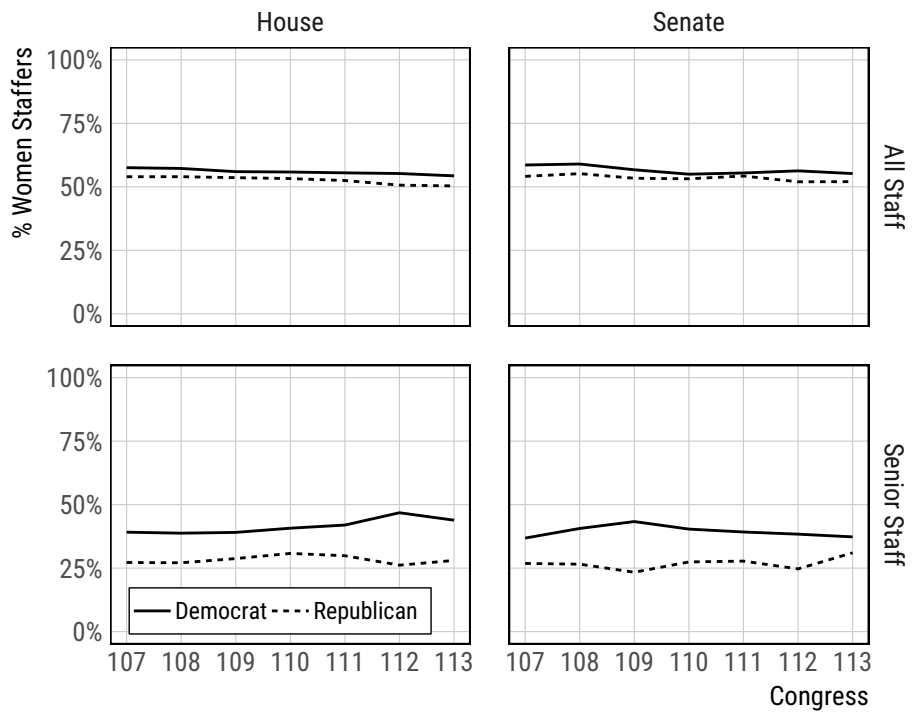


Figure 2: Staffing and Salaries by Gender

This figure plots patterns in staffing by gender over time. The top two figures display the percent of women staff broken down by party and chamber, and the bottom two figures examine the percent of women in senior staff positions only.

shocks to the staffing labor market. We estimate the following model:

$$\begin{aligned} \text{Salary}_{iy} = & \beta_1 \text{Gender}_i + \beta_2 \text{MC_Party}_{iy} + \beta_3 \text{Gender}_i * \text{MC_Party}_{iy} \\ & + \beta_4 \text{MC_Gender}_{iy} + \beta_5 \text{Gender}_i * \text{MC_Gender}_{iy} + \gamma_y \end{aligned}$$

where i indicates the individual staffer and y the year and γ_y is a year fixed effect. The first model includes only β_1 , the staffer’s gender, and year fixed effects. To identify differences based on the party of the staffer’s employer, the second model includes the party of the member of Congress and an interaction term of the staffer’s gender and the MC’s party. Similarly, the third model includes the gender of the member of Congress and an interaction term of the staffer’s gender and the MC’s gender. The fourth model includes terms for both MC party and MC gender.

Figure 3 presents the results of the four different models. Each plots presents the estimated gender gap between men and women staffers.¹⁰ Overall, we find a gender gap of about \$5,500 in the House and \$7,500 in the Senate, which represents gaps of about 11–12% in each chamber. When we add terms for the MC’s party, we find that the gender gap in both chambers is significantly larger in favor of men in the offices of Republicans. The third model shows that the gender gap is also larger in the offices of men MCs. However, much of this difference appears due to differences in the gender balance of MCs in each party. In the fourth model, where we include effects for both MC party and MC gender, we find no difference on gender in the House, and smaller differences in the Senate. Overall, we find a consistent gender gap across both House and Senate offices, but the gap is substantially larger in the offices of Republican MCs than Democratic MCs.

These results are robust to alternate specifications that address potential concerns about bias in the pooled regression models. First, congressional staffs are split between Washington, D.C. and local district offices, such that MCs may face different labor markets when hiring

¹⁰See Tables A2 and A3 for the full results.

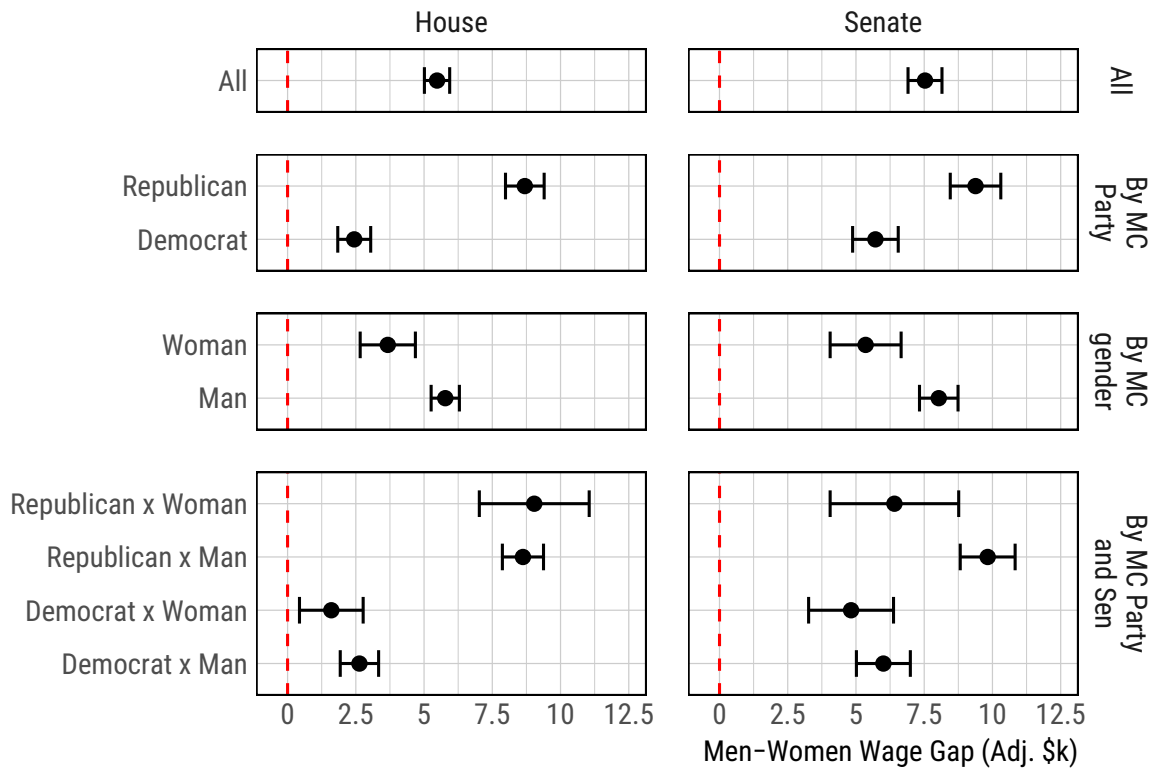


Figure 3: Gender Wage Gap Estimates, Pooled OLS by Chamber

This figure depicts coefficient estimates and 95% confidence intervals from four sets of regression per chamber (for eight total models). The outcome variable for each model is the staffer's salary in a given year.

staff for district offices. If in-district staff are more likely to be women (60% of constituent service staff are women), and Republican MCs are elected from districts with lower average pay, then the estimated gender gap may be due to different labor markets, rather than pay discrimination. To address this, we replicate the above analysis with district fixed effects for the House and state fixed effects for the Senate.¹¹ Appendix Tables A4 and A5 present the results. The results are consistent with the pooled models; we find a large gender gap in favor of men staffers, and the gap is larger when the member of Congress is a Republican. When controlling for party, we do not find a significant interaction between staffer gender and MC gender in either chamber.

