

# The Politics of Interruptions: Gendered Disruptions of Legislative Speeches

---

**Sebastián Vallejo Vera**, Tecnológico de Monterrey

**Analía Gómez Vidal**, University of Maryland

Floor time in legislatures is a valuable commodity that legislators use to gain political capital and electoral benefits. There are well-known political and institutional barriers to participation, but these do not explain gender differences in access to floor time. In this article, we look at the role interruptions play as potential barriers to floor time. We explore how women strategically react to these barriers and consider how these reactions ultimately lead to gendered differences in legislative participation. Our findings show that differences in participation across genders are a consequence of rational strategies followed by women who sacrifice floor time in the short term to avoid the long-term consequences of challenging gendered barriers, such as interruptions. We test our argument using original data on legislative speeches from the Ecuadorian Congress between 1988 and 2018.

Access and time on the legislative floor are valuable commodities and represent a crucial form of participation for legislators (Mansbridge 1983). Floor time provides them with an opportunity to publicize positions, attract media attention (Maltzman and Sigelman 1996; Martin and Vanberg 2008; Quinn et al. 2010), and gain political capital, all of which have important electoral consequences (Proksch and Slapin 2012). Legislators face several barriers to floor time: plenary “bottlenecks” (Cox 2006; Cox and McCubbins 2011), party strategy (Alemán, Ramirez, and Slapin 2017), and procedural rules (Proksch and Slapin 2012). But none of these can systematically explain gender differences in the patterns of participation.

Legislatures are gendered institutions with rules and practices rooted in “masculine” traits (Duerst-Lahti 2002; Heath, Schwindt-Bayer, and Taylor-Robinson 2005; Rosenthal 2002; Schwindt-Bayer 2010), leading to unequal representation and participation across sexes within the legislature. There are measurable consequences: congresswomen wait longer to

speak and deliver fewer speeches (Kathlene 1994; Osborn and Mendez 2010), in particular when debates deal with what can be characterized as “masculine” topics (Bäck and Debus 2019; Bäck, Debus, and Müller 2014).<sup>1</sup> Legislators participate in a gendered environment where individual interactions further replicate stereotypes that feed into the unequal distribution of resources and power. Thus, legislators from different sexes pursue different strategies to achieve the same goals. While it is widely accepted that women in politics face barriers different from men’s (Paxton, Hughes, and Barnes 2020; Paxton, Kunovich, and Hughes 2007), the impact of these barriers to legislative speeches, as well as how congresswomen strategically overcome the barriers to participate, remains understudied.

We look at interruptions as potential barriers to floor time and what the patterns of participation of female legislators following an interruption tell us about their strategic behavior. Interruptions are communication signals that can silence low-status groups and reduce the decision-making influence of the person being interrupted (Karpowitz and Mendelberg 2014;

---

Sebastián Vallejo Vera (svallejovera@tec.mx) is professor-researcher of political science at the Tecnológico de Monterrey, Ciudad de México, 01389, and the director of the Interdisciplinary Lab for Computational Social Science, Mexico. Analía Gómez Vidal (agv@terpmail.umd.edu) is an affiliated faculty of the Interdisciplinary Laboratory of Computational Social Science at University of Maryland, College Park, MD 20903, and affiliated faculty of the Center for Global Health at Arizona State University, Tempe, AZ 85284.

Replication files are available in the *JOP* Dataverse (<https://dataverse.harvard.edu/dataverse/jop>). The empirical analysis has been successfully replicated by the *JOP* replication analyst. An appendix with supplementary material is available at <https://doi.org/10.1086/717083>.

1. Pearson and Dancy (2011) find that, for the US House of Representatives, women give on average more one-minute speeches than men and that congresswomen are more likely than men to discuss women’s issues.

Published online May 16, 2022.

*The Journal of Politics*, volume 84, number 3, July 2022. © 2022 Southern Political Science Association. All rights reserved. Published by The University of Chicago Press for the Southern Political Science Association. <https://doi.org/10.1086/717083>

Mendelberg, Karpowitz, and Oliphant 2014). Therefore, interruptions work as tools for exerting and reinforcing existing hierarchies. In legislatures, interruptions can function as negative signals that limit the floor time of the speakers, affecting their perceived status among their peers and external actors (e.g., voters, interest groups). We argue that in the legislature, interruptions will disproportionately penalize women. We assume women are strategic actors who adapt to overcome this institutional imbalance. We propose that congresswomen will change their behavior (e.g., constrain the length of their speech) to avoid the negative effect of interruptions in a context in which their perceived violation of gender roles comes at odds with their work-specific roles (Eagly and Karau 2002).

We describe an environment where female and male legislators encounter barriers to their participation. Both need to grapple with the complexities of political barriers (e.g., party strategy, electoral cycles), but congresswomen encounter structural conditions that deem their gender identity as a marker for low authority (Mendelberg et al. 2014). Interruptions are a power device because they involve violations of a speaker's turn to talk (West and Zimmerman 1987). Literature has shown that, because men occupy more positions of authority than women do, interruptions conform to a pattern of gender hierarchy (Anderson and Leaper 1998). Interruptions of marginalized legislators reaffirm their relatively low status, hurting their position within the party and the legislature and limiting their participation in a context in which reputation is paramount (Cox and McCubbins 2011; Proksch and Slapin 2012). We find that some gender differences in participation result from rational strategies followed by women who sacrifice floor time in the short term to avoid the negative effects of challenging gendered barriers, such as interruptions, in the long term.<sup>2</sup> In such a hostile environment where legislators foresee the costs of being interrupted more often, partially silencing themselves becomes an optimal strategy.

Using original data on legislative debates in Ecuador between 1988 and 2018, we examine speech patterns for all members of Congress (MCs) and consider how interruptions affect them. Our results show that women have less access to the floor than men, and, once they gain access, they hold the floor for a shorter period of time. Even though women are less likely to be interrupted than men, interruptions silence women at a higher rate. To avoid the consequences of multiple interruptions, women strategically limit their floor time. In contrast, men speak for longer after being interrupted, suggesting they care less about interruptions either because the signal sent

by the moderator is more subdued or because their higher status allows them to dismiss the negative effect of these signals.

High status appears to be the great equalizer. Across the board, chairwomen and senior female MCs display behavior similar to that of their male counterparts. High-reputation female politicians can dismiss the negative effects of interruptions, or, alternatively, the negative effects of interruptions are similar to the effects on politicians of similar status. In some cases, senior congresswomen deliver longer speeches than their male colleagues. These results are in line with seminal work on gender status theory and social role theory, suggesting that the interaction between power and gender can narrow down gender differences (Eagly, Wood, and Diekmann 2000; Ridgeway 2001).

Our work speaks to the descriptive and substantive representation of women in Ecuador, and it provides a blueprint for exploring similar dynamics across the world. Ecuador is a helpful case to address gendered barriers in legislative participation. Similar to other gendered legislatures (Bäck and Debus 2019; Barnes 2016; Barnes and Holman 2020; Krook and O'Brien 2010; Schwindt-Bayer 2010), there is significant variation across time in the Ecuadorian Congress regarding the level of women's descriptive representation. Like other countries from the region, Ecuador has adopted gender quotas that increased the number of seats held by women in Congress. Thus, we can observe and analyze obstacles to participation in a legislature throughout changing institutional contexts, including periods when some of the disparities in descriptive representation were overcome.<sup>3</sup>

This article sheds light on the mechanisms that affect female representation in the legislature and political institutions more generally. We demonstrate empirically the strategic (re)action of female MCs to these barriers. Specifically, we show how women partially silence themselves to avoid the cost of interruptions. Finally, we address the importance of women accessing positions of authority within the legislature for equitable participation in the political process and, potentially, equitable representation.

## LEGISLATIVE SPEECHES AND STRATEGIC BEHAVIOR

Floor time in legislatures is a scarce and valuable commodity (Cox 2006). MCs use it to take positions on issues (Mayhew

2. We argue that gender differences in behavior derive from lawmakers being adaptive and strategic over time, not from intrinsic characteristics like risk aversion, often coded as gendered (Barnes 2016).

3. Bäck and Debus (2019) show that increased descriptive representation of women in European legislatures does not lead to increased speech-making by women (or substantive representation). The increased number of female legislators in the Ecuadorian Congress provides, at the very least, a more gender-balanced environment to identify and study patterns of interruption.

1974; Proksch and Slapin 2012) and to gain electoral support (Quinn et al. 2010). On busy legislature floors, there is restricted access to plenary time, forcing actors to use time strategically if they are to advance either party (Cox and McCubbins 2011), personal (Alemán et al. 2017), or constituent goals (Osborn and Mendez 2010; Swers 2016; Walsh 2002). Party leaders, media, and voters are among the likely audiences of legislative speeches, providing an opportunity for MCs to impress their party bosses or receive media coverage (Piscopo 2011). Whatever the goal, these activities require both having access to the floor and holding the floor for as long as possible (Martin and Vanberg 2008).

Parties and politicians cultivate reputations to increase their chances of electoral success. The allocation of floor access and time distribution is a collective exercise that coordinates the interests of the party and the legislators within an institutional context. Party leaders want speakers to toe the party line and avoid clashes that can harm the reputation of the party. Legislators want to build a reputation, and they have electoral incentives to speak even when their position conflicts with that of the party (Alemán et al. 2017; Proksch and Slapin 2012). Consequently, access to the floor and floor time are especially relevant in legislatures in which electoral incentives mean that legislators must cultivate a personal vote (e.g., open-list systems or single-member districts; Alemán et al. 2017; Proksch and Slapin 2012, 2015). Legislators, even those from the same party, are competing for space and time to carry out the goals of speech-making previously described.<sup>4</sup> Additionally, when other lawmakers are the audience, legislators use floor time to build networks and gain legitimacy through the support and respect of their peers. This is particularly important for women, who collaborate more than men to influence policy making, a consequence of their limited access to formal and informal political power (Barnes 2016; Johnson and Josefsson 2016; Sawyer and Turner 2016).

Floor access and floor time are essential for lawmakers, yet distinctive dynamics are accounting for each of them. The patterns of participation on the floor are a function of the party's control over access to the floor and the incentives MCs have to deviate from the party line. Since floor access is hard to

obtain given the institutional and party-based constraints, floor time becomes all the more valuable once available, assuming lawmakers seek to maximize signals sent to the multiple audiences involved in the legislative debate process. Floor time is important for lawmakers because it allows them to show their competency and positions to voters, gain legitimacy and respect from peers, and build a network or coalition that advances their policy-making goals. In this context, interruptions become a barrier to lawmakers, preventing them from making the most of their time, challenging lawmakers and their earned right to speak, and eroding their perceived authority in the process.

