Gender, Power, and Colleague Aggression in U.S. State Senates

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Abstract

In this paper, we present analysis of an original dataset of levels of colleague aggression among U.S. state senators, whether women senators face more of these behaviors than men, and whether numerical and positional gender inequality in state senates affects these relationships. The results indicate that, overall, colleague aggression in U.S. state senates is relatively rare, and, in general, women do not face more aggression than men. Under certain conditions, however, subsets of women senators experience more aggressive behaviors than their counterparts, male or female. Specifically, when they serve in senates with higher percentages of women or growing numbers of women, they are disproportionally targeted. There is also some evidence that women committee chairs are more likely than rank-and-file women to face this type of behavior.

Keywords

gender, power, colleague aggression, state senates, women in politics

Although women have made significant advancement in descriptive representation in U.S. politics since the 1970s, they are still far from parity and far from equal levels of political power. For example, at this writing, women constitute 26 percent of state senates and only seven serve as speakers of state houses (Center for American Women in Politics [CAWP] 2020). Another indicator of unequal status may be their treatment by colleagues. If, for example, women are subjected to different levels of aggressive behavior than men, it may be more difficult for them to perform their duties to the fullest. Indeed, officeholders’ interactions with colleagues have long been recognized as significantly affecting officeholders’ abilities to build relationships, influence policy, and gain leadership roles (Baker 1980; Blair and Stanley 1991). Furthermore, when women’s status as women is contested, their political power could be tenuous both because those in office may choose to abbreviate their service and because such experiences could depress the ambition of others (see Krook 2017, 2018; Krook and Restrepo Sanin 2019).

Grounding our research in theoretical explorations of status quo disruption, gender norm violations, and critical mass versus backlash effects, we present analysis of an original dataset to report on levels of colleague aggression among U.S. state senators, whether women senators face more of these behaviors than men, and whether numerical and positional gender inequality in state senates affects these relationships. State senates are appropriate arenas for study as senators are important political actors, and senates can serve as stepping stones to higher office. Our definition of colleague aggression builds on existing research pertaining to abuse against women officeholders on the local level. Specifically, following Thomas et al. (2019) and Herrick et al. (2019), we define colleague aggression as abusive, harassing, offensive, threatening, or physically violent behaviors.1

The results of our research indicate that, overall, colleague aggression in U.S. state senates is relatively rare, and, in general, women state senators do not face more aggression than men. Under certain conditions, however, subsets of women senators experience more aggressive behaviors than their counterparts, male or female. Specifically, when they serve in senates with higher percentages of women or growing numbers of women, they are disproportionally targeted. There is also some evidence that women committee chairs are more likely than rank-and-file women to face this type of behavior.

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**Literature Review**

Empirical examinations of colleague aggression among U.S. officeholders are rare, particularly with respect to gender analysis. An indirect window into the subject is available in recent studies that discovered gender differences in abuse of mayors by the public—with women experiencing more than men (Herrick et al. 2019; Thomas et al. 2019). Women mayors who have veto and appointment powers were also found to have experienced heightened levels of abuse (Herrick et al. 2019).

Substantially more research on this topic comes from comparative politics. One group of studies focuses on women only and indicates that abuse against women parliamentarians is widespread (Bardall, Bjarnegård, and Piscopo 2019; Inter-Parliamentary Union 2018; Krook 2017; Krook and Restrepo Sanin 2019; Schneider and Carroll 2020). Among the research studies that focus on gender comparisons, authors report that women face more than men (Bjelland and Bjørgo 2014; Bjørgo and Silkoset 2018; Every-Palmer, Barry-Walsh, and Pathé 2015; James et al. 2016). Furthermore, women report more negative experiences in specific types of abuse, such as harassment (Bardall 2018; Bardall et al. 2019; Bjelland and Bjørgo 2014; Bjørgo and Silkoset 2018; Krook 2017, 2018; Krook and Restrepo Sanin 2019). Finally, comparative research also illuminates differences among women’s experiences of abuse. Håkansson (2019) reports that Swedish women officeholders at the local level who hold institutional power encounter a great deal more abuse than their counterparts.

However, as indicted above, apart from the Inter-Parliamentary Union (2018) Report, Krook (2017), and Krook and Restrepo Sanin (2019), much of this literature does not examine gender differences in colleague abuse rather than abuse from the public. Fortunately, studies that more directly compare the treatment of men and women by colleagues can be found in the general workplace literature. Yet, the results of these studies have been mixed with regard to whether women face more than men (Cortina et al. 2002, 2013; Guay, Goncalves, and Jarvis 2014; Samnani and Singh 2012; Tjaden and Thoennes 2001). For example, Cortina et al. (2013) found that, in city government, law enforcement, and the U.S. military, women have been more likely to have been victims of psychological abuse than men. Similarly, Cortina et al. (2002) reported that women attorneys faced greater general incivility by co-workers than men. Analyzing data on the prevalence of co-worker abuse from a National Violence against Women Survey, Tjaden and Thoennes (2001) found that, although women did not experience more abuse overall, they were significantly more likely than men to be raped or stalked, although significantly less likely to be physically assaulted in other ways. On the contrary, analysis of the National Survey of Workplace Health and Safety (Schat, Frone, and Kelloway 2006) indicates that, although 15 percent of workers experienced abuse or violence from co-workers, no significant, multivariate sex differences were apparent.