A second potential issue with the pooled regression is the level of analysis. In the pooled models, each observation is a staffer-year. However, as staffing decisions and salaries are made at the office level, analyzing pay gaps by office-year may be appropriate. In Appendix Tables A6 and A7 we examine the relationship between the average pay gap in each office and the party and gender of its member of Congress (Model 1).¹² The results of this analysis are consistent with the prior models; there is a larger pay gap in the offices of Republican MCs than in Democratic MCs, but no difference in pay gap in either chamber from MC gender.

Seniority and Experience

While the above results show strong evidence of a pay gap in congressional offices, this is not necessarily evidence of pay discrimination. If men and women staffers are seeking out different jobs, or have different levels of experience, then the wage gaps we observe may be attributable to these factors rather than gender. To address these issues, we first analyze pay gaps among senior staff and by specific types of jobs, and second we examine the effect

¹¹The Senate models include all years. The House models only include the 2003–2012 period where we have five elections under the same set of districts in most states.

¹²We define the office-level pay gap as the average salary of men staffers minus the average salary of women staffers.

of previous experience on salary.

We begin our analysis of pay gaps by staffing position by examining the salaries of the most highly paid staffers in each office. While the most highly-paid staffer in most offices is the chief of staff, there is some variation in job titles among other senior staff positions, including legislative director, deputy chief of staff, district chief of staff, or communications director. Accordingly, we subset our data to the three staffers in each office-year with the highest salaries. Regardless of title, we should expect these three staffers to be the most senior in the office based on their compensation. Figure 4 presents the results of this analysis, using the same four models as in Figure 3.¹³

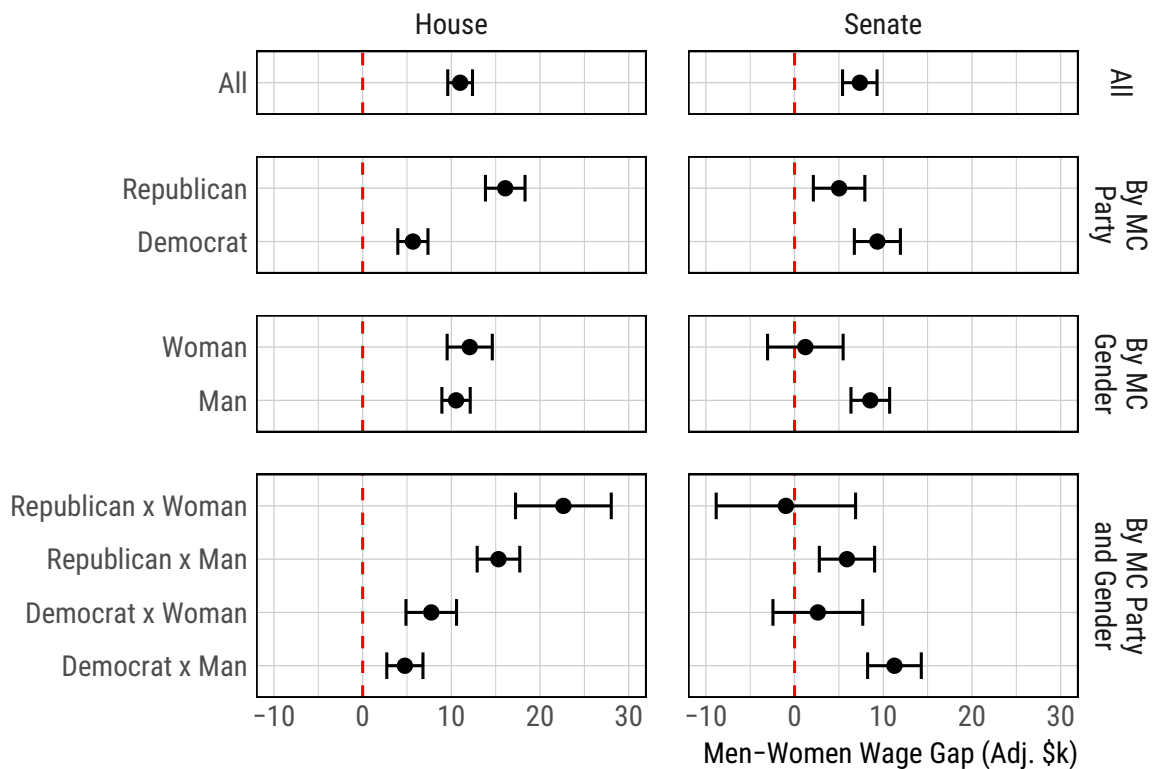


Figure 4: Gender Wage Gap Estimates, Top 3 Paid Staff, Pooled OLS by Chamber

This figure plots the outcome from eight separate regressions, four per chamber. The data for these regressions is subset to only the top three paid staff per office, and the outcome variable is a staffer's salary in a given year.

¹³See Tables A8 and A9 for the full results.

We find a large gender gap of about \$10,900 in the House and \$9,900 in the Senate. In the House, we find that the gender gap is substantially larger in the offices of Republican MCs, but no differences on MC gender. In the Senate, however, we find that MC gender, not MC party, is strongly correlated with the gender wage gap; men senators pay men staff significantly more than women staff, but there is no statistically significant pay gap in the offices of women senators. The office-level models provide similar results; we find that the gender is about \$15,500 larger for men staffers working for Republicans in the House (but no effect on MC gender), and is about \$7,500 larger for men staffers working for men senators (but no effect on senator party). We also find that both Republicans and men in the House and in the Senate employ a significantly larger number of men in top staff roles than women.¹⁴

Next, we turn to the effect of experience on wages. Experience (measured as years working in Congress) is positively correlated with wages. If men, on average, have more experience working in Congress than women, then the gender pay gap could be explained as compensation for experience, rather than discrimination. To estimate the effects of experience on salary, we estimate a model with a measure of experience, and interactions between experience, staffer gender, and the party of the member of Congress.¹⁵ Tables 1 and 2 present the results.

In Model 1, we include variables only for the gender of the staffer and their years of experience. Each additional year of experience is associated with a pay increase of \$3,300 in the House and \$4,500 in the Senate. Despite including experience in the model, the large gender gap persists. In Model 2, we add an interaction between staffer gender and years of experience. In both chambers, we now find no effect of staffer gender alone on their salary. Instead, we find that both the experience term and the staffer gender-experience interaction term are positive and statistically significant. Both men and women earn higher salaries with

¹⁴See Tables A6 and A7, models 2 and 3.

¹⁵We measure experience as the number of prior years since 2001 where the staffer is employed by in Congress in any position (not necessarily the same member of congress, or a congressional office. Since this measure is necessarily truncated by the beginning of our dataset, we use only 2012–2014 data for this analysis, such that the experience variable runs from 0 to 11.