### **GENDERED BARRIERS TO PARTICIPATION**

Legislatures are also shaped by social context. All legislators face barriers to accessing floor time to a certain extent. Congresswomen encounter particular structural barriers due to their sex's perceived low status (Mendelberg et al. 2014). Scholars have argued that legislatures are gendered institutions (Duerst-Lahti 2002; Rosenthal 2002; Schwindt-Bayer 2010) where norms of masculinity prevail. Institutional constraints in legislatures often reward "masculine" behavior and marginalize "feminine" behavior (Hawkesworth 2003; Htun and Power 2006; Pearson and Dancey 2011; Schwindt-Bayer 2010). This is further reinforced by a social context in which women must conform to gender expectations, often diffused or at odds with their specific roles as lawmakers and their relatively lower status (Eagly and Karau 2002; Eagly et al. 2000; Ridgeway 2001; Ridgeway and Smith-Lovin 1999). The oftentimes male-dominated legislatures, with implicit and explicit rules created by and privileging men (Hawkesworth 2003), affect the participation of women in the legislature (Bäck and Debus 2019; Bäck et al. 2014) and, we argue, the strategies women use to navigate the barriers that limit their political power.

The barriers female lawmakers encounter are often unobserved. Social norms and gender stereotypes that shape participation in the legislature (Bäck and Debus 2016) are structural and manifest both in social interactions and in biased outcomes (Carli 2001; Carli and Bukatko 2000; Eagly et al. 2000; Kark and Eagly 2010). Thus, the participation patterns of female politicians can be viewed mostly as a consequence of gendered institutions. For example, we know that congresswomen wait longer to speak and deliver fewer speeches (Bäck and Debus 2016; Kathlene 1994; Osborn and Mendez 2010), particularly when debates involve topics deemed "masculine" (Bäck and Debus 2019; Bäck et al. 2014). Research also shows that some of these barriers are overcome by increasing representation (for the case of France, see Murray 2010). Yet, work exploring the details of women's participation indicates strategic reactions to gendered barriers in political settings

---

4. Access to the floor and speech length (and gender) are not correlated to the quality of the speech (Steiner et al. 2004). According to Steiner and colleagues, institutional factors play an important role in determining the level of discourse. These institutional factors, such as the system of government, remain constant in our empirical analysis. In closed-list systems, parties place a high value on party unity and the advancement of the party. Access to the floor will be more heavily determined by the goals of the party (Proksch and Slapin 2012). However, even in these situations, legislators will value floor time as they aim to impress party leaders and climb the party ranks.

(Barnes 2016; Karpowitz and Mendelberg 2014; Mendelberg et al. 2014; Ridgeway and Diekema 1992). Women anticipate the unequal consequences of certain types of behavior (e.g., linguistic styles; Jones 2016) and adapt to minimize the costs of steering away from social expectations.

We look at interruptions as an observable barrier to access to the floor to understand this strategic behavior. Individuals in positions of authority within a group (dominant or more confident members) use multiple verbal forms (e.g., volubility, interruptions) that signal their higher status (Johnson 1994; Kollock, Blumstein, and Schwartz 1985; Ng, Brooke, and Dunne 1995). Interruptions are a power device because they involve violations of a speaker's turn to talk (West and Zimmerman 1987). Research has associated interruptions with the manifestation of dominance (see Anderson and Leaper 1998). The literature has shown that because men have more authority than women do, interruptions conform to a pattern of gender hierarchy (Anderson and Leaper 1998; Carli and Buttko 2000). In studying deliberative bodies, Mendelberg et al. (2014) found that interruptions have a silencing effect on lower-status groups and a negative effect on the decision-making influence of the interrupted person (see also Karpowitz and Mendelberg 2014). Interruptions of low-status legislators reaffirm their lower status, hurting their position within the party and the legislature and limiting their participation in a context in which reputation is essential (Cox and McCubbins 2011; Proksch and Slapin 2012). In the repeated game of legislating, more interruptions hurt the reputation of politicians in the short term, which then become obstacles for gaining reputation in the long term. Avoiding interruptions helps low-status legislators raise their profile and accrue recognition within the party and the legislature, both of which have important electoral implications.

We argue that interruptions have a gendered effect, negatively affecting women more than men and prompting them to adopt strategies that ultimately limit their floor time. Women, as marginalized actors within a gendered institution, are likely to have a lower baseline status due to gender bias. Interruptions have a silencing effect on women, either by limiting their floor time or by limiting their access to the floor more generally. Over time, women face limited opportunities to build their reputation with the party, within the legislature, and with the electorate. In such an environment where legislators foresee being interrupted more often, partially silencing themselves becomes an optimal strategy in the long run.

## INTERRUPTIONS AND THE STRATEGIC BEHAVIOR OF WOMEN

Floor sessions are a repeated game in which legislators vie to secure access to the floor and, once achieved, to maximize their

floor time. Legislators employ this strategy to gain status: prestige within the party, access to networks over time, and recognition from voters. The amount and length of speeches matter to legislators in the short term since these opportunities allow them to build their political capital (e.g., face recognition, political branding, signals to party leaders) and resources as their seniority in the legislature increases. In this context, interruptions represent a barrier that limits their floor time in the immediate term and hurts their political reputation as a lawmaker in the long run.

Interruptions take multiple forms. Procedural interruptions in legislatures are analogous to the interruptions by a moderator in panel discussions at a conference: every speaker receives a one-minute warning, but not all speakers have the same reaction to the warning. To use a familiar example, unlike high-ranking professors, low-ranking speakers will rush through their presentation, avoiding a second interruption. There is a power difference between the moderator and the low-ranking speaker, and the interruption can be perceived as a signal of this power difference. But there is also the damage to the reputation of the low-ranking speaker that comes from a second interruption that, while still procedural, signals to the rest of the audience that the moderator is ready to exert her authority to silence the speaker.

Interruptions can also take the form of admonishments (signals) toward legislators who transgress the expected conduct (e.g., deliver off-topic speeches). The nature of the signal is conditional on the personal and professional characteristics of the interrupted individual. Low-status legislators (e.g., younger, more inexperienced, or minority and female politicians) are expected to follow procedural rules more closely than high-status legislators (e.g., committee chairs, senior members, or party leaders). While both might be interrupted when their floor time is about to end, the signal sent to the low-status legislators will be harsher, and the relative cost to their reputation will be higher.<sup>5</sup> High-status legislators will dismiss the signal from the interruption, as the signal has a lower likelihood of damaging their reputation. An extreme case of these disruptions is aggressive interruptions when the interrupter—usually a colleague—challenges the speaker while disregarding parliamentary procedure.<sup>6</sup> Regardless of the characteristics

5. The high-status legislators might not care about the effect of interruptions on their reputation. High-status legislators are already well positioned within the party and the institution, so their political leverage might outweigh any consequence from interruptions. In a legislative setting, Mattei (1998) showed that men and women are equally exposed to the same type of negative interruptions, yet women are more likely to stop speaking than men.

6. An example of an aggressive interruption would be a legislator insulting, out of turn, a colleague who is holding the floor.



of the interruption, both procedural and nonprocedural interruptions have the potential to affect the reputation of the legislator.

For low-status legislators—legislators with low recognition and political capital within the party and in the eyes of voters—commitment to rules, especially in institutionalized forums, can be a sign of professionalism and political knowledge. Repeated interruptions can damage the reputation of legislators who are challenging institutional norms. For a low-status legislator, this reputational cost can affect how she is perceived by party leaders, other members, and voters. Given the social significance of interruptions (i.e., a signal of dominance and higher status), repeated interruptions show a lack of respect to the speech-makers from their peers, which erodes the social and political capital individual lawmakers can claim. Furthermore, the stakes are higher for female legislators due to their sex for two reasons. First, in many cases, sex becomes a cue for stereotypes, ultimately affecting interactions among peers (Eagly and Karau 2002; Eagly et al. 2000). Second, these stereotypes are perpetuated by penalizing those who do not conform, often without any recognition of this happening (Eagly et al. 2000).

If we think of participating in the legislature as a repeated game, the more frequently interruptions occur, the more they damage the reputation of the legislator vis-à-vis the gatekeeper to the plenary floor.<sup>7</sup> Considering this possibility from the perspective of social role theory, female lawmakers are likely to adapt their behavior to reach a higher status that allows them to dismiss negative signals (e.g., interruptions) at a higher rate in the long run. One strategy to achieve this is to partially silence themselves, thus avoiding interruptions and the penalty these carry.

There are two potential sources for the effect of interruptions on legislators. First, legislators, including moderators, might feel more comfortable interrupting their female colleagues who are speaking. The lower status of female legislators makes them a likely target of interruptions, a behavior that, as previously mentioned, is a manifestation of dominance (Carli and Bukatko 2000). Furthermore, interrupting low-status legislators, including female ones, is ultimately more effective: high-status legislators can dismiss the interruption without the consequence of future punishment. Alternatively, female speakers might react more negatively toward interruptions than their male counterparts, regardless of the interrupter's intention.<sup>8</sup>

7. The gatekeeper to participation will vary from one legislature to another, but this prerogative is often granted to the speaker or president of Congress or the party leader.

8. Fox and Lawless (2011) and Mendez and Osborn (2010) show that women in politics are viewed, and view themselves, as less confident and

However, research has shown that, even when it is unconscious, interrupting reflects a power dynamic (West and Zimmerman 1987). Interruptions are gendered as long as there is a status or power difference between men and women. This is in line with other gendered interactions in legislative bodies, like the greater scrutiny and hostility toward bills sponsored by women (Kathlene, Clarke, and Fox 1991) or the difficulty women have at making their opinions heard in legislatures (Barnes 2016; Karam and Lovenduski 2005).

Thus, interruptions can hurt the reputation of low-status legislators, particularly female legislators. Once the reputation of a lawmaker is damaged, she might have trouble gaining access to the floor. In most legislatures, there are no “open skies” (Cox and McCubbins 2011), and access to the plenary floor depends on the strategic considerations of party leaders (Proksch and Slapin 2012) or other legislative gatekeepers, such as presidents of Congress (Cox 2006; Gómez Vidal and Vallejo Vera 2021). Since floor time is a valuable and scarce commodity, leaders will prioritize access to higher-status legislators. This suggests our first hypothesis:

**H1.** On average, the negative effect of interruptions on access to the floor and floor time is higher for female members of Congress than for their male counterparts.