Examined through another lens, inconsistent results may be accounted for, in part, by whether the professions examined are male- or female-dominated, or are fields perceived to require male-dominated traits. Indeed, research on sexual harassment finds that women have been more likely to experience harassment if they engage counter-stereotypically, such as, but not limited to, working in male-dominated professions (Leskinen, Caridad Rabelo, and Cortina 2015). Similarly, research on workplace abuse in the military finds that women soldiers who work in more masculine environments face more workplace aggression than those who work in less masculine environments (Koeszegi, Zedlacher, and Hudribusch 2014).

The bulk of the research both among officeholders and U.S. workplaces generally suggests that women employees or officeholders may face more colleague aggression than men, particularly in male-dominated environments, such as legislatures, and that certain subsets of women, principally women who hold institutional power (Håkansson 2019), may experience colleague aggression differently than their counterparts. Hence, the research reported in this paper offers a first examination of the effects on women officeholders’ treatment by their colleagues, and, in particular, whether women who hold institutional power are treated differently from other women.

**Theoretical Foundations: Disrupting the Status Quo, Violating Gender Norms, and Critical Mass/Backlash**

Empirical findings pertaining to gendered aggression in the workplace, including among officeholders, suggest that the theoretical concepts of gender norm violations, disruption of the gendered status quo, and critical mass and backlash, individually and in combination, can help explain and predict the treatment by colleagues of women in U.S. state senates.

**Status Quo Threats**

It refers to the fact that women’s presence, behavior, and policy priorities shatter traditional male preserves. First, women’s presence may supplant men in office; second, women holding positions of power may threaten male
control over the offices of state and the decisions that flow from them; and, third, women’s policy perspectives or priorities may alter male-dominated policy agendas. Regarding the latter, a large body of research over decades indicates that women who hold elective office in the United States, including state legislators, have distinctive policy priorities, particularly with respect to women’s issues (Barnello and Bratton 2007; Bratton and Haynie 1999; Dodson 1998, 2001; Dodson and Carroll 1991; Frederick 2011; Thomas 1994, 2002; Vega and Firestone 1995). Hence, women in power may face “ridicule, condemnation, ostracism, censure” (Mansbridge and Shames 2008, 625–626), and aggressive behaviors toward women may be the result.

Gender Norm Violations

Eagly and Karau’s (2002) research on role incongruity emphasizes that when people take on social roles that conform to the stereotypes of those roles, they are accepted. But, when people take on roles that defy stereotypes or break norms, they are perceived unfavorably. Accordingly, women in political office may be seen as violators of public/private divisions of labor that foreground women’s strengths as nurturers and men’s strengths as agents. Relatedly, Brescoll, Okimoto, and Vial (2018, 147) note that many people not only expect women and men to behave in gendered ways but also believe that they “ought” to do so. When that is not the case, moral outrage may result (Brescoll 2011; Brescoll et al. 2018; Okimoto and Brescoll 2010). In her research on workplace abuse, Berdahl (2007a) links gender norm violations to issues of sexual harassment. She states that sexual harassment in the workplace, which also includes harassment based on one’s sex, is about maintaining gendered status and hierarchies. In other work, Berdahl (2007b) finds that women in male-dominated organizations experienced more sexual harassment than those in female-dominated environments. Similarly, in the political world, Okimoto and Brescoll (2010) report that women candidates who are perceived to be power-seeking or who exhibit power-seeking behaviors receive fewer votes than others.

Critical Mass

Over forty years ago, Rosabeth Moss Kanter (1977) wrote Men and Women in the Corporation in which she described how organizations with few women treat them as tokens and deny women full opportunity to be successful. Consistent with status quo threats and gender norm violations, Kanter acknowledged that organizations prize conformity and women, by their presence in male-dominated organizations, violate that conformity. As a consequence, women may be judged more harshly than men and face greater hostility. This may also hold true for women in political office.

Kanter also theorizes that it may take a critical mass of women to reverse the discriminatory treatment—that is, women will be treated more equally and be more successful in their work as their numbers increase. Existing studies on state legislatures offer mixed support for this expectation. Some show that higher percentages of women in legislatures are associated with higher rates of bill introduction or passage of women-friendly policy (Berkman and O’Connor 1993; Crowley 2004; Hansen 1993; MacDonald and O’Brien 2011; Poggione 2004; Thomas 1994; Thomas, Rickert, and Cannon 2006). However, other studies find little or no difference (Bratton 2002, 2005; Caiazza 2004; Reingold 2000; Tolbert and Steuernagel 2001; Weldon 2006).

Apart from differences in methodologies, time periods, and policy foci, mixed results in the critical mass literature may be explained by backlash. That is, as women gain in numbers in legislatures, a negative set of reactions may result (Mansbridge and Shames 2008; Sanbonmatsu 2008; Yoder 1991). Certainly, Kathlene’s (1994) work on legislative committees supports the backlash explanation. She found that, as the proportion of women in legislative committees increased, men became more verbally aggressive and exerted more control over hearings.