Table 1: Effect of Experience: OLS Models of Gender Salary Gap in House Offices, 2012–2014

	Annual Salary (\$)		
	(1)	(2)	(3)
Man	6,183.67** (420.09)	324.88 (712.78)	−975.83 (1,035.95)
MC Republican			−2,832.54** (990.60)
Years Experience	3,353.85** (50.02)	2,917.10** (65.86)	2,876.67** (90.99)
Man x MC Republican			2,121.85 (1,426.53)
Man x Years Exp.		1,024.92** (100.86)	662.73** (142.31)
MC Rep. x Years Exp.			48.33 (131.85)
Man x MC Rep. x Years Exp.			766.61** (201.69)
Year FEs	X	X	X
Observations	20,619	20,619	20,619
<i>Note:</i>		* p<0.05; ** p<0.01	

Table 2: Effect of Experience: OLS Models of Gender Salary Gap in Senate Offices, 2012–2014

	Annual Salary (\$)		
	(1)	(2)	(3)
Man	9,575.20** (599.43)	445.06 (1,031.27)	−3,240.40* (1,368.73)
MC Republican			2,453.16 (1,436.54)
Years Experience	4,503.26** (73.25)	3,829.39** (95.77)	3,869.67** (128.65)
Man x MC Republican			8,014.16** (2,086.20)
Man x Years Exp.		1,603.14** (147.68)	1,948.83** (205.66)
MC Rep. x Years Exp.			−125.60 (192.82)
Man x MC Rep. x Years Exp.			−732.98* (296.27)
Year FEs	X	X	X
Observations	13,001	13,001	13,001

Note: * p<0.05; ** p<0.01

Table 3: Examples of the Effects of Experience and Gender on Salaries

Years Exp.	Gender	House		Senate	
		Democrats	Republicans	Democrats	Republicans
0	Women	27.2 (25.6, 28.7)	24.3 (22.8, 25.8)	33.8 (31.9, 35.8)	36.3 (34.0, 38.6)
0	Men	26.2 (24.6, 27.8)	25.5 (24.0, 27.0)	30.6 (28.4, 32.8)	41.1 (38.7, 43.4)
5	Women	41.5 (40.5, 42.6)	38.9 (37.9, 40.0)	53.2 (51.9, 54.5)	55.0 (53.5, 56.6)
5	Men	43.9 (42.8, 44.9)	47.2 (46.2, 48.2)	59.7 (58.3, 61.1)	65.9 (64.3, 67.4)

This table shows the breakdown of the gender wage gap (in thousands of dollars) by gender, chamber and party by years of staff experience. Standard errors are in parentheses.

additional experience, but men earn more for each year of experience than women do. In Model 3, we add in variables for the party of the MC, and interact this with staffer gender, staffer years of experience, and a three-way interaction of staffer gender, experience, and MC party. In the House, we find no baseline gender gap, but that men earn a larger premium on experience than women. In the offices of Republican MCs, the value of experience for men is significantly larger than in the offices of Democratic MCs. In the Senate, we find a significant negative gender gap in Democratic offices and a large positive gender gap in Republican offices. Men earn a significantly larger premium on experience than women. Unlike the House, where this premium is larger for men in Republican offices, in the Senate the premium is larger for men in Democratic offices.

To illustrate the different values of experience for men and women, consider the examples in Table 3, which shows predicted salaries for staff with no experience and five years of experience. In the House, new staffers of both genders earn roughly the same salary, regardless of the party of their employer. After five years of experience, however, men make more than women, and the gender gap for staffers in the offices of Republican MCs is significantly larger than in Democratic offices. Additionally, men staffers in Republican offices earn significantly more than men staffers in Democratic offices, while women staffers in Republican offices earn significantly less than women staffers in Democratic offices.

In the Senate, we find that staffers with no experience earn roughly the same salary in Democratic offices, but that there is a significant gender gap in favor of men in Republican offices. After five years of experience, there are gender gaps in both Democratic and Republican offices, and the gap is more than 50% larger in Republican offices. Women staffers with five years of experience earn roughly the same amount regardless of their employers party, while men staffers earn more in Republican offices than in Democratic offices. Figure 5 plots changes in predicted salary for different levels of staffer experience. While a gender gap emerges among House Democrats as experience increases, it is much smaller than the gender gap for House Republican offices or senators of either party.

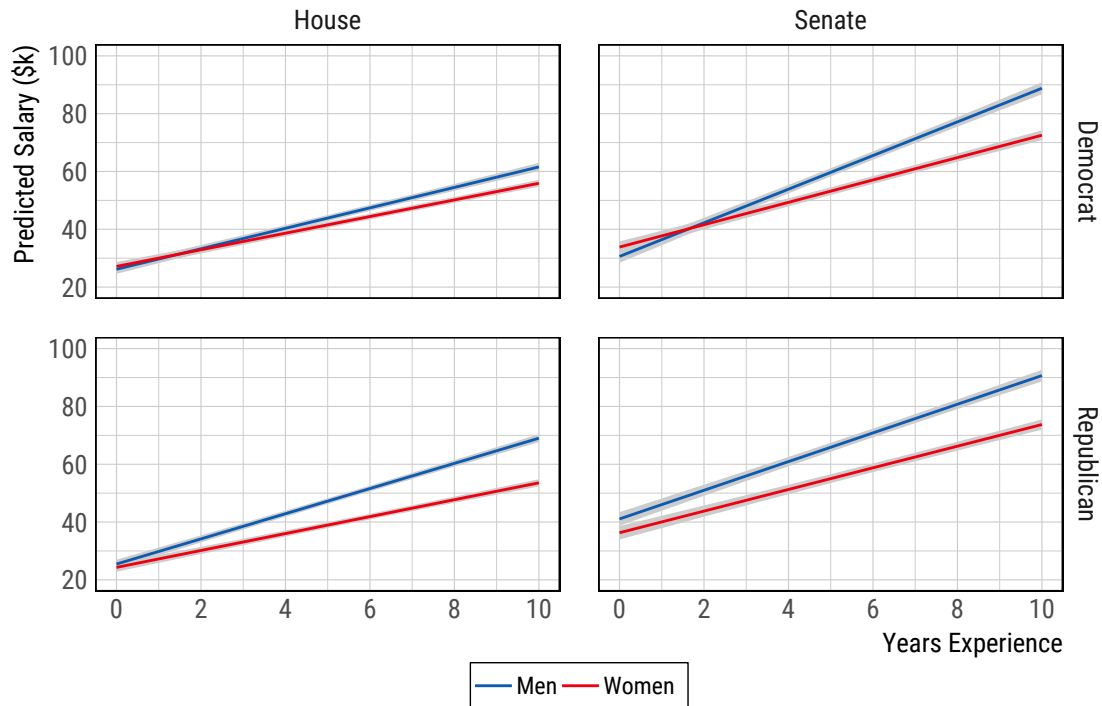


Figure 5: Predicted Salary by Years of Experience

This figure plots the predicted salary of men and women staffers as a function of their years of Hill experience. The predictions come from the regressions in Table 1 Model 3 and Table 2 Model 3. 95% confidence intervals are included in the plot.

The Wage Gap Over Time

We now turn to evaluating changes to the wage gap over time. As the gender wage gap has increased in salience in popular discourse, it is possible that what we observe on average has disappeared in recent years. Examining this possibility, Figure 6 plots the estimated wage gap in each Congress. Salary gaps appear to decline slightly in each chamber over time. This effect appears to be driven by changes in the offices of Democrats. In the House, there is no gender gap in Democratic offices in recent years. In the Senate, while the gender gap persists, it has slightly decreased for Democratic senators, but not for Republicans.