If the consequences of interruptions to the reputation of low-status individuals are known by the participants (assuming that they are in a repeated game), then there is an incentive for marginalized groups to adapt their behavior to avoid being interrupted. To reduce the likelihood of being interrupted, low-status individuals (e.g., women) will cut their floor time. If the effects of interruptions on access to the floor and floor time are greater than those from self-limiting floor time, then changing patterns of participation is the optimal strategy for congresswomen.<sup>9</sup> Our second hypothesis follows.

**H2.** Women will strategically modify their behavior (i.e., speak less) to avoid being interrupted.

knowledgeable about politics. Because women enter political discussions with a lower sense of authority, they may be more affected by interruptions (Karpowitz and Mendelberg 2014).

9. There are many ways in which women can reach this “partial silencing” strategy. Since the power dynamics of interruptions, as well as the consequences, are first socialized outside formal institutions (Karpowitz and Mendelberg 2014; West and Zimmerman 1987), silencing themselves might be a learned strategy brought by women to the legislature. Additionally, the partial-silencing strategy can be shared through mentorship or collaboration in gender-focused institutions, both formal and informal. For example, senior women senators in the United States hold informal

Once legislators achieve higher status and gain political capital, the power differences with the rest of their colleagues are reduced. We expect high-status individuals from marginalized groups to behave more similarly to the average member of a high-status group. Although it is less likely for an individual from a marginalized group to gain high status, once that is achieved, the negative effect of interruptions should be mitigated or similar to that of other high-reputation members of the legislature. The literature has produced conflicting results regarding the effect of status on gender in deliberative bodies. Some research has shown how status, under certain conditions, can eliminate gender bias during interactions (Karpowitz and Mendelberg 2014). Others have found that, even after obtaining positions of power, women will still speak less (Ridgeway 1982) and will be negatively interrupted more often than men (Mattei 1998). Given the barriers women have to overcome to reach positions of power,

**H3.** We expect that the negative effect interruptions have on women's participation is smaller for high-status congresswomen.

### INTERRUPTIONS IN CONTEXT

Interruptions are not a rare occurrence in the Ecuadorian Congress. Legislatures are highly structured institutions in which debates are mediated by the Speaker or, as in Ecuador, by the president of Congress. MCs do not address each other directly, so many interruptions are procedural. Moderators, who control the MCs microphones, will interrupt MCs to let them know they have only a few minutes remaining or that they are straying off topic. If the MCs continue overextending their time, the moderator will interrupt again, this time more sternly. In general, since floor time is scarce in legislatures with no "open sky," the moderator will primarily control the length of the speech of MCs, and MCs will try to extend their speech for as long as possible once they gain access to the floor. The moderator will also limit the use of overly aggressive and confrontational language, especially when directed toward other MCs.

Despite this formal setting, MCs delivering speeches can also be aggressively interrupted by other peers or by people present in the debate forum. Colleagues can shout over a speech being delivered, or, less commonly, *barras* attending a session can interrupt MCs by chanting, screaming, or making noise.<sup>10</sup> In these cases, the moderator would momentarily stop the MC delivering the speech to regain control of the floor, either by admonishing a colleague speaking out of turn or by reprimanding non-MCs and threatening them with expulsion from the premises. The nature of these "aggressive interruptions" might be different from procedural ones, but both are likely to negatively affect low-status MCs.<sup>11</sup>

Even though the procedural rules governing access to the floor and floor time depend on the institutional characteristics of each legislature, the Ecuadorian Congress is by no means an outlier in its norms, organization, and procedures. Unlike other political forums, floor speeches are not part of unstructured debates but rather predefined allotted times, a format that is followed across most legislatures.<sup>12</sup> There is a moderator, sometimes called Chair (e.g., UK House of Commons), sometimes Speaker (e.g., US Congress), or sometimes president (e.g., Ecuadorian Congress). Interruptions from the mediator are usually procedural (e.g., to ask members to yield their time) or to regain order. While only a limited number of studies have systematically explored interruptions on the plenary floor, there is evidence suggesting that interruptions from the moderator and other legislators occur in similar institutional settings, like the US Congress (see Mattei 1998), the UK House of Commons, the German Bundestag (Och 2020), and the Argentinian Legislature (Piscopo 2011).

Beyond the organizational and procedural similarities between the Ecuadorian Congress and other legislatures, the gendered nature of the Ecuadorian Congress is similar to that of other legislatures. Similar to European (Bäck and Debus 2019), Latin American (Barnes 2016; Piscopo 2011), and African legislatures (Bauer and Burnet 2013), women in the Ecuadorian Congress have found gendered obstacles to participation and representation (Gómez Vidal and Vallejo Vera 2021). As a case, Ecuador is particularly attractive as it has overcome some of the disparities in descriptive representation,

meetings with junior members to mentor and teach them how to obtain power in the Senate (Mikulski et al. 2001). Barnes (2016) shows similar collaboration across the party lines in Argentina and Rwanda, in part, through women's caucuses. In the Ecuadorian case, the National Assembly only adopted a woman caucus in 2009. However, before 2009 the small number of women elected allowed for easy coordination and communication. Cecilia Calderón, the first female party leader in Ecuador and one of the few women in Congress during the '80s, '90s, and 2000s used her experience in the legislature to mentor and guide junior congresswomen (Cañete and Arteaga 2004).

10. In addition to Ecuador, *barras* attend sessions in the congresses of Costa Rica, Colombia, and Spain, among others.

11. What we call "aggressive interruptions" come from the interrupters' belief that they can challenge another legislator outside the parliamentary procedure.

12. Even in the UK House of Commons, where the "cut-and-thrust" debate style allows members to spontaneously react to opponents' views, members have the right to be heard without unendurable background noise. When this is not the case, the chair will call for order (House of Commons Information Office, <https://www.parliament.uk/about/how/role/customs/>).

allowing us to observe the obstacles to participation even as women have joined Congress and increased their participation as a group.<sup>13</sup> Furthermore, the presence of women in positions of power allows us to test the relationship between status and gendered barriers to participation, such as interruptions.

## DATA AND METHOD

Testing our hypotheses requires data on legislative speeches and the interruptions that take place during these speeches. We examine the transcripts of 11 legislative terms from the Ecuadorian Congress between 1988 and 2018, including the totality of legislative debates in those 30 years. During that time, Ecuador implemented two types of gender quotas: “soft” quotas in 1997 and “zipper placement” quotas in 2008. These changes allow us to explore the effect of interruptions across different gender compositions of Congress. However, Ecuador has an open-list proportional representation electoral system that in part explains why, despite various reforms, women are still underrepresented in the legislature (Górecki and Kukołowicz 2014).

Before our analysis, we removed contributions from the individual officially presiding each debate—usually the president of Congress.<sup>14</sup> Before 2009, roll call voting and attendance checks were registered vocally rather than electronically. These speeches were usually shorter than 20 words long (e.g., “mi voto a favor del honorable Acosta”). Therefore, we also removed any speech shorter than 20 words long and containing the phrases “mi voto” or “presente.”<sup>15</sup>

Despite various reforms in the last 30 years, procedural rules in the Ecuadorian Congress have remained consistent.<sup>16</sup> The president of Congress is the mediator of all debates. The president is elected at the beginning of each legislative term by the party with the greatest share of seats.<sup>17</sup> There are no restrictions on debate participation other than time constraints.<sup>18</sup> The president has the authority to extend a debate into a second (or third) debate if the number of participants is high. However, the president can also decide to cut a debate short if speeches be-

come repetitive. As a general norm, the president will try to allow members from all parties to participate in debates, but the number of members allowed from each party can be affected by party identification or personal preferences.

All MCs can request floor time to deliver a 10-minute speech. Committee chairs have an additional five minutes per speech, as they are often required to describe the changes and agreements reached. During debates, if an MC is mentioned by name by another member, the MC can ask the president for a five-minute reply. Many 10-minute speeches include procedural questions. When a question is asked and answered by the president, we concatenate the speech that would otherwise be counted as two. Table 1 provides an overview of the speeches and debates in our analysis. On average, male legislators speak more often and deliver longer speeches than women.

## MEASURING INTERRUPTIONS

We operationalize interruptions as any instance when an MC holding the floor is momentarily stopped before she has the opportunity to end her speech.<sup>19</sup> Even though we argue that all interruptions have the potential to negatively affect the reputations of MCs, we want to explore the differences between interruption types. To do this, we categorize interruptions as procedural, aggressive, or other. The president of Congress will interrupt MCs when they have a few minutes left of their allotted time.<sup>20</sup> We code these instances as procedural interruptions. Alternatively, MCs can be interrupted by offensive peers speaking out of order or by the crowd.<sup>21</sup> We code these instances as aggressive interruptions. The interruptions in the “other” category are usually situations in which the president interrupts an MC to admonish peers that are talking among themselves, or the president interrupts an MC to ask her to remain on topic. In our analyses, we use a “procedural interruptions” variable, an “aggressive interruptions” variable, and a “pooled interruptions” variable that takes into account all three previously mentioned categories.

Given the format of debates in the Ecuadorian Congress, regardless of the source of the interruption (e.g., the president telling an MC that her time is almost up, a peer speaking out of turn, the crowd making noise), the president will stop the MC speaking to restore order or to warn the speaker about some procedural fault. Yet, only the interruptions by the president are recorded. Thus, regardless of the source of the interruption,

13. After implementing gender quotas in 1998 and expanding them to “zipper-like” quotas in 2008, Ecuador went from having ~5% of women in Congress in the late '80s to ~40% in 2020.

14. We also remove speeches by alternate MCs and non-MCs (e.g., secretaries of state). Details are found in app. A.

15. See app. B for a thorough description of speech length, the possible issues of our arbitrary threshold, and robustness checks.

16. The reforms have changed the composition and structure (and name) of the Ecuadorian Congress. For a recount of the changes, as well as robustness checks relating to these changes, refer to app. C.

17. We use president of Congress and president interchangeably.

18. Time constraints became more of an issue as the Congress grew from 75 members in 1988 to 135 in 2018.

19. As we explain below, legislators can continue and finish their speech after being interrupted.

20. Presidents will often remind legislators when they have one, two, or three minutes left, effectively interrupting the speech.