In all, the theoretical literature pertaining to reactions to women’s presence and behavior in political office suggests a complex and nuanced relationship to gender differences in colleague aggression among U.S. state senators. That is, reactive behaviors by those who are uncomfortable about women’s presence, proportions, and power may be bidirectional.

Expectations and Research Design

Empirical research and theoretical constructs related to women’s role in the workplace and in politics in specific form the foundation of four expectations for gendered experiences of collegial aggression among U.S. state senators. We expect the following:

1. Women state senators will report more aggression by colleagues than their men counterparts.
2. Levels of aggression against women senators will rise as they gain institutional power, but the same will not be true for men senators.
3. Levels of aggression against women senators will be higher in chambers with a high proportion of women senators, but the same will not be confirmed for men.
4. Levels of aggression against women senators will rise as they gain numbers in their chambers; the same will not be true for men senators.
In short, women state senators will be more likely to be seen as violators of traditional gender norms and as threats to the male-dominated status quo, but that this will be especially so when they are in power positions in terms of positions or proportions in legislatures compared with other women and compared with men. In short, backlash may outweigh the theorized benefits of achieving critical mass.

**Design**

To investigate sex differences in colleague aggression experienced by U.S. state senators, we conducted a survey of all state senators in the United States from July to September of 2019. State senates were selected for study, first, because we were interested in building on prior research on gender, abuse, and violence experienced by U.S. mayors (see Herrick et al. 2019; Thomas et al. 2019) by adding the next level of government to our collective knowledge on this topic. Second, we focused on senates rather than the lower chambers of state houses because senates are more similar in size to each other than are lower chambers. That is, the size range for state houses is from forty to four hundred compared with the size range for senates, which is twenty to sixty-seven. In all, concentrating on political institutions with a direct policy-making role, the use of collective decision-making rules, and closer chamber sizes made the selection of state senates perfect for our research.

A total of 252 senators out of 1940 \(^1\) responded to the survey, which resulted in a 13 percent response rate. The rate is comparable with or even larger than those of many recent studies of state legislators (Hanania 2017; Nownes and Freeman 2019; Purtle et al. 2019). Nevertheless, to determine the representativeness of respondents to our survey, we compared respondents with non-respondents on several traits of the full senatorial population: political party, sex, tenure in office, level of professionalism of the legislature,\(^4\) and crime rates in the states. No significant differences in response rates emerged other than that senators from more professional legislatures were less likely to respond than their counterparts. Most central to our analysis, 27.4 percent of respondents were women compared with 25.5 percent of non-respondents.

The survey is mixed mode with an Internet version and a mail version.\(^5\) Using a modified Tailored Design Method (Dillman 2007), there were up to six contacts to each senator: (1) a pre-notice letter by mail, (2) the survey mailing, (3) a mailed reminder/thank you, (4) an emailed replacement survey, and (5) an email reminder. A sixth contact was made, to senators’ home addresses if the survey was originally sent to the state capitol instead of senators’ districts. The decision to add this additional follow-up was based on evidence that the surveys sent to district addresses were more likely to have been completed.

**Dependent Variables**

The dependent variables of our study measure aggressive experiences faced by state senators at the hands of colleagues. They come from a survey question that asked the following:

Below we list the same experiences [senators were asked about experiences with the public first], but now, we want you to report on experiences you had that were initiated by a legislator or staff member in the first six months of 2019. Please check the appropriate box.\(^6\)

The experiences include the following:

- Harassment (exposure to insistent and uninvited behavior, attention, or verbal contact);
- Aware of content in social media about you that was untrue and/or offensive;
- Aware of content from a public event that was about you that was untrue and/or offensive;
- You received threat(s) of death, rape, beating, or similar act;
- Your family received threat(s) of death, rape, beating, or similar act;
- Experienced violence against your property;
- Experienced “minor” personal violence, such as having something thrown at you;
- Experienced significant personal violence, such as being shot at or suffering an injury.

Senators were asked to indicate whether they had these experiences: never, less than monthly, once or twice a month, three or four times a month, and more than four times a month. Responses were coded on a scale from 0 to 4 (see Appendix A for the full survey).

In addition to each individual type of aggression, we also created a cumulative index that added the score of each type for each senator.\(^7\) The mean of this index was 1.61 (SD = 2.28) with a range of 0 to 11.\(^8\) The Cronbach’s alpha was .62. Approximately half the senators experienced at least one type of colleague aggression.\(^9\) We refer to this as the abuse index.

**Independent Variable**

The key independent variable is sex (women were coded 1; men were coded 0).
Control Variables

The workplace literature consistently reports that certain organizational characteristics increase co-worker aggression, particularly rigid rules or hierarchical structures, aggressive cultures, organizational norms such as high levels of competition, and policies to regulate aggression (Barling, Dupré, and Kelloway 2009; Howard and Wech 2012; Martinko, Douglas, and Harvey 2006; Neuman and Baron 1998; Samnani and Singh 2012). To our knowledge, there are no direct measures of these characteristics for state legislatures, but there are several proxy measures that may capture the concepts, such as non-professional legislatures, strong majority party control of agendas, and lack of or weak ethics policies. Hence, our first set of control variables includes the following measures: Squire’s (2017) measure of professionalism in state senates, and Anzia and Jackman’s (2013) measures pertaining to majority party control of state senates (whether the majority party sets the floor calendar, whether regulations pertaining to senatorial conflicts of interest exist, and whether members are held accountable to them). For the majority control variables, we combine the two elements of control so that our variable is coded two if the majority leader controls floor calendars along with a committee that is controlled by the party, one if only the majority leader controls the calendar, and zero if neither of the conditions pertain.