In Tables A10 and A11, we estimate the gender gap using pooled models for the years 2012–2014. In the House, there is only a significant gender gap among Republican MCs, and there is no effect of MC gender. In the Senate, we find a persistent gender gap among both parties, but it is roughly twice as big for Republican senators as it is for Democratic senators. Additionally, while the gender gap was larger in the offices of men senators when looking at the full 2001–2014 period, there is not a significant difference by senator gender in recent years.¹⁶ While there is some evidence that the wage gap, on average, has become mitigated in recent congresses, it still persists especially conditional on the MC’s party.

Congressional Staff Gender Dynamics and Congressional Performance

Finally, we turn to an analysis of congressional staff gender dynamics as they relate to an important aspect of congressional office performance: bill introduction. The idea behind this analysis aligns closely with that of Anzia and Berry (2011) and Lazarus and Steigerwalt (2018): if women perceive there to be sex discrimination, then this can induce women to work harder once in office either through a selection effect on who comes to office in the first

¹⁶In Tables Tables A12 and A13 we also find that the gender gap maintains in 2012–2014 when only examining senior staff.

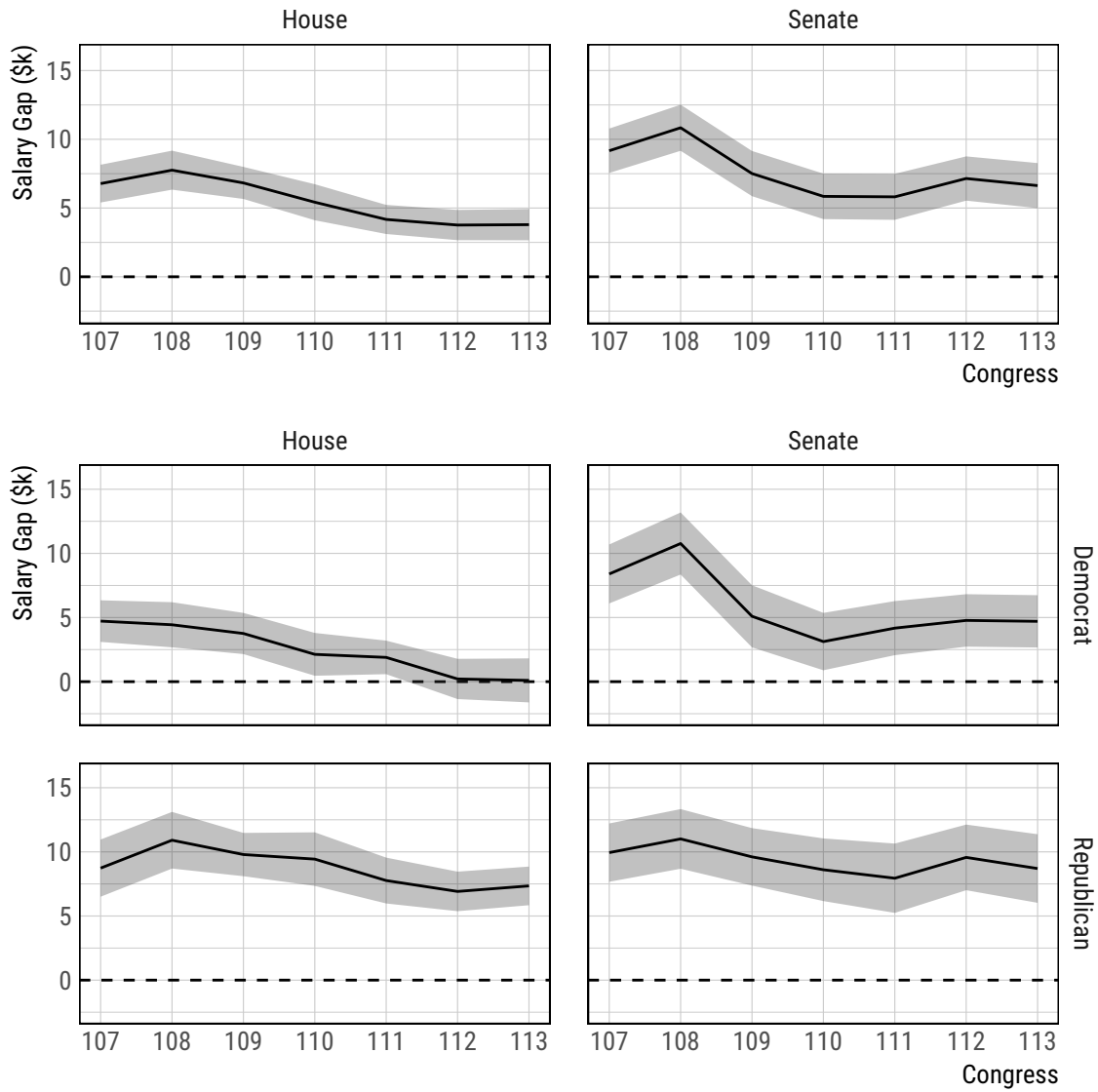


Figure 6: Salary Gaps by Congress and Party

The top two panels plot the average salary gap with empirical 95% confidence intervals by chamber. The bottom four plots further break down this relationship by party.

place (higher quality types) or through a drive to overcome discriminatory preconceptions once in Congress. Both Anzia and Berry (2011) and Lazarus and Steigerwalt (2018) find that female members of Congress are more likely to deliver federal funds to their district, holding time-invariant district traits fixed.¹⁷ Lazarus and Steigerwalt (2018) also uncover evidence that female legislators are more active in the policymaking arena.

We suggest that these mechanisms should also be present in congressional staffers, who we have previously argued are key drivers of congressional activity behind the scenes. Given the descriptive statistics presented above, there is strong *prima facie* evidence to suspect women staffers may feel the same pressures as women candidates and MCs.¹⁸ Women are paid less, on average, than men as staffers, and this pattern is exacerbated at more senior roles. Additionally, while there are more women staffers in Congress as a whole, there are substantially fewer in senior roles (see Figure 2). A possible explanation for these trends (which is coherent with the broad economics literature discussed above) is that selection effects are producing much of the descriptive gap in the number and salaries of women staffers. Aware of the difficulty of progressing as a woman staffer, only certain types of staffers remain in Congress and progress to senior roles.

These selection effects, as Anzia and Berry (2011) argue about candidates and MCs, should produce more ambitious and qualified staffers selecting into working in Congress and remaining in Congress for longer tenures. The empirical expectation, then, is that offices that employ more women staffers (and at more senior levels), and pay them more equitably, should also be more productive in policymaking. We want to be clear that we are not making a causal claim that employing women staffers and paying them equitably induces better performance in this arena; the endogeneity here is clear but important. Selection effects produce certain offices hiring, promoting, and equitably paying women staffers, and these offices should be more effective because of the staffers who select into those offices.

¹⁷In other words, when the same district is represented by a woman instead of a man, more funds flow to that district.

¹⁸Lazarus and Steigerwalt (2018) quote a number of women staffers to this effect.