21. Interruptions from the crowd, or *barras*, are uncommon but not isolated events. However, ~88% of interruptions coded as “aggressive” come from other legislators.

Table 1. Summary Statistics for Number of Speeches and Length of Speeches

Legislative Cohort	Mean Number of Speeches		Mean Length of Speeches (Words Uttered)	
	Female	Male	Female	Male
1988–90	53.40	110.67	473.56	377.99
1990–92	101.43	92.17	421.64	438.15
1992–94	109.04	87.74	355.40	399.92
1994–96	47.57	91.29	320.61	400.71
1996–98	66.63	89.56	307.59	359.11
1998–2002	148.06	160.43	406.05	451.78
2003–7	175.15	231.44	292.12	445.88
2007–8*	38.61	37.31	431.10	414.04
2009–13	53.41	80.14	821.71	873.85
2013–17	62.44	62.84	785.96	959.15
2017–19†	12.03	14.03	782.66	777.23

\* Cohort was dissolved November 30, 2007.

† Data include all speeches and debates until March 13, 2018.

a speech is coded as being interrupted when it is momentarily stopped by the president and then resumed. For example, the following speech is coded as being interrupted:

THE LEGISLATOR PÁEZ BENALCÁZAR ANDRÉS: Take note of these facts, especially since I believe that a provision, a regulation of this nature can lead us to a muddy terrain, it can lead us to a really dangerous terrain because if no . . .

MADAM PRESIDENT: One minute [left].

THE LEGISLATOR PÁEZ BENALCÁZAR ANDRÉS: clear distinction is established to determine who are workers based on the activity they perform. . . .

To systematically categorize interruptions, we search for keywords and phrases in the president's speech. For example, to identify procedural interruptions, we search for phrases such as "one minute [left]" or "your time is [almost] up," and to identify aggressive interruptions, we search for phrases such as "people from the barras behave" or "you are offending the speaker."<sup>22</sup> In our data, 14.3% of speeches are interrupted, most of them being interrupted only once (see fig. 1). Given the skewness of the measure, we code interruptions as a binary indicator.

The process we used to measure interruptions departs from similar work on interruptions. Kathlene (1994) and

Mendelberg et al. (2014) measure interruptions by looking at the overlap of utterances between two speakers. We are unable to do this since our data are recovered from transcripts. Hence, we trust the scripting scheme from the official typist of the Ecuadorian Congress. The typists will type up the debates in real time and will later review their output with audio recordings. Unlike other legislatures (see Dietrich, Hayes, and O'Brien 2019), MCs in Ecuador are not allowed to solicit changes to the transcripts.

There are some limitations to our measure of interruptions. First, it only considers interruptions that follow the pattern speaker-president-speaker.<sup>23</sup> Therefore, interruptions by the president that were followed by someone other than the original speaker are not registered as such. Second, it does not count instances when the president of Congress interrupted a legislator to stop a speech.<sup>24</sup> A manual examination of a random sample of documents suggests that both of these instances are rare (0.8% of all interruptions).

Theoretically, there are gendered dynamics for all types of interruptions. We expect nonprocedural interruptions (e.g., aggressive and other interruptions) to have more impact on a speaker, as these more clearly reveal a status difference with the speaker and the dismissal of their intervention. Aggressive

22. For a detailed recount of the rules and phrases used, as well as additional examples of interruptions, see app. D.

23. Even when legislators or *barras* interrupt an MC holding the floor, the transcript will only record the speech of the legislator holding the floor and the president addressing the interruption. This is by design: in the chamber, you can only hear the person with the microphone on.

24. These types of interruptions will likely have an effect on the behavior of legislators similar to other types of interruptions, but we are not able to systematically code them, so we decided to take the risk of type II error from underreporting rather than of type I error from overreporting.



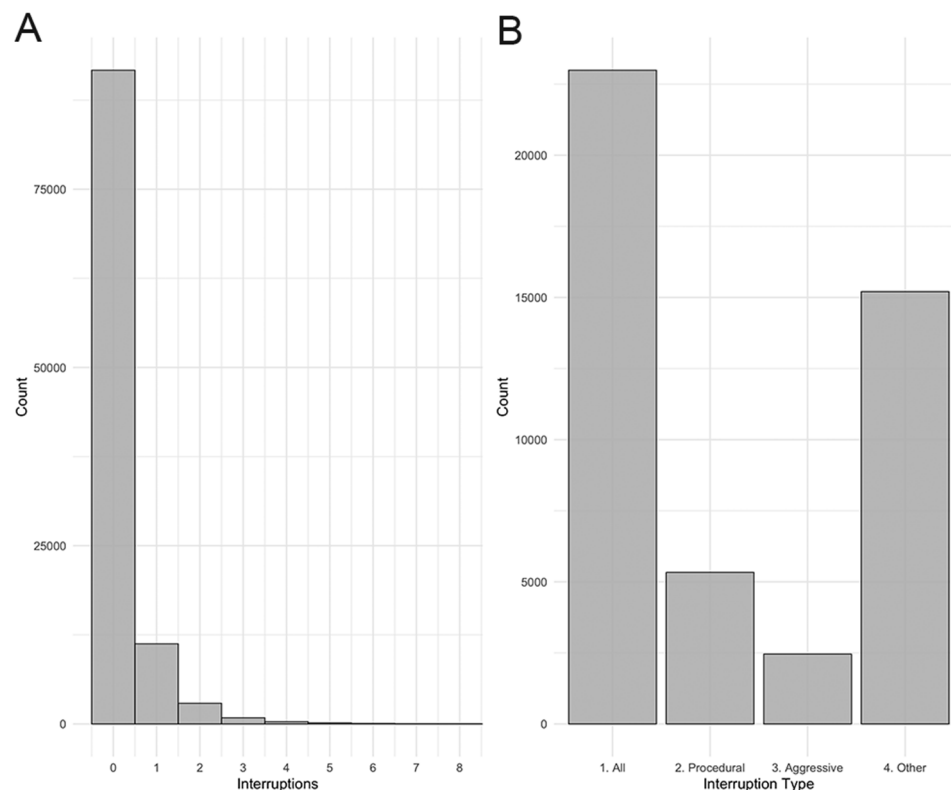


Figure 1. A, Percentage of interruptions by type. B, Distribution of the number of interruptions per speech.

interruptions in particular are straightforward signals aimed to damage the reputation of the speaker, representing an open manifestation of power or domination. Procedural interruptions should also have a negative, albeit lesser, impact on a speaker. Much like in the academic conference example from the previous section, there is a power difference between the moderator and the speaker; the interruption is used as a signal of this power difference. Additionally, the negative effect on the reputation of female legislators also comes when the president interrupts their speech a second time. Procedural interruptions are time warnings, and timekeeping is, we assume, a less gendered task. However, women are avoiding the second interruption, the one when moderators are more likely to harshly reprimand the speaker and possibly silence her, damaging her reputation. In sum, we expect all interruptions to be perceived by women as potentially damaging to their reputation and to have a more negative effect on female MCs than on their male counterparts. If aggressive interruptions are gendered, and we assume they are, we expect the consequence for women to be more pronounced as well.

### MODELING STRATEGY

Our key predictor is the sex of the speaker. Each speech has the potential to be interrupted. We therefore use each legislative speech as our unit of analysis. This way, we can ac-

count for within-individual variation that is likely to occur from debate to debate. For example, when talking about contentious topics, MCs might be more likely to use aggressive language or might be more likely to extend beyond their assigned time. We add legislator-level variables and speech-level variables to control for possible confounders.

At the speech level, we include the length of the speech, operationalized as the number of words uttered.<sup>25</sup> We also include dummy variables for whether the speech was delivered a year before an election, which has been shown to influence speaking behavior (Bäck et al. 2019; Maltzman and Sigelman 1996).<sup>26</sup>

At the legislator level, we include a measurement for ideological extremism, which affects floor speeches (Dietrich et al. 2019; Maltzman and Sigelman 1996).<sup>27</sup> We also control

25. We use speech length as a proxy for floor time. In app. F, we evaluate whether gender is correlated with speech rate. We find no statistically significant difference in the speech rate of men and women (for a detailed account of this analysis, see app. F). Despite this, we still refer to “speech length” rather than “floor time,” as we are not directly measuring the latter.

26. Varying the time before an election when the speech is delivered does not affect our main results.

27. We estimate ideal points from the corpus using wordshoal, as described by Lauderdale and Herzog (2016).

or the MCs' verbosity, measured as their average speech length across speeches. To control for aggressive language, we construct an index using a standardized measure of angry, offensive, and negative words using the *Linguistic Inquiry and Word Count* dictionary developed by Pennebaker, Francis, and Booth (2001). Research has also shown that women are more likely to make speeches about women's issues (Osborn and Mendez 2010; Pearson and Dancey 2011), and women's issues are likely to be more controversial than other topics (Franceschet 2011). To account for this possible source of interruptions, we create a binary variable indicating whether the speech used any of the Pearson and Dancey (2011) dictionary terms related to women.<sup>28</sup> Finally, to address an MC's reputation, we use an indicator variable for whether the legislator chairs a committee, as well as the seniority of the member, measured in the number of years as an MC. Similarly, we include whether an MC is a state or national representative, the two district levels at which politicians compete for a seat in the Ecuadorian Congress.

There are several other variables that we introduce to account for confounding factors. At the legislative-term level, independent variables that can affect access to the floor, and interruptions include the share of seats occupied by women and the share of seats won by the plurality/majority party (Mendelberg et al. 2014). At the session level, we control for the number of speeches delivered and the average length of the speeches delivered. More and longer speeches delivered can be a sign of the relevance and contention of the topics debated in a session, which in turn are more likely to generate interruptions. Notice that by introducing speech-specific, legislator-specific, session-specific, and term-specific controls, our model is partially controlling for the specific effects of all those levels.