The workplace literature also reports that individual workers are more likely to engage aggressively if they perceive injustices against themselves (Barling et al. 2009; Beugré; Howard and Wech 2012; Jawahar 2002). Measures of senatorial perceptions of possible injustices are nonexistent, but we use high levels of polarization and evenly divided legislatures as proxy variables for the concepts. It is possible that rules will be used more vigorously to silence dissent in partisian chambers and/or chambers that are evenly divided. Partisanship is measured by party dominance—or taking the percentage of senators who are Democrats in each state and folding it. To measure party polarization, we use the measure developed by Shor and McCarty as updated by Shor (2020). Workplace aggression has also been found to be more likely in places where the environment beyond the workplace is aggressive (Barling et al. 2009; Samnani and Singh 2012). As proxies of this concept, we start with per capita violent crime rates in each state as reported by the U.S. Federal Bureau of Investigation. We also use Elazar’s (1966) measure of political culture with the expectation that senators in individualistic political cultures may be more likely to experience colleague aggression as it is associated with more self-interested behavior on the part of officeholders and more corruption.

Finally, because the violence against women in politics literature in the United States reports that age is associated with reports of officeholder aggression with younger politicians facing more of it than their counterparts (Thomas et al. 2019), we use age of senators as a control variable in our model.

To analyze the data, we conducted both bivariate and multivariate analyses. We included bivariate analysis to offer information on levels of colleague aggression as the literature is presently silent on this question. For the bivariate analysis, we calculated means and correlations between sex and types of colleague aggression. The multivariate analyses are ordered logistic regressions with clustered errors by state. We report odds ratios as well as coefficients because they are easier to interpret. See Appendix B for descriptive statistics of the variables.

Results

Bivariate Analysis

To recap, our four research questions are as follows:

Research Question 1: Do women senators experience higher levels of colleague aggression than men?

Research Question 2: Do women who hold positions of power in their senates, such as committee chairs and party leaders, face higher levels of colleague aggression?

Research Question 3: Do women in senates with higher proportions of women face higher levels of aggression?

Research Question 4: Do women in senates with rising proportions of women confront higher levels of aggression than those with static proportions of women?

Table 1 presents bivariate findings. The data indicate that, fortunately, colleague aggression within state senates is relatively rare. Although each of the eight indicators of aggression had scores ranging from 0 to 4, the highest mean was less than 1, and experiences of physical violence at the hands of a colleague were very rare. Furthermore, although women senators experienced more of each type of colleague aggression than men, the only statistically significant relationship pertained to harassment. The average woman scored .65, and the average man scored .37 (p = .01).

In addition, women senators scored significantly higher on the abuse index than men. The average score for women was 1.68 compared with the average score for men of 1.19 (p = .07). These findings are partially consistent with our first expectation: overall, women did not face significantly more colleague aggression than men on most individual types of aggression, although they did experience more harassment and scored higher on the abuse index.
Table 1. Means and Standard Deviations for Types of Aggression.

<table>
<thead>
<tr>
<th>Type of aggression</th>
<th>Women</th>
<th>Men</th>
<th>All</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harassment</td>
<td>0.65 (0.99)</td>
<td>0.37 (0.69)</td>
<td>0.44 (0.79)</td>
<td>.16**</td>
</tr>
<tr>
<td>Social media</td>
<td>0.65 (1.03)</td>
<td>0.52 (0.81)</td>
<td>0.55 (0.88)</td>
<td>.07</td>
</tr>
<tr>
<td>Public meeting</td>
<td>0.34 (0.59)</td>
<td>0.26 (0.55)</td>
<td>0.28 (0.56)</td>
<td>.07</td>
</tr>
<tr>
<td>Threatened</td>
<td>0.03 (0.17)</td>
<td>0.02 (0.15)</td>
<td>0.02 (0.15)</td>
<td>.02</td>
</tr>
<tr>
<td>Family threatened</td>
<td>0 (0)</td>
<td>0.01 (0.10)</td>
<td>0.01 (0.09)</td>
<td>-.05</td>
</tr>
<tr>
<td>Property violence</td>
<td>0 (0)</td>
<td>0.01 (0.10)</td>
<td>0.00 (0.06)</td>
<td>-.03</td>
</tr>
<tr>
<td>Minor violence</td>
<td>0.03 (0.17)</td>
<td>0.01 (0.07)</td>
<td>0.02 (0.12)</td>
<td>.07</td>
</tr>
<tr>
<td>Major violence</td>
<td>0 (0)</td>
<td>0 (0.0)</td>
<td>0 (0)</td>
<td>N/A</td>
</tr>
<tr>
<td>Abuse index</td>
<td>1.68 (2.21)</td>
<td>1.19 (1.71)</td>
<td>1.32 (1.86)</td>
<td>.12*</td>
</tr>
</tbody>
</table>

N = 68 184 252

With the exception of the cumulative index, all variables run from 0 to 4, with one meaning the senator never experienced this type of aggression and 4 meaning they experienced it more than four times a month. The scores for the index ranged from 0 to 8. Numbers in parentheses are standard deviations.