To under take this analysis, we employ data from the Adler and Wilkerson (2006) Congressional Bills Project on bill introduction. We create two dependent variables: total number of bills introduced and number of important bills introduced. This is a common outcome variable of interest when measuring effort by members of Congress, especially as it relates to staff since staffers tend to do much of the work in writing legislation (e.g., Hall, 1996; Malbin, 1980). We break the models into separate panels by chambers. The specifications include district fixed-effects (in the House) and Congress fixed-effects. For the house models, the district fixed-effects serve to hold constant time-invariant district traits, such as demand for policy, which may induce offices to be more or less active in policymaking. These models are similar to those used in Anzia and Berry (2011) such that variation is driven by who represents the district and the makeup of their staff. Our independent variables include the total number of women employed in an office, the total number of women legislative staff employed, the average salary of women staff, and the salary gap (the latter two are measured in the thousands). We also interact these variables with the gender and party of the member.¹⁹

The results from Tables 4 and 5 show strong evidence for the selection effect proposed by Anzia and Berry (2011) – however in our setting it occurs within congressional staff. For instance, taking models 2 and 6 in the House results, one additional woman policy staffer predicts a roughly 0.6 increase in bills and important bills introduced, respectively. On average in our sample, House offices employ 3.6 women legislative staffers with a standard deviation of 2. The Senate results are similarly strong. In the Senate, offices typically employ 11 women legislative staffer ($\sigma = 4.6$).

Interestingly, we find very little statistical evidence for pay dynamics predicting policy

¹⁹The appendix reports results using the Volden and Wiseman (2014) Legislative Effectiveness Scores (LES), which show substantively similar results to those below, though generally less precisely estimated. However, we prefer the bill introduction outcome variables because they better capture the actual effort of the office. Variance in the LES measure is mostly driven through institutional characteristics of the member, such as seniority and committee leadership status, since bills that make it past committee are heavily weighted in the construction of these scores and members who are in these positions are most likely to see their legislation progress this far.

Table 4: OLS Models of Gender Gaps in House Offices and Effectiveness: Bills Introduced

	Bills Introduced				Important Bills Introduced			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Women Staff	0.61** (0.12)				0.49** (0.11)			
Total Women Leg. Staff		0.60* (0.27)				0.56** (0.20)		
Avg. Salary of Women Staff			0.02 (0.02)				0.01 (0.02)	
Salary Gap				0.01 (0.01)				0.01 (0.01)
Committee Chair	3.72** (0.55)	3.96** (0.55)	3.99** (0.55)	4.02** (0.55)	2.36** (0.44)	2.55** (0.44)	2.57** (0.44)	2.59** (0.44)
MC Man	1.77 (1.27)	0.47 (1.02)	0.78 (1.10)	-0.29 (0.48)	1.44 (1.08)	0.96 (0.76)	0.30 (0.78)	-0.07 (0.36)
MC Republican	1.33 (1.00)	1.05 (0.65)	-0.83 (0.75)	0.30 (0.42)	1.00 (0.77)	0.28 (0.50)	-0.74 (0.57)	-0.09 (0.34)
Congressional Tenure	0.03 (0.04)	0.04 (0.04)	0.07 (0.05)	0.08 (0.04)	0.04 (0.04)	0.05 (0.04)	0.07 (0.04)	0.08* (0.04)
Vote Percentage	0.04** (0.01)	0.04** (0.01)	0.05** (0.01)	0.05** (0.01)	0.02** (0.01)	0.03** (0.01)	0.03** (0.01)	0.03** (0.01)
Women Staff * MC Man	-0.17 (0.14)				-0.13 (0.11)			
Women Staff * MC Republican	-0.09 (0.11)				-0.10 (0.08)			
Women Leg. Staff * MC Man		-0.17 (0.26)				-0.26 (0.20)		
Women Leg. Staff * MC Republican		-0.24 (0.16)				-0.11 (0.12)		
Avg. Women Salary * MC Man			-0.02 (0.02)				-0.01 (0.02)	
Avg. Women Salary * MC Republican			0.02 (0.02)				0.01 (0.01)	
Salary Gap * MC Man				-0.003 (0.01)				-0.01 (0.01)
Salary Gap* MC Republican				-0.01 (0.01)				-0.01 (0.01)
Congress and District FEs	X	X	X	X	X	X	X	X
N	6,128	6,128	6,128	6,128	6,128	6,128	6,128	6,128
R ²	0.45	0.44	0.43	0.43	0.47	0.46	0.45	0.45

* p<0.05; ** p<0.01. Dependent variable is total bills introduced and total important bills introduced. Unit of observation is a member-year. All models include district and Congress fixed-effects with robust standard errors clustered at the member level.

Table 5: OLS Models of Gender Gaps in Senate Offices and Effectiveness: Bills Introduced

	Bills Introduced				Important Bills Introduced			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Women Staff	0.64 (0.34)				0.40 (0.26)			
Total Women Leg. Staff		0.99* (0.46)				0.73** (0.27)		
Avg. Salary of Women Staff			-0.37 (0.23)				-0.23 (0.15)	
Salary Gap				0.33* (0.16)				0.22* (0.10)
Committee Chair	7.53** (1.70)	7.44** (1.72)	8.84** (1.82)	8.39** (1.81)	6.03** (1.20)	5.92** (1.19)	6.89** (1.21)	6.59** (1.20)
MC Man	-0.34 (9.75)	2.43 (4.61)	-20.65 (13.49)	0.69 (2.94)	-0.64 (8.14)	3.08 (3.01)	-13.34 (8.52)	0.28 (2.18)
MC Republican	0.86 (5.40)	-1.85 (3.33)	2.91 (6.98)	-6.06** (2.03)	-1.10 (3.86)	-2.45 (2.52)	2.69 (4.93)	-4.52** (1.42)
Congressional Tenure	-0.06 (0.09)	-0.08 (0.10)	-0.03 (0.10)	-0.06 (0.10)	-0.04 (0.07)	-0.05 (0.07)	-0.02 (0.07)	-0.04 (0.07)
Vote Percentage	0.05 (0.05)	0.05 (0.06)	0.08 (0.06)	0.07 (0.06)	0.06 (0.04)	0.06 (0.04)	0.08 (0.04)	0.07 (0.04)
Women Staff * MC Man	0.06 (0.36)				0.06 (0.27)			
Women Staff * MC Republican	-0.22 (0.22)				-0.11 (0.15)			
Women Leg. Staff * MC Man		-0.23 (0.46)				-0.27 (0.27)		
Women Leg. Staff * MC Republican		-0.33 (0.32)				-0.17 (0.23)		
Avg. Women Salary * MC Man			0.33 (0.22)				0.21 (0.14)	
Avg. Women Salary * MC Republican			-0.15 (0.11)				-0.13 (0.08)	
Salary Gap * MC Man				-0.32* (0.15)				-0.18 (0.10)
Salary Gap* MC Republican				-0.10 (0.08)				-0.09 (0.05)
Congress and District FEs	X	X	X	X	X	X	X	X
N	1,398	1,398	1,398	1,398	1,398	1,398	1,398	1,398
R ²	0.26	0.23	0.22	0.22	0.31	0.29	0.28	0.27

* p<0.05; ** p<0.01. Dependent variable is total bills introduced and total important bills introduced. Unit of observation is a member-year. All models include district and Congress fixed-effects with robust standard errors clustered at the member level.

activity. In the House especially these models are not statistically significant and the coefficients are close to zero. In the Senate the evidence that does show up is that where there is a larger gap between male and female staffers the office is more productive. However, this evidence is mixed and depends on the interaction with the gender of of the MC. Overall, this result suggests that women selecting into an office (or an office choosing to hire more women) is the important selection effect and, conditional on this, pay dynamics are not predictive of variation in policy activity.

This analysis does not attempt to prove a causal mechanism. Instead, it shows additional evidence for a theoretical premise uncovered by previous work on gender dynamics in Congress. In short, the descriptive data presented above is suggestive of an environment where gender selection effects are occurring. As others have argued, these selection mechanisms should introduce observational effects on office-level behavior. We find evidence for this proposition, however in staffing rather than the gender of the MC representing a district.