## RESULTS

Before analyzing the gendered effects of interruptions on access to the floor and length of speech, we analyze the difference in access and speech length observed in table 1. On average, female MCs deliver 57.5 speeches per legislative term. Male MCs, in contrast, deliver 116.0 speeches. We further verify this expectation in model 2.1 in table 2. Here, the dependent variable is the number of speeches given by an MC in a legislative term. The predictor of interest is "woman," which equals 1 if the MC is a woman and 0 otherwise. Similar to previous research (Bäck and Debus 2019; Bäck et al. 2014), our findings show that women in the Ecuadorian Congress deliver 16.5%

fewer speeches per legislative term than men (see model 2.1). The results hold even after accounting for ideology, institutional position, seniority, a new constitution, and upcoming elections (see model 2.2). Once women get access to the floor, they also deliver shorter speeches. In models 2.3 and 2.4, the dependent variable is the number of words uttered by an MC in a given debate.<sup>29</sup> Model 2.4 suggests that women say 21.5% fewer words than men (predicted count of 580 words for women and 739 words for men).

The determinants of access and speech length produce additional insight into the politics of participation. As expected, high-reputation MCs (i.e., chairpersons, national legislators, and more senior members) deliver more and longer speeches than their low-reputation counterparts. Models 2.3 and 2.4 suggest there is a party strategy behind the allocation of floor time. MCs from the same party as the president of Congress also deliver longer speeches than those who do not share a party with the president. Presidents selectively exercise their gatekeeping power, prioritizing the participation of members of their party.<sup>30</sup>

These results show a clear difference between male and female MCs in terms of access to the floor and speech length. We now explore how the negative effects of interruptions and the strategic reaction of women to interruptions explain some of these differences.

## The negative effects of interruptions

For women to have an incentive to behave strategically around interruptions, we must first determine whether there is unequal punishment to women when they are interrupted (hypothesis 1). We estimate the effect of interruptions for women in terms of access and speech length. First, we model the silencing effect to *speech length* by estimating how much MCs can speak before being interrupted. The dependent variable for models 3.1, 3.2, and 3.3 in table 3 is the length of a speech before the MC is interrupted.<sup>31</sup> We control for legislator-level differences by adding the mean length of the speeches delivered by an MC in a legislative term. On average, women get to speak 55 (15.5%) fewer words than men before being interrupted. The relation holds for all types of interruptions, but the silencing effect is more marked for aggressive interruptions. Women speak, on average, 18.3% fewer words than men

28. Pearson and Dancey (2011) use the following terms: "women," "woman," "women's," "girl," "girl's," "female," "females," "female's," and "females." We use the translation into Spanish for our corpus: "mujer\*," "niña\*," "niñas," and "femenin\*."

29. We only include the length of the speeches of legislators that participated in a session. A legislator not participating is not counted at all.

30. For model 2.2, the indicator for whether a legislator is from the same party as the president is not statistically significant. This is probably due to presidents having to allow members from all parties to speak. Yet, presidents have more control over the time each member can hold the floor, which is reflected by the results from model 2.4.

31. For models 3.1 and 3.2 we only use speeches that were interrupted.

Table 2. Congresswomen Have Less Access to the Floor and Less Floor Time

	Number of Speeches		Length of Speech	
	Model 2.1	Model 2.2	Model 2.3	Model 2.4
Woman	-.206** (.085)	-.159** (.076)	-.177*** (.016)	-.241*** (.016)
Ideological extremis		.446*** (.046)		.164*** (.007)
Committee chair		.341*** (.093)		.106*** (.015)
Seniority		.150*** (.034)		.076*** (.005)
National member of Congress		.079 (.088)		.268*** (.015)
Same party as legislative president		-.084 (.072)		.057*** (.013)
Mean negative language (debate)		.053 (.056)		
Election year				.040*** (.011)
Negative language (speech)				.150*** (.003)
Topic: women				.408*** (.018)
Constant	5.210*** (.122)	4.551*** (.117)	6.669*** (.019)	6.203*** (.021)
<i>N</i>	984	937	54,838	54,489
$\theta$	1.010*** (.042)	1.417*** (.063)	.684*** (.004)	.733*** (.004)

Note. Negative binomial model that accounts and corrects for overdispersion. Cohort fixed effects included but not reported. Standard errors are reported in parentheses.

\*  $p < .1$ .

\*\*  $p < .05$ .

\*\*\*  $p < .01$ .

before being aggressively interrupted. Note that for aggressive interruptions, one of the strongest predictors is sex. For procedural interruptions, the negative effect on a woman's speech is diminished but still statistically significant ( $p \leq .05$ ). Unlike aggressive interruptions, procedural interruptions are not intrinsically a manifestation of power or domination and are expected by the speaker. Since procedural interruptions consist of time warnings, we expect timekeeping to be less gendered.

Second, we model the silencing effect of interruptions on *access to the floor* by estimating the additional time it takes for an MC to speak in a future debate after being interrupted.<sup>32</sup>

Notice that the probability of speaking in a debate increases as more time passes since the last time an MC spoke. To account for the time dependence of the observations, we estimate the hazard rate of silence (i.e., how long before silence "dies"). To do this, we use a Cox-Hazard model, where the survival time is expressed in terms of the number of debates between two speeches from the same MC (dependent variable). We are primarily interested in the interaction between our woman variable and interruptions. A negative and statistically significant interaction term in our Cox-Hazard model would be consistent with female MCs having to wait a longer

32. Since debates are scheduled at different time intervals, the time variable used to estimate the Hazard-Cox models is the number of debates that have to pass before a legislator accesses the floor again. For example,

if a legislator speaks in two subsequent debates, the time variable would have a value of 1; if a legislator speaks in the first debate and then has to wait for two debates before speaking again, then the time variable would have a value of 3.

Table 3. Length of Speech Before an Interruption

	All Interruptions Model 3.1	Procedural Interruptions Model 3.2	Aggressive Interruptions Model 3.3
Woman	-.171*** (.030)	-.065** (.030)	-.223** (.103)
Ideological extremism	.058*** (.013)	-.013 (.017)	.137*** (.042)
Committee chair	.048* (.027)	.130*** (.034)	.302*** (.093)
Seniority	.003 (.008)	.025** (.013)	.047* (.025)
National member of Congress	.092*** (.024)	.009 (.030)	-.032 (.071)
Same party as legislative president	.076*** (.023)	.121*** (.026)	.016 (.085)
Election year	.021 (.020)	-.012 (.025)	-.013 (.063)
Speeches during debate	.001 (.002)	.001 (.004)	.008 (.006)
Mean length of member of Congress speech	.116*** (.002)	.048*** (.004)	.065*** (.005)
Negative language (speech)	.158*** (.005)	.012 (.009)	.183*** (.016)
Topic: women	.463*** (.040)	.132*** (.033)	.890*** (.169)
Constant	5.072*** (.045)	6.525*** (.073)	4.433*** (.144)
<i>N</i>	15,659	4,211	2,041
$\theta$	.781*** (.008)	2.045*** (.042)	.624*** (.017)

Note. Negative binomial model that accounts and corrects for overdispersion. Cohort fixed effects included but not reported. Standard errors are reported in parentheses.

\*  $p < .1$ .

\*\*  $p < .05$ .

\*\*\*  $p < .01$ .

time than men after being interrupted to deliver their next speech.<sup>33</sup> Ultimately, our model captures how many debates an MC needs to wait before speaking again after an interruption.

We present the results in table G.1. In model G1.2, the interaction term between our interruption variable and our woman variable is negative and statistically significant at the .05 level. The statistically significant results do not hold when we break down interruptions into procedural and aggressive ones, but the direction of the effect is consistent with our

theoretical expectation (see models G.4 and G.6). To help interpret these results, we present predicted risk scores, also known as hazard ratios, in figure 2. The risk scores measure the likelihood of the silence of an MC dying. Therefore, for the case of MCs, higher values mean they are participating more often. From figure 2A, we see that male MCs participate again at an earlier time than female MCs. The difference is not surprising, since we also know from model 2.2 that women take the floor less often than men do. For congresswomen, interruptions reduce the risk score by 5.5% (i.e., increase the time of participation between debates). For congressmen, interruptions increase the risk score by 2.8% (i.e., reduce the time of participation between debates). Men who get interrupted will access the floor ~8%

33. A negative term in a Cox-Hazard model suggests a longer survival rate. In the case of our model, the survival of silence, something that legislators try to avoid.



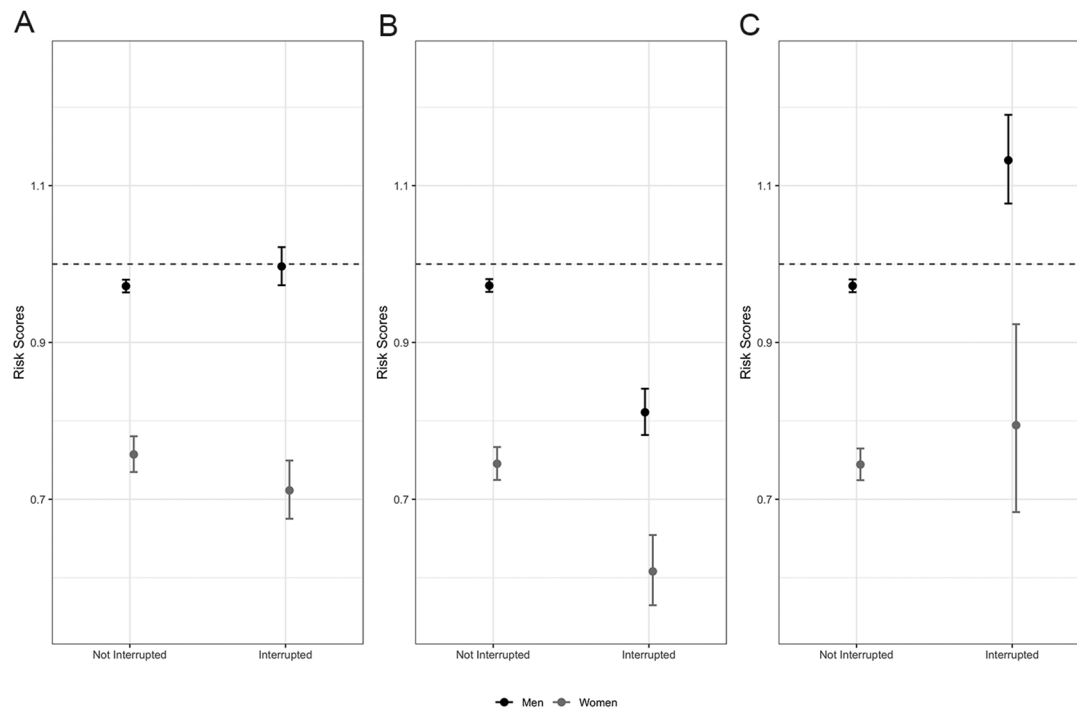


Figure 2. Predicted risks scores from models 2, 4, and 6 in table G.1, holding all other variables constant. A, All interruptions; B, procedural interruptions; C, aggressive interruptions. Risk scores, also known as the hazard ratio, measure the likelihood the “silence” of a legislator dies. Thus, for the case of legislators, higher values mean they are participating more often.

faster than women who get interrupted.<sup>34</sup> While not statistically significant ( $p \geq .05$ ), a similar, more pronounced pattern is observed with aggressive interruptions (see fig. 2C). Both results suggest that there is a double penalty for women. Men who are interrupted also participate more often. The increase in participation might be a partial effect reflecting the characteristics of MCs being interrupted more often rather than the interruption itself. For example, MCs who are more aggressive or assertive might be interrupted more often, but they also take the floor more often. Yet, women might be unable to take advantage of that assertiveness—a quality deemed masculine (Carli 1990; Carli and Bukatko 2000)—given the possible punishment from interruptions.