*This was the highest number. There were a handful of missing cases because a senator chose not to answer the question.

*p < .10.  **p < .05.

Table 2. Gender Differences in Aggression.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Harassment</th>
<th></th>
<th>Abuse index</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Odds ratio</td>
<td>Coefficient</td>
<td>Odds ratio</td>
</tr>
<tr>
<td>Woman</td>
<td>0.47 (0.31)</td>
<td>1.59</td>
<td>0.08 (0.29)</td>
<td>1.08</td>
</tr>
<tr>
<td>Accountability</td>
<td>-0.03 (0.02)</td>
<td>0.97</td>
<td>0.01 (0.01)</td>
<td>1.01</td>
</tr>
<tr>
<td>Agenda control</td>
<td>0.32 (0.21)</td>
<td>1.38</td>
<td>0.25 (0.14)*</td>
<td>1.28</td>
</tr>
<tr>
<td>Professionalism</td>
<td>-0.62 (1.76)</td>
<td>0.54</td>
<td>-0.14 (0.92)</td>
<td>0.87</td>
</tr>
<tr>
<td>Polarization</td>
<td>-0.34 (0.35)</td>
<td>0.71</td>
<td>-0.49 (0.27)*</td>
<td>0.61</td>
</tr>
<tr>
<td>Party dominance</td>
<td>-1.83 (1.19)</td>
<td>0.16</td>
<td>-2.90 (0.89)***</td>
<td>0.05</td>
</tr>
<tr>
<td>Individualistic culture</td>
<td>0.34 (0.33)</td>
<td>1.41</td>
<td>0.19 (0.29)</td>
<td>1.21</td>
</tr>
<tr>
<td>Crime</td>
<td>0.001 (0.01)*</td>
<td>1.00</td>
<td>0.00 (0.01)</td>
<td>1.00</td>
</tr>
<tr>
<td>Age</td>
<td>-0.01 (0.01)</td>
<td>0.99</td>
<td>-0.03 (0.01)**</td>
<td>0.97</td>
</tr>
<tr>
<td>Cut1</td>
<td>-1.45 (1.61)</td>
<td></td>
<td>-2.31 (1.16)</td>
<td></td>
</tr>
<tr>
<td>Cut2</td>
<td>-0.12 (1.57)</td>
<td></td>
<td>-1.35 (1.18)</td>
<td></td>
</tr>
<tr>
<td>Cut3</td>
<td>1.36 (1.60)</td>
<td></td>
<td>-0.78 (1.18)</td>
<td></td>
</tr>
<tr>
<td>Cut4</td>
<td>2.64 (1.89)</td>
<td></td>
<td>-0.37 (1.20)</td>
<td></td>
</tr>
<tr>
<td>LR χ²</td>
<td>15.02*</td>
<td></td>
<td>18.51***</td>
<td></td>
</tr>
<tr>
<td>Pseudo-R²</td>
<td>.03</td>
<td></td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>252</td>
<td></td>
<td>252</td>
<td></td>
</tr>
</tbody>
</table>

Harassment is coded 0 to 4. Abuse index is coded 0 to 11. Woman is coded 1 (female) or 0 (male). Accountability runs from 36 to 83. Agenda control runs from 0 to 2. Age is the age of the senator in years. Party dominance is the percentage of party’s majority. Professionalism is Squire’s measure and runs from 0.048 to 0.629. Individualism is coded 1 and 0. Crime rates run from 121 to 829. Polarizations run from 0.818 to 2.92. LR = log likelihood.

*p < .10.  **p < .05.  ***p < .01.

Multivariate Findings

Table 2 reports multivariate findings. Overall, women senators do not face more harassment than men once other factors are controlled. Specifically, although the size of the odds ratio (1.59) suggests that women reported noticeably more harassment than men, the relationship is not statistically significant (p = .14). Table 2 also shows that there are no statistically significant gender differences between women and men senators on our abuse index. The odds ratio was 1.08 (p = .78).

As a robustness check, we also tested our first expectation using multilevel mixed-effects logistic regression and weighted the data by professionalism of the legislatures. Each of these analyses showed that gender was not significantly related to the abuse index or the harassment item. Finally, we ran the models eliminating individual control variables, but the results were the same. In sum, these multivariate analyses are clear that our first expectation is falsified.

To explore our other expectations, that certain groups of women may experience more colleague aggression...
than other women and more than men, we relied on bivariate comparisons. This is because the number of cases in our sample was relatively small. Hence, Table 3 reports the mean scores of men and women by leadership position, percentage of women in the senate, and changes in the percentage of women in the senate.