Discussion and Conclusion

Building on the broad literature that details differences between men and women in a variety of political institutions, we find evidence that these differences persist within congressional staff. We uncover a substantial gender wage gap that is similar in magnitude to that found in the large economics literature on this topic. But what do we make of these findings vis-a-vis both the political science literature on gender dynamics within congress and the economics literature on the mechanisms that produce observed salary differences?

A common thread in the political science literature is that men and women face different challenges which produces important variation in outcomes of interest. For instance, though men and women may see the same success in elections, this is likely brought on by selection effects that produce women candidates who are on average more qualified than men candidates in order to overcome biases in an electorate (Anzia and Berry, 2011). Thus, once in

Congress, women also must work harder to prove they belong there, resulting in differences in representation and policy activity (Lazarus and Steigerwalt, 2018). The gender makeup of Congress is linked with variation in levels of focus certain issues (Swers, 2002; Pearson and Dancey, 2011) and levels of collaboration (Holman and Mahoney, 2018).

We find strong evidence in this paper for an inequality in gender roles among congressional staff, as observed by salary and staffer seniority, that likely has implications for many of the results highlighted in these studies. If women staffers are valued less or potentially discriminated against, then their voices are less likely to be heard in policy and decision making, and they have opportunities to lead and shape the business of congressional offices in senior roles. As a broad literature on congressional staff finds that staff have substantial influence within policymaking and information processing in Congress, this discrimination is deeply concerning.

The results we present show that there is a gender wage gap, on average, in each chamber independent of party and the gender of the member of Congress. However, we show that the largest wage gaps exist in the Republican party and that this is especially pronounced in the House. This partisan difference, along with descriptive patterns of how many women staffers are employed by each party and similar pay for entry level positions (see Figure 5), suggests a potential selection mechanism driving some of the variation in partisan salary differences.²⁰ One plausible explanation, supported by the economics literature (e.g., Goldin, 2014), is that gender wage gaps are endogenous to men and women selecting the firms for which they work on different firm traits. In Congress, it is reasonable that one of the features on which they select is the party of the member.

Another trend in our results is the difference between chambers. As discussed above, the institutional features of congressional staffing present a unique opportunity to analyze gender pay dynamics. One of these features is the difference between chambers: in the House, each

²⁰This finding aligns with a common result in the economics literature, that at early career stages there is very little pay gap, but as individuals advance in their career the gap increases (Bertrand, Goldin and Katz, 2010).

member has a hard limit on staffing funds that is uniform across offices (with the exception of party leadership). In the Senate, the amount of funds available for staffing is quite a bit larger and is determined by, among other traits, the Senator's home state population. This gives most Senators substantially more flexibility in how to allocate their staffing resource. A possible explanation for the persistently high wage gap in Senate offices, largely independent of party, is that they have more funds available for salary negotiations and bonuses compared to the House. As a result, trends identified by the economics literature that show women are less likely to negotiate for salary or select themselves for promotion may be exacerbated in the Senate (Bertrand, 2011). The unique institutional setting of Congress makes it fertile ground for further examination of these important questions.

Future research, beyond the scope of this study, could also delve deeper into the selection effects that produce salary differences in other sectors. For instance, men and women have different preferences over non-pecuniary benefits that may cause some of the gender gap, leading women to select into firms that offer more flexibility (Goldin, 2014). Because much of Congress' work is observable, future work could take advantage of variation within and across offices in terms of their productivity, electoral security, legislative styles, and other features of these firms that might produce selection effects.

Additionally, more research is needed on the effect of congressional staff gender dynamics on legislator behavior and policy outcomes. A large literature argues that staff enable entrepreneurial efforts within an office and seek out information that members of Congress need (Malbin, 1980; Hall, 1996; Rosenthal and Bell, 2003). If this information comes from staff that asymmetrically represent one demographic – perhaps a product of the wage differences we describe – then it is reasonable to expect the policy agendas and representational efforts of members to be unrepresentative as well (Lowande, Ritchie and Lauterbach, 2018).

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A Data Description

The congressional staff employment history dataset was acquired from the firm Legistorm, but the basis for this dataset are publicly available reports released twice yearly, then quarterly (post-2007) by the House and Senate.²¹ Legistorm first converted the raw data into text (from PDFs for earlier disclosures) and then undertook a substantial amount of cleaning and manual processing of the data.

As an example, in the raw data there are frequently inconsistencies from report to report with regard to a person’s name or job title. In one report their name may be “Joseph M Smith” and the next “Joe Smith”; or their job title may be “Leg. Dir” in one and “Legislative Director” in the next. Legistorm unified these when possible and also manually checks individuals’ names against other online sources (such as LinkedIn) to verify the fidelity of the automatic processing.

Beyond the data processing just outlined, Legistorm maintains the original structure of the raw data which was semesterly reports prior to 2008 and then quarterly reports thereafter. To process this data and get into a legislator-year level dataset we did the following. We aggregated up each staffer’s yearly salary by summing the total salary per calendar year as determined by the start and end date of the report (which was then adjusted this for inflation to 2016 dollars). To avoid measurement error as much as possible given our interest in *yearly* salaries, we adjusted salaries for staff who only worked in an office part of a year. For instance, if a staffer was employed by an office for 3 months (25% of a year) and was associated with \$20,000 in salary for those 3 months, their yearly salary is noted as \$80,000. This process resulted in a dataset where each staffer has one observation per office per year. We then aggregated this dataset to get the member-level staffer traits that are described in detail in the paper.

²¹For example: <https://www.house.gov/the-house-explained/open-government/statement-of-disbursements/archive>

The decisions on how to code staff positions in this paper are largely based on the processes described in Montgomery and Nyhan (2017), Cain and Drutman (2014) and Madonna and Ostrander (N.d.).²² Fortunately, this process was made easier because of the extensive cleaning of the data done by Legistorm. For instance, in the raw data a Legislative Director may be: Legis. Director, Leg. Director, Leg. Dir. or any other possible variation. Legistorm cleans most possible variations and assigns them the proper title. Table A1 below detail the list of job titles which were combined to form the designation “policy staff” as employed in the paper.

²²This process is based on the delineation of job titles to tasks laid out by the Congressional Research Service (Petersen, 2011).

Table A1: Legislative Staff Position Titles

Chief of Staff*
Legislative Director
Legislative Correspondent
Legislative Assistant**
Legislative Aide**
Legislative Coordinator
Legislative Adviser
Policy Analyst
Policy Adviser**
Senior Adviser**
Policy Aide
Policy Director
Director of Policy
Policy Coordinator
Counsel
Policy Specialist
Research Assistant
Policy Analyst
Fellow**
Law Clerk
Research Director
Legislative Research Assistant
Legislative Clerk
Legislative Analyst
U.S. Senate Aide
National Security Adviser
Special Adviser
Appropriations Associate
Legislative Associate
Senior Legislative Associate
Legal Fellow
Transition Aide
Appropriations Director
Adviser
Legislative Liaison

*anything containing “Chief of Staff” and not “assistant to”

**anything containing

Additional Results

Tables A2 and A3 display the full regression results from Figure 3 in the main text. These models use the individual staffer-year as the unit of observation.

In Tables A4 and A5 we include district and state fixed effects for the House and Senate respectively, limiting the data to the 2003-2012 time period for the House to account for redistricting. The idea here is that districts or states have different labor markets which may be driving the observed variation in gender pay differences. The inclusion of these fixed effects estimates the pay gap within each geography, accounting for any observed or unobserved time-invariant geographic-specific characteristics. The results remain the same as the models without these fixed effects.