### The strategic reaction to interruptions

Thus far, we have estimated the negative effects of interruptions on female MCs’ speech length and access to the floor. We extend the analysis on speech length from models 2.3 and 2.4 by interacting our woman variable with a categorical variable of interruptions to estimate their conditional effect on the

length of speeches.<sup>35</sup> On average and consistent with previous results, MCs speak for a longer time when interrupted than when they are not interrupted. However, women who are interrupted speak relatively less than men, a relationship that holds for all types of interruptions (see fig. 3). What is not clear from the regression is whether these results are a product of women strategically limiting their floor time to avoid the costs of interruptions or, rather, a reflection of gender differences in loquaciousness.

To get a glimpse at how MCs strategically react to interruptions (hypothesis 2), we look at the length of speeches after an interruption. Since interruptions might come at different times during the speech of an MC, we first limit our analysis to the instances when the president reminds MCs that they have one minute left of their allotted time. The assumption is that after a one-minute warning, all members, on average, should speak for the same amount of time. Any differences in length are a result of MCs strategically avoiding being interrupted a second time. Thus, the dependent variable is the length of a speech after a one-minute warning. Additionally, we estimate the same effect for aggressive interruptions

34. On average, legislators have to wait for four debates before accessing the floor again (see app. A). Men wait for 3.82 debates, while women wait for 5.59 debates.

35. The three types of interruptions are aggressive interruptions, procedural interruptions, and other interruptions. The baseline category is no interruptions.

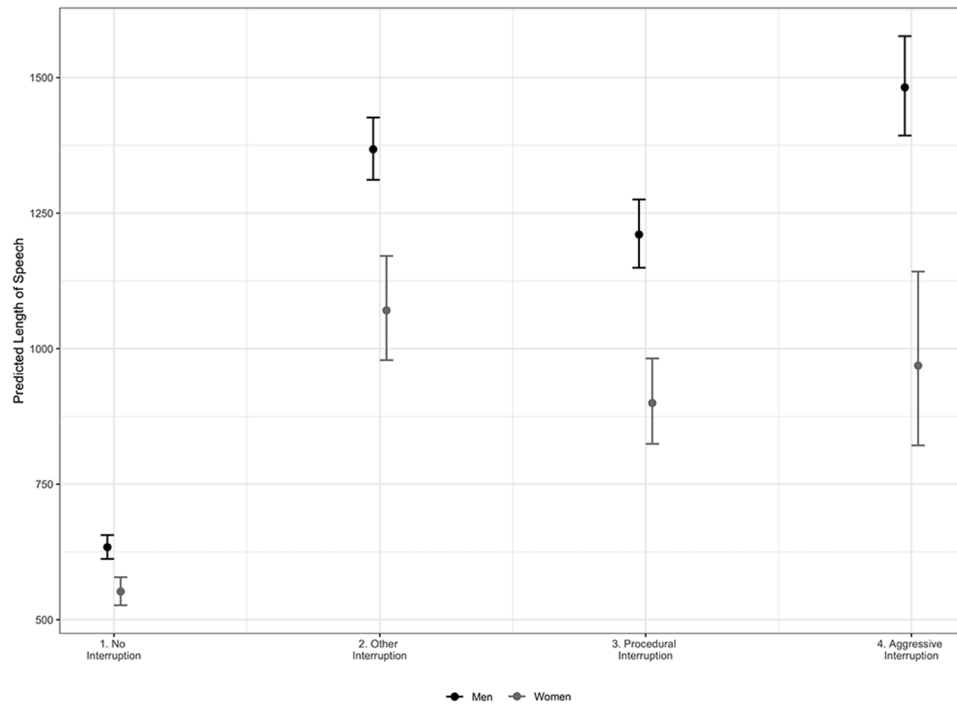


Figure 3. Predicted length of speech by gender conditional on interruptions from table H.1, holding all other variables constant at their mean

and all interruptions combined. We argue that, while aggressive interruptions can happen at any point during the speech, women will avoid being interrupted again by strategically reducing the length of their speech.

Most interruptions are unpredictable since the speaker cannot know with certainty when they will happen. The one-minute warning gives MCs a clear signal of when the second interruption will arrive. Model 4.1 (see table 4) shows that women will speak 11.8% fewer words ( $p \leq .05$ ) than men after a one-minute warning. Unless women are worse than men at estimating short periods of time, we find this to be partial evidence of women strategically speaking less to avoid the cost of a second interruption.

The results are similar, yet more marked, for aggressive interruptions. On average, and holding all else constant, women utter 219 words after an aggressive interruption, while men utter 301 words. We also find that once women have been interrupted a first time, they are interrupted a second time, on average, 32.2% of the time, while under the same circumstances, men are interrupted 40.3% of the time. After a one-minute warning, women are interrupted for a second time 30.5% of the time, while men are interrupted 42.5% of the time. Women limit the length of their speech to avoid interruptions.

These results speak to the effects of interruptions on floor time, conditional on sex, from figure 3. When men are interrupted because of procedure and aggression, the predicted length of a speech is 1,175 and 1,434 words, respectively, a

259-word difference. For women, the predicted length of a speech during procedural and aggressive interruptions is 874 and 950 words, respectively, a 76-word difference. Since it is less costly for men to be interrupted, their behavior is also less stable (i.e., their strategy is not affected by the type of interruption). On the contrary, the change in behavior for women is more drastic from one type of interruption to the other (when compared to that of men). Procedural interruptions, often warnings regarding time that have no implicit cost, allow women to estimate when the next, now costly, interruption might happen, prompting them to strategically limit their speech length. With aggressive interruptions, which already carry a costly signal, there is less certitude as to when the next interruption might occur, and while the strategy to limit their speech remains, they have to do so more drastically. At least for the sample of times women are interrupted, we can argue that the pattern of floor time is a strategic choice—a reaction to gendered barriers, rather than intrinsic characteristics or risk aversion.

The main takeaway from this set of results is that the negative effect of interruptions (i.e., shorter speech length and access to the floor) is more pronounced for women than for men. Given our expectation that women adapt to an environment where not conforming to their gender roles is penalized harshly, we can argue that part of the silencing is the result of a strategic choice. Since women know they will suffer reputational costs from interruptions, they will strategically

Table 4. Strategic Behavior of Women: Speech Length

	After One-Minute Warning Model 4.1	After Aggressive Interruption Model 4.2	After Interruption (All) Model 4.3
Woman	-.077** (.034)	-.330*** (.105)	-.142*** (.032)
Ideological extremism	-.037* (.021)	.038 (.043)	.006 (.013)
Committee chair	.148*** (.040)	-.102 (.096)	.069** (.029)
Seniority	.026* (.015)	.035 (.026)	.034*** (.008)
National member of Congress	-.005 (.038)	.100 (.073)	.135*** (.025)
Same party as legislative president	.117*** (.030)	.028 (.087)	.015 (.024)
Election year	.033 (.032)	.044 (.065)	-.014 (.022)
Length of speech	.011*** (.003)	.020*** (.007)	.037*** (.002)
Speeches during debate	.015** (.008)	.008 (.006)	-.002 (.002)
Mean length of member of Congress speech	.065*** (.006)	.092*** (.006)	.097*** (.002)
Negative language (speech)	-.012 (.011)	.001 (.016)	-.011** (.005)
Topic: women	.005 (.036)	.807*** (.128)	.310*** (.037)
Constant	3.584*** (.430)	5.188*** (.148)	5.101*** (.048)
<i>N</i>	3,109	2,041	15,659
$\theta$	1.949*** (.048)	.592*** (.016)	.727*** (.007)

Note. Negative binomial model that accounts and corrects for overdispersion. Cohort fixed effects included but not reported. Standard errors are reported in parentheses.

\*  $p < .1$ .

\*\*  $p < .05$ .

\*\*\*  $p < .01$ .

limit their speech in the short term to avoid accumulating penalties in the future. This also explains why, overall, women are less likely to be interrupted: women speak less than men precisely to avoid the negatives effects of interruptions (see app. E).