### Table 3. Gender Differences in the Effects of Leadership Positions/Women in Senate Chambers.

<table>
<thead>
<tr>
<th></th>
<th>Average score on the harassment scale</th>
<th>Average score on the abuse index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women (Men)</td>
<td>Woman (Man)</td>
</tr>
<tr>
<td></td>
<td>n = 23 (n = 68)</td>
<td>n = 60 (n = 147)</td>
</tr>
<tr>
<td>Committee chair</td>
<td>1.87 (1.14)</td>
<td>1.37 (0.64)</td>
</tr>
<tr>
<td>Not chair</td>
<td>1.53 (0.89)</td>
<td>1.37 (0.72)</td>
</tr>
<tr>
<td>Party leader</td>
<td>1.00 (0)</td>
<td>1.32 (0.63)</td>
</tr>
<tr>
<td>Not leader</td>
<td>1.73 (1.02)</td>
<td>1.38 (0.71)</td>
</tr>
<tr>
<td>&lt;20% of senators are women</td>
<td>1.13 (0.34)</td>
<td>1.30 (0.60)</td>
</tr>
<tr>
<td>&gt;20% of senators are women</td>
<td>1.81 (1.07)</td>
<td>1.41 (0.73)</td>
</tr>
<tr>
<td>Decline in percentage of women</td>
<td>1.38 (0.65)</td>
<td>1.24 (0.56)</td>
</tr>
<tr>
<td>Small change in percentage of women</td>
<td>1.73 (0.99)</td>
<td>1.41 (0.74)</td>
</tr>
<tr>
<td>Change over 10%</td>
<td>1.60 (1.35)</td>
<td>1.35 (0.63)</td>
</tr>
</tbody>
</table>

Numbers in parentheses are standard deviations.

Individual Power

To determine whether sex interacts with power to affect colleague aggression, we compare the bivariate correlations between power positions, such as party leadership and committee chair positions, and colleague aggression among women and men state senators. These findings need to be interpreted with some caution as the number of women in leadership positions is small. Nevertheless, the findings suggest that, for women committee chairs, there is a positive correlation between being a chair and the harassment variable (r = .16, p = .18) and a negative correlation for men (r = -.00, p = .95). However, these correlations are not statistically significant. Second, we find that women party leaders are significantly less likely to experience harassment (r = -.24, p = .05); the relationship for men was smaller and statistically insignificant (r = -.03, p = .66).

For the abuse index, among women, committee chairs are more likely to report colleague aggression (r = .21, p = .09), and party leaders are less likely to do so (r = -.23, p = .06). Among men, there are no significant relationships (r = -.02, p = .79, for committee chairs and

r = -.00 with p = .95 for leaders). Table 3 reports the means for the harassment item and the abuse index by sex and power position. They reiterate the story told by the correlations. There is very little difference in the means for men in power positions and those without, but there are differences among women.16

Although the number of women in leadership positions is small, our results are partially consistent with expectations pertaining to women in power. We find that women committee chairs face more colleague aggression than other women and more than their male counterparts, but that women party leaders do not. A possible explanation for this finding is that if women gain power without the resources of party leadership, they experience more aggression—and may be subject to backlash effects of their presence. But, if women hold leadership positions with the power and resources to punish or reward colleagues, they are not as likely to face aggression compared with less powerful women and men—regardless of their leadership positions. That is, they can offset the effects of any possible backlash.

Power in Numbers

To examine whether the level of colleague aggression faced by women senators is affected by the percentage of women in the chamber, we collected information for each state senate in 2019 from CAWP (2020). Initial analysis suggests that the relationship was not linear, so we dichotomized the variable, coding it as 1 if the senate had more
than 20 percent women and 0 otherwise. Just under a third of the senators were coded 1 (32.9 percent).17

Analyzing the results of our bivariate model shows that women state senators were more likely to report aggression if they served in senates with a larger percentage of women. The correlation between the percentage of women senators and harassment was .30 (p = .01), and it was .23 (p = .06) for the abuse index. For men, the correlations were .08 (p = .29) and .07 (p = .34), respectively. Table 3 illustrates the substantive importance of these differences. It shows that the difference in harassment by percentage of women in the state senate was much smaller for men than for women,18 and the results suggest that the more women there are in a senate, the more likely they are to experience aggression.

A concomitant measure of gendered experiences of aggression among women state senators and power is changes in the percentage of women in the chamber. We predicted a rise in colleague aggression if the proportion of women in senates was increasing compared with remaining stagnant or decreasing. To test for this, we measured the increase in percentage of women in each state senate from 2014 to 2019.19 About 20 percent of senates saw a decline in the percentage of women, and about 19 percent saw an increase of over 10 percent.20 Using increasing levels of women’s presence in our model as the primary independent variable showed that women senators faced more aggression as their proportions grew. The correlation between harassment and an increase in the percentage of women senators was .26 (p = .01) compared with .08 (p = .29) for men. For the abuse index, the result was .20 (p = .10) for women compared with .07 (p = .34) for men.

Table 3 also presents the differences in aggression for men and women by levels of change in the percentage of women in senates.21 These suggest that the effects of change may not be linear. A decline in the percentage of women is associated with the lowest levels of colleague aggression against women. However, large increases yield more modest increases in the level of colleague aggression.

Conclusion

The good news from our findings is that colleague aggression in U.S. state senates is relatively rare, and, overall, women state senators in the United States do not face more colleague aggression than men. On the surface, this implies that women are treated equally to men.