Table A2: OLS Models of Gender Salary Gap in House Offices, 2001–2014

	Annual Salary (\$)			
	(1)	(2)	(3)	(4)
Man	5,476.39** (236.16)	2,455.65** (328.03)	3,657.22** (580.68)	1,919.42** (595.57)
MC Republican		-2,010.08** (320.49)		-2,302.32** (326.12)
MC Man			1,470.78** (416.58)	2,030.46** (423.65)
Man x MC Republican		6,207.46** (472.33)		6,161.17** (480.12)
Man x MC Man			2,110.68** (635.64)	614.95 (645.70)
Year FEs	X	X	X	X
Observations	98,982	98,982	98,982	98,982
<i>Note:</i>			* p<0.05; ** p<0.01	

Table A3: OLS Models of Gender Salary Gap in Senate Offices, 2001–2014

	Annual Salary (\$)			
	(1)	(2)	(3)	(4)
Man	7,529.08** (317.17)	5,644.38** (436.98)	5,382.80** (705.16)	4,211.94** (734.25)
MC Republican		1,235.38** (426.95)		992.22* (431.33)
MC Man			2,251.18** (524.35)	2,079.29** (529.58)
Man x MC Republican		3,781.79** (634.77)		3,521.75** (642.07)
Man x MC Man			2,646.27** (789.35)	1,926.60* (798.21)
Year FEs	X	X	X	X
Observations	59,924	59,924	59,924	59,924
<i>Note:</i>			* p<0.05; ** p<0.01	

Table A4: OLS Fixed Effects Models of Gender Salary Gap in House Offices, 2003–2012

	Annual Salary (\$)			
	(1)	(2)	(3)	(4)
Man	5,884.00** (278.20)	2,721.62** (382.12)	4,476.18** (680.69)	2,553.12** (699.12)
MC Republican		-2,185.52** (717.33)		-2,167.44** (718.64)
MC Man			2,063.18* (883.05)	2,715.72** (883.89)
Man x MC Republican		6,700.11** (556.21)		6,673.24** (563.86)
Man x MC Man			1,678.25* (745.53)	206.23 (755.09)
Year FEs	X	X	X	X
District FEs	X	X	X	X
Observations	72,337	72,337	72,337	72,337
<i>Note:</i>			* p<0.05; ** p<0.01	

Table A5: OLS Fixed Effects Models of Gender Salary Gap in Senate Offices, 2001–2014

	Annual Salary (\$)			
	(1)	(2)	(3)	(4)
Man	7,558.08** (315.79)	5,629.55** (435.53)	5,891.89** (703.47)	4,654.33** (732.87)
MC Republican		67.51 (552.62)		58.24 (557.31)
MC Man			178.64 (670.09)	168.51 (675.50)
Man x MC Republican		4,000.72** (632.11)		3,831.27** (639.64)
Man x MC Man			2,066.38** (787.07)	1,309.86 (796.11)
Year FEs	X	X	X	X
State FEs	X	X	X	X
Observations	59,924	59,924	59,924	59,924
<i>Note:</i>			* p<0.05; ** p<0.01	

Tables A6 and A7 display results where the unit of analysis is the individual office, for both the House and Senate. This helps address concerns with the level of analysis in the primary results, which are at the staffer level. However, salary decisions are made within offices so it is reassuring that these results match the staffer-level analyses.

In Tables A8 and A9 we show similar models to those presented in the main analyses but limit the data to the top three paid staff in each office. One interpretation of the top line results in the paper is that only men make it to higher levels of seniority and that this is driving the pay gap (there is some evidence for this; see Figure 1). However, these results show even among the most senior staff in an office there continues to be a pay gap.

Table A6: Office-Level OLS Models of Gender Salary Gap in House Offices, 2001–2014

	Salary Gap (1)	Salary Gap - Top Staff (2)	Num. Top Staff Gap (3)
MC Republican	6,654.84** (551.04)	13,912.24** (1,593.34)	0.52** (0.04)
MC Man	1,419.29 (739.27)	-1,988.35 (2,115.66)	0.32** (0.06)
Year FEs	X	X	X
Observations	6,148	4,535	5,978
<i>Note:</i>	* p<0.05; ** p<0.01		

Table A7: Office-Level OLS Models of Gender Salary Gap in Senate Offices, 2001–2014

	Salary Gap (1)	Salary Gap - Top Staff (2)	Num. Top Staff Gap (3)
MC Republican	4,167.80** (699.66)	-4,189.31* (2,041.05)	0.30** (0.09)
MC Man	2,019.73* (914.51)	7,484.83** (2,667.35)	0.42** (0.11)
Year FEs	X	X	X
Observations	1,384	985	1,372
<i>Note:</i>	* p<0.05; ** p<0.01		

Table A8: OLS Models of Gender Salary Gap in House Offices, Senior Staff, 2001–2014

	Annual Salary (\$)			
	(1)	(2)	(3)	(4)
Man	10,991.06** (712.09)	5,594.39** (1,001.44)	12,019.09** (1,744.63)	8,657.88** (1,790.79)
MC Republican		-3,037.81** (1,063.62)		-4,099.94** (1,084.17)
MC Man			5,823.76** (1,355.44)	6,851.73** (1,380.13)
Man x MC Republican		10,453.58** (1,428.11)		11,188.56** (1,452.98)
Man x MC Man			-1,485.50 (1,911.32)	-4,270.35* (1,942.09)
Year FEs	X	X	X	X
Observations	18,048	18,048	18,048	18,048
<i>Note:</i>			* p<0.05; ** p<0.01	

Table A9: OLS Models of Gender Salary Gap in Senate Offices, Senior Staff, 2001–2014

	Annual Salary (\$)			
	(1)	(2)	(3)	(4)
Man	7,356.39** (991.67)	9,484.45** (1,377.79)	730.30 (2,292.79)	2,327.33 (2,390.91)
MC Republican		5,139.00** (1,588.36)		5,116.25** (1,604.72)
MC Man			1,204.77 (1,949.04)	169.98 (1,973.95)
Man x MC Republican		-4,692.02* (1,984.87)		-5,282.13** (1,998.90)
Man x MC Man			7,799.03** (2,541.69)	8,855.74** (2,564.56)
Year FEs	X	X	X	X
Observations	4,127	4,127	4,127	4,127
<i>Note:</i>			* p<0.05; ** p<0.01	

Next we show four sets of results limiting the data to 2012-2014. This analysis is useful to investigate whether the salary gap we find on average within our sample maintains in recent years. One might imagine, for instance, that as the salience of gender pay differences has increased in public policy that Congress might have responded by adjusting salaries. These tables (A10 through A13) demonstrate a persistence in the salary gap through the most recent years in our data.