### High status and interruptions

Our results thus far are consistent with our expectation about the effect of interruptions on women and their subsequent strategic reaction to preserve their reputation and accrue political resources. Yet, our argument also contends that bias toward women's participation should be curtailed by high

status (hypothesis 3). High-status MCs will receive different signals from the moderator or should be able to dismiss the negative effect of an interruption on their status. The outcome can provide women with more access and longer floor time. From previous models, we know that, on average, high-status MCs (e.g., committee chairs, senior members) can speak more often and deliver longer speeches, and they are also less likely to be interrupted (see app. E). In table I.1, we extend those analyses by interacting the woman variable with (1) the committee chair variable and (2) the seniority variable. We estimate the interaction effect on the number of speeches delivered by an MC in a legislative term (access to the floor), the

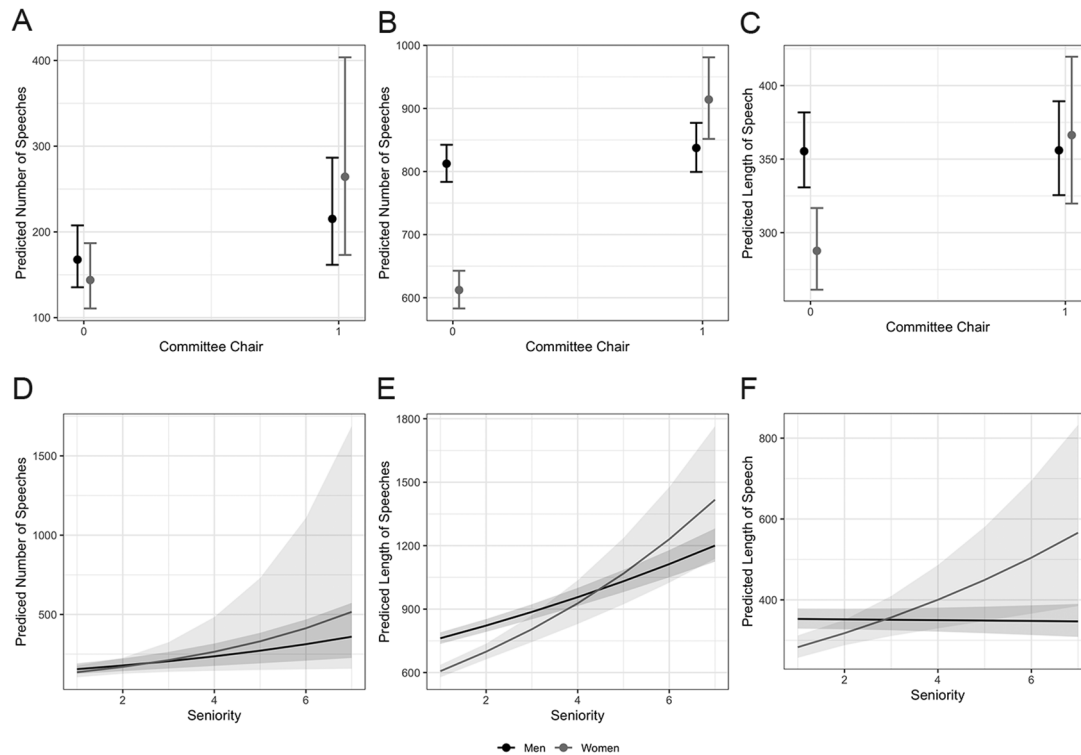


Figure 4. Predicted probabilities from models I.1.1 to I.1.6 in table I.1, holding all other variables constant at their mean values. C and F data are before interruptions.

number of words uttered by an MC in a debate (floor time), and the length of a speech before an MC is interrupted.

The interaction terms have a positive and statistically significant effect ( $p \leq .05$ ) on speech length in general and speech length before an interruption. For access to the floor, the interaction term is positive but does not reach the conventional levels of statistical significance. To help interpret the results, we plot the predicted probabilities for the models in figure 4. Figures 4A–4C describe the interaction between our woman and committee chair variables. They show that, for all non-chairs, women deliver fewer speeches than men. Yet, while all chairs deliver, on average, more speeches than nonchairs, the gains for female chairs are greater than the gains for male chairs to the point that both participate at a similar rate. Most relevant, the results from the length of speeches before an interruption follow a similar pattern (see fig. 4C). While the average speech length for male nonchairs and male chairs is similar, the average speech length of female chairs before being interrupted is 27.1% longer than the speech length of female nonchairs. Seniority produces a similar result across all models. Interestingly enough, the most senior female members deliver, on average and holding all else constant, longer speeches than men with similar seniority (see fig. 4E), even before being interrupted (see fig. 4F). As a final note, we also estimated the effect of high status on the strategic behavior of women (see

app. J). While the direction of the interaction term between our woman variable and the length of a speech after a one-minute warning was as expected (positive), we found no statistically significant results.

## DISCUSSION AND CONCLUSION

We argue that interruptions are a barrier to the participation of women in the legislature. Interruptions serve as communicative signals that, in gendered institutions, have an unequal cost over the reputation and participation of (female) legislators. Congresswomen are strategic actors who will modify their behavior to avoid the negative effect of interruptions by limiting their floor time. Our empirical results confirm our theoretical expectations. First, women are disproportionately punished after an interruption; they have to wait longer before accessing the floor and speak less before being interrupted. Second, women limit their speech length to avoid the consequences of an interruption. We show that after a one-minute warning, women will speak less than men to avoid a second interruption. Indeed, women are interrupted a second time at a much lower rate than men. High status, however, appears to equalize participation on the plenary floor. Across the board, chairwomen and senior female MCs display behavior similar to that of their male counterparts. The result reveals how political status either



changes the signal from the mediator or negates the cost of an interruption to the legislator's reputation.

To our knowledge, this is the first study that systematically explores the reaction to interruptions in a legislative body.<sup>36</sup> We propose a theory in which women are strategic maximizers who partially silence themselves to avoid interruptions and secure floor time in the future. Thus, women can accrue reputation and achieve higher status, at which point interruptions have a marginal effect on their participation. We seek to explain gender differences in legislative participation by understanding women's incentives and interactions within the social and institutional context. These results also point to the need for women to access positions of power within the legislature, rather than solely focusing on increasing descriptive representation.

The Ecuadorian Congress is by no means an outlier in its rules, organization, and procedures. Interruptions from the mediator (the president) are usually procedural (e.g., to ask members to yield their time) or to regain order. Like most other legislatures, there is an unequal descriptive representation of women, and, also like other legislatures, there have been institutional reforms (e.g., gender quotas) aimed at reversing the disparities in representation. Despite these advances, differences across sexes in terms of speech-making and substantive representation remain stark (Gómez Vidal and Vallejo Vera 2021). We seek to provide a blueprint for further analysis of the obstacles to substantive participation, even in those cases in which inequalities to descriptive participation have been mitigated or overcome.

Even though the Ecuadorian Congress ranks high in the number of legislative seats occupied by women, the access women have to political spaces is similar to other Latin American countries. However, gender stereotypes are arguably more pronounced in Ecuador than in more advanced Western democracies. Och (2020), for example, shows that "maninterrupting" is not widespread in the German Bundestag, contrary to what is expected. We believe, however, that our argument about women's strategic behavior could inform other cases of legislative behavior since interruptions are not the only gendered barriers women face in legislatures. Analyzing the way legislators interact within biased institutional contexts, based on their individual incentives, is key to understanding how these barriers affect behavior. Future research should explore to what extent this is the case and the different strategies women employ to overcome other gendered barriers.

The primary focus of this article is the effect of interruptions on the strategic behavior of female MCs, yet we

acknowledge that this analysis can be further enriched by considering an intersectional approach. In that regard, we envision the theoretical expectations of our theory to inform the biases faced by women in marginalized groups (e.g., indigenous women). Extensions to our analysis suggest that indigenous women in the Ecuadorian Congress have to overcome additional barriers to access the floor and secure floor time. Future work should focus on participation in the legislature in what Hawkesworth (2003) calls race-gendered institutions.

## ACKNOWLEDGMENTS

We would like to thank the support and feedback of our village in writing this project. We would like to thank Ernesto Calvo, Tiffany Barnes, Isabella Alcañiz, SoRelle Wyckoff Gaynor, Bryce Dietrich, Christopher Cochrane, Winter Mason, David Lazer, Mikail Faalasli, Francisco Cantú, as well as the anonymous readers who made extensive suggestions to make this article better. We also want to thank the Interdisciplinary Laboratory of Computational Social Sciences (iLCSS) at University of Maryland for giving a home to an earlier version of this work. As always, mistakes are the exclusive responsibility of the authors.

## REFERENCES

- Alemán, Eduardo, Margarita M. Ramirez, and Jonathan B. Slapin. 2017. "Party Strategies, Constituency Links, and Legislative Speech." *Legislative Studies Quarterly* 42 (4): 637–59.
- Anderson, Kristin J., and Campbell Leaper. 1998. "Meta-analyses of Gender Effects on Conversational Interruption: Who, What, When, Where, and How." *Sex Roles* 39 (3–4): 225–52.
- Bäck, Hanna, Markus Baumann, Marc Debus, and Jochen Müller. 2019. "The Unequal Distribution of Speaking Time in Parliamentary-Party Groups." *Legislative Studies Quarterly* 44 (1): 163–93.
- Bäck, Hanna, and Marc Debus. 2016. *Political Parties, Parliaments and Legislative Speechmaking*. Dordrecht: Springer.
- Bäck, Hanna, and Marc Debus. 2019. "When Do Women Speak? A Comparative Analysis of the Role of Gender in Legislative Debates." *Political Studies* 67 (3): 576–96.
- Bäck, Hanna, Marc Debus, and Jochen Müller. 2014. "Who Takes the Parliamentary Floor? The Role of Gender in Speech-Making in the Swedish Riksdag." *Political Research Quarterly* 67 (3): 504–18.
- Barnes, Tiffany. 2016. *Gendering Legislative Behavior*. Cambridge: Cambridge University Press.
- Barnes, Tiffany D., and Mirya R. Holman. 2020. "Gender Quotas, Women's Representation, and Legislative Diversity." *Journal of Politics* 82 (4): 1271–86.
- Bauer, Gretchen, and Jennie E. Burnet. 2013. "Gender Quotas, Democracy, and Women's Representation in Africa: Some Insights from Democratic Botswana and Autocratic Rwanda." *Women's Studies International Forum* 41 (2): 103–12.
- Cañete, María Fernanda, and Rosalía Arteaga. 2004. *Reflexiones sobre mujer y política*. Abya Yala: CEDIME.
- Carli, Linda L. 2001. "Gender and Social Influence." *Journal of Social Issues* 57 (4): 725–41.