When we dug deeper into the data, however, we found that, under certain conditions, subsets of women state senators face more aggression than their counterparts, male or female. Specifically, when women senators serve in state senates that have higher proportions or growing numbers of women, they are disproportionately targeted. In addition, it may be that women committee chairs are also targeted more than men. These findings, which comport with theories of status quo disruption and gender norm violations, illuminate the complexity with which theories of critical mass and backlash are operationalized on the ground. That is, when women are few, they may not be as threatening to the traditional status quo as when they have power in numbers and, perhaps, in position.

These results may be disappointing to scholars and activists who believed that, because women’s presence in legislatures has been a common feature of the modern era and as women’s numbers increased to almost 30 percent nationally, their power and presence would reduce the effects of status quo disruption and that critical mass benefits have been actualized. Our findings suggest that this may be true generally, but that power still appears to evince resistance. It may be that numbers closer or equal to parity are necessary for that to be true. If women can stay in the fight until those circumstances manifest, they may be likely to face less aggression.

The consequences of such findings are significant. Disparate treatment affects all aspects of legislative life. Legislating in a harsh environment may require women to work harder to build coalitions and be effective and successful. If so, the opportunity or desire to continue public service may be affected. Workplace aggression may cause psychological harm for those who experience it as well as those around them. This, in turn, makes effectiveness more difficult. Finally, others who consider serving in office may see the cost of doing so to outweigh the benefits. If any or all of these possibilities are manifested, the quality of our democratic institutions may suffer.

The contributions of this study have been outlined here, but it also has some limitations. First, we cannot speak to the experience of women in other political bodies in the United States such as school boards, lower legislative chambers, city councils, or the U.S. Congress. We also cannot speak to trends to determine whether gendered colleague aggression has increased, decreased, or stayed static as no baseline measures are available. Another issue with our study is we relied on self-reports. We believe these are better than documented cases of aggression, because they really rely on a formal process of self-reporting. But people may vary in what they see as aggression, leading to the possibility of bias. Finally, although our response rate is equal to or better than other twenty-first-century surveys of state legislatures, biases among respondents may exist and our number of cases makes analysis of interactions limited, particularly with regard to race and ethnicity. This may also be true with respect to leadership positions. Most clearly, more research is vital to our understanding of how sex affects relationships among legislators.
Appendix A

The Survey

Incivility and state senators. We are conducting a university research study to examine how frequently state senators experience incivility and violence. Although, as a legislator, you may have generally positive interactions with the public and with your colleagues, we are interested in knowing to what degree you experience incivility.

The survey below is very short and requires using check marks or circles around text.

If you would like to comment on or clarify your answers, please do so by writing in the margins.

As noted in our cover letter, your answers will be kept completely confidential.

Thank you for your help. Your cooperation in this university study is greatly appreciated.

1. Below are several types of experiences that politicians have reported. Using the following table, indicate how often you experienced each type of event from the public in the first six months of 2019 in your capacity as a Senator. Please check the appropriate box.

<table>
<thead>
<tr>
<th>Event</th>
<th>Never</th>
<th>Less than monthly</th>
<th>Once or twice a month</th>
<th>Three or four times a month</th>
<th>More than four times a month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harassment (exposure to insistent and uninvited behavior, attention, or verbal contact)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness of content in social media about you that was untrue and offensive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness of content in the traditional media about you that was untrue and offensive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awareness of content from a public event that was about you that was untrue and offensive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You received threat(s) of death, rape, beating, or similar act</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your family received threat(s) of death, rape, beating, or similar act</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experienced violence against your property</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experienced being kicked, pushed, punched, having something thrown at you, or similar event</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experienced personal violence that either resulted in injury or was likely to have resulted injury such as being shot at</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Below, we list the same experiences, but now, we want you to report on experiences you had that were initiated by a legislator or staff member in the first six months of 2019. Please check the appropriate box.

<table>
<thead>
<tr>
<th>Event</th>
<th>Never</th>
<th>Less than monthly</th>
<th>Once or twice a month</th>
<th>Three or four times a month</th>
<th>More than four times a month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harassment (exposure to insistent and uninvited behavior, attention, or verbal contact)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aware of content in social media about you that was untrue and/or offensive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aware of content in traditional media about you that was untrue and/or offensive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aware of content from a public event that was about you that was untrue and/or offensive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You received threat(s) of death, rape, beating, or similar act</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Your family received threat(s) of death, rape, beating, or similar act</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experienced violence against your property</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experienced “minor” personal violence, such as having something thrown at you</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experienced significant personal violence, such as being shot at or suffering an injury</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Were any of these experiences sexual in nature? Please circle your answer.
   Yes
   No

4. Please list any of these types of experiences that made you think about leaving office. If none, please write none.

If there is anything else you would like to tell us about your experiences as state senator that could help shed light on these experiences, please do so here.

Thank you for your help. Without the help of people like you, this project would not be a success.