Table A10: OLS Models of Gender Salary Gap in House Offices, 2012–2014

	Annual Salary (\$)			
	(1)	(2)	(3)	(4)
Man	3,808.59** (461.98)	337.68 (668.83)	1,066.07 (1,076.33)	−567.93 (1,102.75)
MC Republican		−4,065.24** (636.67)		−4,389.68** (659.97)
MC Man			85.39 (793.02)	1,528.65 (821.20)
Man x MC Republican		6,701.50** (924.51)		6,527.63** (955.81)
Man x MC Man			3,301.38** (1,191.82)	1,161.44 (1,230.72)
Year FEs	X	X	X	X
Observations	20,619	20,619	20,619	20,619
<i>Note:</i>			* p<0.05; ** p<0.01	

Table A11: OLS Models of Gender Salary Gap in Senate Offices, 2012–2014

	Annual Salary (\$)			
	(1)	(2)	(3)	(4)
Man	6,990.99** (679.33)	4,820.14** (902.47)	5,411.49** (1,419.83)	4,297.75** (1,458.71)
MC Republican		4,221.55** (931.14)		4,123.01** (947.24)
MC Man			1,516.26 (1,096.04)	630.36 (1,111.38)
Man x MC Republican		4,445.21** (1,365.75)		4,287.84** (1,394.51)
Man x MC Man			2,045.17 (1,616.75)	773.44 (1,645.51)
Year FEs	X	X	X	X
Observations	13,001	13,001	13,001	13,001
<i>Note:</i>			* p<0.05; ** p<0.01	

Table A12: OLS Models of Gender Salary Gap in House Offices, Senior Staff, 2012–2014

	Annual Salary (\$)			
	(1)	(2)	(3)	(4)
Man	6,931.98** (1,283.42)	919.85 (1,876.90)	8,242.10** (2,991.41)	5,025.48 (3,069.08)
MC Republican		-7,775.51** (1,906.14)		-9,599.45** (1,982.97)
MC Man			4,676.32* (2,328.61)	7,950.91** (2,417.40)
Man x MC Republican		11,673.50** (2,581.04)		13,215.16** (2,667.08)
Man x MC Man			-1,866.19 (3,313.30)	-6,235.49 (3,413.94)
Year FEs	X	X	X	X
Observations	3,867	3,867	3,867	3,867
<i>Note:</i>			* p<0.05; ** p<0.01	

Table A13: OLS Models of Gender Salary Gap in Senate Offices, Senior Staff, 2012–2014

	Annual Salary (\$)			
	(1)	(2)	(3)	(4)
Man	7,752.16** (2,321.50)	7,253.12* (3,147.37)	1,319.57 (4,990.33)	838.62 (5,157.08)
MC Republican		7,496.47* (3,701.54)		7,652.74* (3,777.32)
MC Man			966.34 (4,365.82)	-891.58 (4,441.85)
Man x MC Republican		141.37 (4,637.52)		-847.54 (4,711.71)
Man x MC Man			7,918.29 (5,640.35)	8,585.41 (5,710.84)
Year FEs	X	X	X	X
Observations	882	882	882	882
<i>Note:</i>			* p<0.05; ** p<0.01	

Finally, in Tables A14 and A15 we show the same set of models used in the paper for bill introduction, changing the depending variable to the Volden and Wiseman Legislative Effectiveness Scores. As we mention in the paper, we prefer results using bill introduction because it more accurately captures the effort an office can exert in the legislative process. LES captures the ability to get a bill through the committee process since bills are heavily weighted based on whether they get action in or beyond committee. Thus, the variation in these scores is largely driven by committee leadership status. In these models we see a positive relationship between the number of women staff employed and LES in both the House and Senate, though in the House the coefficients are not precisely estimated. The substantive interpretation is also small, but not meaningless. Again, similar to the results with bill introduction, there does not seem to be a relationship between LES and pay gap.

Table A14: OLS Models of Gender Gaps in House Offices and Effectiveness: LES

	Legislative Effectiveness Score							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Women Staff	0.02** (0.01)	0.02 (0.01)						
Total Women Leg. Staff			0.01 (0.01)	0.02 (0.02)				
Avg. Salary of Women Staff					0.0004 (0.002)	-0.001 (0.003)		
Salary Gap							0.001 (0.001)	-0.0002 (0.002)
Committee Chair	3.37** (0.36)	3.37** (0.36)	3.38** (0.36)	3.38** (0.36)	3.38** (0.36)	3.38** (0.36)	3.39** (0.36)	3.39** (0.36)
MC Man	0.06 (0.06)	-0.03 (0.16)	0.04 (0.06)	0.06 (0.10)	0.04 (0.06)	0.02 (0.16)	0.04 (0.06)	0.03 (0.06)
MC Republican	0.41** (0.07)	0.51** (0.16)	0.39** (0.07)	0.44** (0.11)	0.39** (0.07)	0.31* (0.14)	0.38** (0.07)	0.39** (0.08)
Congressional Tenure	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)
Vote Percentage	0.01** (0.002)	0.01** (0.002)	0.01** (0.002)	0.01** (0.002)	0.01** (0.002)	0.01** (0.002)	0.01** (0.002)	0.01** (0.002)
Women Staff * MC Man		0.01 (0.02)						
Women Staff * MC Republican		-0.01 (0.02)						
Women Leg. Staff * MC Man				-0.01 (0.02)				
Women Leg. Staff * MC Republican				-0.02 (0.03)				
Avg. Women Salary * MC Man						0.0003 (0.003)		
Avg. Women Salary * MC Republican						0.002 (0.003)		
Salary Gap * MC Man								0.002 (0.002)
Salary Gap* MC Republican								-0.001 (0.002)
Congress and District FEs	X	X	X	X	X	X	X	X
N	6,128	6,128	6,128	6,128	6,128	6,128	6,128	6,128
R ²	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55

* p<0.05; ** p<0.01. Dependent variable is Legislative Effectiveness Score. All models include district and Congress fixed-effects with robust standard errors clustered at the member level.

Table A15: OLS Models of Gender Gaps in Senate Offices and Effectiveness: LES

	Legislative Effectiveness Score							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Women Staff	0.02** (0.01)	0.02 (0.01)						
Total Women Leg. Staff			0.03** (0.01)	0.06** (0.02)				
Avg. Salary of Women Staff					-0.01 (0.004)	-0.02 (0.01)		
Salary Gap							0.004 (0.003)	0.01 (0.01)
Committee Chair	1.28** (0.13)	1.28** (0.13)	1.27** (0.13)	1.26** (0.13)	1.33** (0.13)	1.32** (0.13)	1.33** (0.13)	1.30** (0.13)
MC Man	-0.03 (0.13)	0.16 (0.37)	-0.07 (0.12)	0.36 (0.23)	-0.12 (0.13)	-0.87 (0.77)	-0.13 (0.14)	-0.12 (0.11)
MC Republican	-0.06 (0.09)	-0.09 (0.27)	-0.08 (0.09)	0.08 (0.19)	-0.12 (0.09)	0.14 (0.43)	-0.15 (0.10)	0.01 (0.10)
Congressional Tenure	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01* (0.01)	0.01 (0.01)	0.01 (0.01)	0.01* (0.01)
Vote Percentage	-0.001 (0.003)	-0.001 (0.003)	-0.001 (0.003)	-0.001 (0.003)	0.001 (0.003)	0.001 (0.003)	-0.0004 (0.003)	0.0005 (0.003)
Women Staff * MC Man		-0.01 (0.01)						
Women Staff * MC Republican		0.001 (0.01)						
Women Leg. Staff * MC Man				-0.04 (0.02)				
Women Leg. Staff * MC Republican				-0.02 (0.02)				
Avg. Women Salary * MC Man						0.01 (0.01)		
Avg. Women Salary * MC Republican						-0.004 (0.01)		
Salary Gap * MC Man								-0.003 (0.01)
Salary Gap* MC Republican								-0.02** (0.01)
Congress and District FEs	X	X	X	X	X	X	X	X
N	1,398	1,398	1,398	1,398	1,398	1,398	1,398	1,398
R ²	0.38	0.38	0.38	0.38	0.37	0.37	0.37	0.38

* p<0.05; ** p<0.01. Dependent variable is Legislative Effectiveness Score. Unit of observation is a member-year. All models include district and Congress fixed-effects with robust standard errors clustered at the member level.