36. For an important exception, see Mattei (1998).

- Carli, Linda L., and Danuta Bukatko. 2000. "Gender, Communication, and Social Influence: A Developmental Perspective." In Thomas Eckes and Hanns M. Trautner, eds., *The Developmental Social Psychology of Gender*. Mahwah, NJ: Erlbaum, 295–332.
- Cox, Gary W. 2006. "The Organization of Democratic Legislatures." In Barry R. Weingast and Donald A. Wittman, eds., *The Oxford Handbook of Political Economy*. Oxford: Oxford University Press, 141–61.
- Cox, Gary W., and Mathew D. McCubbins. 2011. "Managing Plenary Time: The US Congress in Comparative Context." In Eric Schickler and Frances E. Lee, eds., *The Oxford Handbook of the American Congress*. Oxford: Oxford University Press.
- Dietrich, Bryce J., Matthew Hayes, and Diana Z. O'Brien. 2019. "Pitch Perfect: Vocal Pitch and the Emotional Intensity of Congressional Speech." *American Political Science Review* 113 (4): 941–62.
- Duerst-Lahti, Georgia. 2002. "Knowing Congress as a Gendered Institution: Manliness and the Implications of Women in Congress." In Cindy Simon Rosenthal, ed., *Women Transforming Congress*. Norman: University of Oklahoma Press, 20–49.
- Eagly, Alice H., and Steven J. Karau. 2002. "Role Congruity Theory of Prejudice toward Female Leaders." *Psychological Review* 109 (3): 573–98.
- Eagly, Alice H., Wendy Wood, and Amanda B. Diekmann. 2000. "Social Role Theory of Sex Differences and Similarities: A Current Appraisal." In Thomas Eckes and Hanns M. Trautner, eds., *The Developmental Social Psychology of Gender*. Mahwah, NJ: Erlbaum, 123–74.
- Fox, Richard L., and Jennifer L. Lawless. 2011. "Gendered Perceptions and Political Candidacies: A Central Barrier to Women's Equality in Electoral Politics." *American Journal of Political Science* 55 (1): 59–73.
- Franceschet, Susan. 2011. "Gendered Institutions and Women's Substantive Representation: Female Legislators in Argentina and Chile." In Mona Lena Krook and Fiona Mackay, eds., *Gender, Politics and Institutions: Towards a Feminist Institutionalism*. Basingstoke: Palgrave Macmillan, 58–78.
- Gómez Vidal, Analía, and Sebastián Vallejo Vera. 2021. "Ecuador: Individual Incentives and the Gendered Path to Power." In Hanna Back, Marc Debus, and Jorge M. Fernandes, eds., *The Politics of Legislative Debates around the World*. Oxford: Oxford University Press.
- Górecki, Maciej A., and Paula Kukulowicz. 2014. "Gender Quotas, Candidate Background and the Election of Women: A Paradox of Gender Quotas in Open-List Proportional Representation Systems." *Electoral Studies* 36:65–80.
- Hawkesworth, Mary. 2003. "Congressional Enactments of Race-Gender: Toward a Theory of Raced-Gendered Institutions." *American Political Science Review* 97 (4): 529–50.
- Heath, Roseanna Michelle, Leslie A. Schwindt-Bayer, and Michelle M. Taylor-Robinson. 2005. "Women on the Sidelines: Women's Representation on Committees in Latin American Legislatures." *American Journal of Political Science* 49 (2): 420–36.
- Htun, Mala, and Timothy J. Power. 2006. "Gender, Parties, and Support for Equal Rights in the Brazilian Congress." *Latin American Politics and Society* 48 (4): 83–104.
- Johnson, Cathryn. 1994. "Gender, Legitimate Authority, and Leader-Subordinate Conversations." *American Sociological Review* 59 (1): 122–35.
- Johnson, Niki, and Cecilia Josefsson. 2016. "A New Way of Doing Politics? Cross-Party Women's Caucuses as Critical Actors in Uganda and Uruguay." *Parliamentary Affairs* 69 (4): 845–59.
- Jones, Jennifer J. 2016. "Talk 'Like a Man': The Linguistic Styles of Hillary Clinton, 1992–2013." *Perspectives on Politics* 14 (3): 625–42.
- Karam, Azza, and Joni Lovenduski. 2005. "Women in Parliament: Making a Difference." In Julie Ballington and Azza Karam, eds., *Women in Parliament: Beyond Numbers*. Stockholm: International IDEA, 187.
- Kark, Ronit, and Alice H. Eagly. 2010. "Gender and Leadership: Negotiating the Labyrinth." In Joan C. Chrisler and Donald R. McCreary, eds., *Handbook of Gender Research in Psychology*. Dordrecht: Springer, 443–68.
- Karpowitz, Christopher F., and Tali Mendelberg. 2014. *The Silent Sex: Gender, Deliberation, and Institutions*. Princeton, NJ: Princeton University Press.
- Kathlene, Lyn. 1994. "Power and Influence in State Legislative Policymaking: The Interaction of Gender and Position in Committee Hearing Debates." *American Political Science Review* 88 (3): 560–76.
- Kathlene, Lyn, Susan E. Clarke, and Barbara A. Fox. 1991. "Ways Women Politicians Are Making a Difference." In Debra L. Dodson, ed., *Gender and Policymaking: Studies of Women in Office*. New Brunswick, NJ: Center for the American Woman and Politics, 31–38.
- Kollock, Peter, Philip Blumstein, and Pepper Schwartz. 1985. "Sex and Power in Interaction: Conversational Privileges and Duties." *American Sociological Review* 50 (1): 34–46.
- Krook, Mona Lena, and Diana Z. O'Brien. 2010. "The Politics of Group Representation: Quotas for Women and Minorities Worldwide." *Comparative Politics* 42 (3): 253–72.
- Lauderdale, Benjamin E., and Alexander Herzog. 2016. "Measuring Political Positions from Legislative Speech." *Political Analysis* 24 (3): 374–94.
- Maltzman, Forrest, and Lee Sigelman. 1996. "The Politics of Talk: Unconstrained Floor Time in the US House of Representatives." *Journal of Politics* 58 (3): 819–30.
- Mansbridge, Jane J. 1983. *Beyond Adversary Democracy*. Chicago: University of Chicago Press.
- Martin, Lanny W., and Georg Vanberg. 2008. "Coalition Government and Political Communication." *Political Research Quarterly* 61 (3): 502–16.
- Mattei, Laura R. Winsky. 1998. "Gender and Power in American Legislative Discourse." *Journal of Politics* 60 (2): 440–61.
- Mayhew, David R. 1974. *Congress: The Electoral Connection*, vol. 26. New Haven, CT: Yale University Press.
- Mendelberg, Tali, Christopher F. Karpowitz, and J. Baxter Oliphant. 2014. "Gender Inequality in Deliberation: Unpacking the Black Box of Interaction." *Perspectives on Politics* 12 (1): 18–44.
- Mendez, Jeanette Morehouse, and Tracy Osborn. 2010. "Gender and the Perception of Knowledge in Political Discussion." *Political Research Quarterly* 63 (2): 269–79.
- Mikulski, Barbara, et al. 2001. *Nine and Counting: The Women of the Senate*. New York: Harper Collins.
- Murray, Rainbow. 2010. "Second among Unequals? A Study of Whether France's 'Quota Women' Are Up to the Job—Erratum." *Politics and Gender* 6 (4): 643–69.
- Ng, Sik Hung, Mark Brooke, and Michael Dunne. 1995. "Interruption and Influence in Discussion Groups." *Journal of Language and Social Psychology* 14 (4): 369–81.
- Och, Malliga. 2020. "Maninterrupting in the German Bundestag: Gendered Opposition to Female Members of Parliament?" *Politics and Gender* 16 (2): 388–408.
- Osborn, Tracy, and Jeanette Morehouse Mendez. 2010. "Speaking as Women: Women and Floor Speeches in the Senate." *Journal of Women, Politics and Policy* 31 (1): 1–21.
- Paxton, Pamela, Sheri Kunovich, and Melanie M. Hughes. 2007. "Gender in Politics." *Annual Review of Sociology* 33:263–84.
- Paxton, Pamela Marie, Melanie M. Hughes, and Tiffany Barnes. 2020. In *Women, Politics, and Power: A Global Perspective*. Lanham, MD: Rowman & Littlefield.
- Pearson, Kathryn, and Logan Dancey. 2011. "Elevating Women's Voices in Congress: Speech Participation in the House of Representatives." *Political Research Quarterly* 64 (4): 910–23.
- Pennebaker, James W., Martha E. Francis, and Roger J. Booth. 2001. *Linguistic Inquiry and Word Count: LIWC 2001*. Mahwah, NJ: Erlbaum.
- Piscopo, Jennifer M. 2011. "Rethinking Descriptive Representation: Rendering Women in Legislative Debates." *Parliamentary Affairs* 64 (3): 448–72.

- Proksch, Sven-Oliver, and Jonathan B. Slapin. 2012. "Institutional Foundations of Legislative Speech." *American Journal of Political Science* 56 (3): 520–37.
- Proksch, Sven-Oliver, and Jonathan B. Slapin. 2015. *The Politics of Parliamentary Debate*. Cambridge: Cambridge University Press.
- Quinn, Kevin M., Burt L. Monroe, Michael Colaresi, Michael H. Crespin, and Dragomir R. Radev. 2010. "How to Analyze Political Attention with Minimal Assumptions and Costs." *American Journal of Political Science* 54 (1): 209–28.
- Ridgeway, Cecilia L. 1982. "Status in Groups: The Importance of Motivation." *American Sociological Review* 47 (1): 176–88.
- Ridgeway, Cecilia L. 2001. "Gender, Status, and Leadership." *Journal of Social Issues* 57 (4): 637–55.
- Ridgeway, Cecilia L., and David Diekema. 1992. "Are Gender Differences Status Differences?" In Cecilia L. Ridgeway, ed., *Gender, Interaction, and Inequality*. New York: Springer, 157–80.
- Ridgeway, Cecilia L., and Lynn Smith-Lovin. 1999. "The Gender System and Interaction." *Annual Review of Sociology* 25 (1): 191–216.
- Rosenthal, Cindy Simon. 2002. *Women Transforming Congress*, vol. 4. Norman: University of Oklahoma Press.
- Sawer, Marian, and Alicia Turner. 2016. "Specialised Parliamentary Bodies: Their Role and Relevance to Women's Movement Repertoire." *Parliamentary Affairs* 69 (4): 763–77.
- Schwindt-Bayer, Leslie A. 2010. *Political Power and Women's Representation in Latin America*. Oxford: Oxford University Press.
- Steiner, Jürg, André Bächtiger, Markus Spörndli, and Marco R. Steenbergen. 2004. *Deliberative Politics in Action: Analyzing Parliamentary Discourse*. Theories of Institutional Design. Cambridge: Cambridge University Press.
- Swers, Michele L. 2016. "Pursuing Women's Interests in Partisan Times: Explaining Gender Differences in Legislative Activity on Health, Education, and Women's Health Issues." *Journal of Women, Politics and Policy* 37 (3): 249–73.
- Walsh, Katherine Cramer. 2002. "Enlarging Representation: Women Bringing Marginalized Perspectives to Floor Debate in the House of Representatives." In Cindy Simon Rosenthal, ed., *Women Transforming Congress*. Norman: University of Oklahoma Press, 370–96.
- West, Candace, and Don H. Zimmerman. 1987. "Doing Gender." *Gender and Society* 1 (2): 125–51.