Appendix B

Description of Variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woman</td>
<td>0.27</td>
<td>0.44</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Accountability</td>
<td>61.25</td>
<td>7.93</td>
<td>36</td>
<td>83</td>
</tr>
<tr>
<td>Agenda control</td>
<td>0.67</td>
<td>0.64</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Professionalism</td>
<td>0.20</td>
<td>0.08</td>
<td>0.05</td>
<td>0.63</td>
</tr>
<tr>
<td>Polarization</td>
<td>1.63</td>
<td>0.41</td>
<td>0.82</td>
<td>2.92</td>
</tr>
<tr>
<td>Party dominance</td>
<td>0.20</td>
<td>0.11</td>
<td>0.02</td>
<td>0.46</td>
</tr>
<tr>
<td>Individualistic culture</td>
<td>0.29</td>
<td>0.45</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Crime</td>
<td>384.23</td>
<td>158.60</td>
<td>121</td>
<td>829</td>
</tr>
<tr>
<td>Age</td>
<td>61.71</td>
<td>11.41</td>
<td>31</td>
<td>92</td>
</tr>
<tr>
<td>Harassment</td>
<td>1.44</td>
<td>0.79</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Abuse index</td>
<td>1.32</td>
<td>1.86</td>
<td>1</td>
<td>9</td>
</tr>
</tbody>
</table>

Data Availability

Because we assured survey respondents full confidentiality of their responses, we are not posting our data publicly. If you would like access to our redacted dataset (variables that might reveal identity removed), please contact the lead author of the paper (Rebekah Herrick).

Declaration of Conflicting Interests

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Notes

1. Bardall, Bjarnegård, and Piscopo (2019) differentiate between the gender motives (the victim’s gender was the motivation behind the attack), gender forms (gender roles are used in the attack), and gender impacts (the meaning or interpretation of the attack is gendered) of abuse and violence.

2. Much of the gender politics literature relies on the terms “violence,” “abuse,” and “harassment,” which are all encompassed in our definition of “aggression.” The workplace literature not only uses the term “aggression” frequently but also uses terms like “abuse,” “harassment,” and “bullying.” Although the terms differ, we use the term “aggression” here for its inclusivity.

3. This number is less than the total number of state senate seats because some seats were vacant at the time of the survey and some senators began serving after January 2019.

4. We used Squire’s (2017) measure of professionalism and the National Conference of State Legislatures’ (2017) measure of full- and part-time legislatures.

5. A concern with mixed mode surveys is that mode affects responses (Dillman 2007). However, much research on this phenomenon has focused on differences between surveys with interviewers and self-administered surveys. With our design, both modes were self-administered. Fisher and Herrick (2013) report that, administered in this way, surveys of politicians produce high quality, reliable, and representative results.

6. We chose this time frame because senates with short sessions will have had their sessions and that those with longer sessions will not have significantly longer periods of time in session where there will likely be more contact with colleagues.

7. Nine senators had some missing data for the index as they left a question blank. We treated the missing response as the senator having never experienced that type of aggression. For example, several senators noted that they do not monitor social media, so that item was left blank.

8. As with many additive indices, there is a risk that the index will be biased such that people who experience more types of aggression will have higher scores than people who experience a lot of just one type. That does not seem like a major problem here as only six senators experienced more than three types of aggression.

9. We had a question about sexual abuse, but it was poorly worded and poorly placed in the survey. As a consequence, most respondents answered with regard to the abuse from constituents and not colleagues.


12. The most recent data that were available was 2018; however, for Hawaii the most recent was 2014 and for Iowa it was 2017.
14. Senators were asked to indicate the year in which they were born. For senators who left this blank, we used votesmart.org. For the two remaining senators, we used mean substitution.
15. Multilevel mixed-effects logistic regressions are multi-level measures that account for correlated errors between people and within states.
16. We also created interaction variables between gender and our measures of aggression and tested these in the model used in Table 2. The interactions were in the expected direction but were not significant at the .05 level. This is not surprising given the small number of cases and the power needed for interactions to be significant. The p value for Harassment and Committee Chair × Gender was .50 (odds ratio = 1.53); it was .34 (odds ratio = 1.89) for the index. The standard errors for the coefficient for party leadership interaction in the harassment model were extremely large so these results were not reliable. Furthermore, the p value for this interaction with the index was .08 (odds ratio = 0.27).
17. Although Kanter (1977) had used, somewhat arbitrarily, 15 percent as a threshold for tokens, we did not use 15 percent because there were only six states (thirty respondents and only three women) where women made up less than 15 percent. Using 20 percent seemed a reasonable compromise while trying to mirror the work of Kanter as closely as possible.
18. Again, given the small number of cases, it was not expected that interaction coefficients would have significant relationships. Nevertheless, the p value for the interaction between gender and harassment was .03 (odds ratio = 6.42). The p value for abuse index was .20 (odds ratio = 2.12).
19. We also examined changes between 2009 and 2019, but this change did not have a significant effect on aggression.
20. There was a significant relationship between the percentage of women in the senate and the change variable (r = .22, p = .00). The correlation for women senators was .26 (p = .03). The correlation between the dichotomized variable for percentage of women and change in percentage of women was .09 (p = .17); for women, the r was .06 (p = .61).
21. As with the other efforts to examine the interaction of power and gender, we created an interaction variable. Unfortunately, the standard errors were so large (in the hundreds), and therefore the results were not reliable.

References
it.no/phs-xmlui/bitstream/handle/11250/2564720/threats_and_threatening.pdf?sequence=1&isAllowed=y.


