

Breaking the Glass Ceiling in New Hampshire: A Test Case for the Effect of a Female Majority

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Introduction

In 2008 voters in New Hampshire elected thirteen women to the New Hampshire Senate. This made the New Hampshire Senate the first majority female legislative body in the world. Previous research conducted on women's representation in state legislatures suggests the presence of women legislators impacts the policy making process (Bratton and Rouse 2011; Bratton 2002, 2005; Bratton and Haynie 1999; Dodson 1991; Lawless and Theriault 2016; Swers 2001; Thomas 1991; Thomas 1994; Werner 1968). Studies suggest women legislators are more likely to approach state-level policy making in a cooperative manner, seeking broad and bipartisan legislative coalitions for legislation (Bratton and Rouse 2011; Dolan and Ford 1995; Rosenthal 1998; Swers 2001, 2005; Thomas 1991; Thomas and Welch 1991, 2001; Vega and Firestone 1995). If women legislators seek broader, bipartisan legislative coalitions, we would expect an increase in bill co-sponsorship with an increase in bipartisan bill co-sponsorship when the chamber is majority female. In addition, we might expect co-sponsored bills and bills with bipartisan co-sponsors to be more likely to pass the chamber, as women legislators might be more willing to reward colleagues who work to build broad and bipartisan support for their bills. However, there are institutional constraints that may prevent these outcomes from occurring. Examining what happened in New Hampshire in the 2009-2010 session (when it was majority female) will help us understand the ability of women legislators to change the chamber when it is majority female.

The impact of women in state legislatures is both timely and relevant. In 2018, a record number of women candidates ran for state legislative offices (Carlsen and Lu 2018; Gibson 2018). As a result, women made up 28.3 percent of all state legislators in 2019, a record high. Voters elected female majorities to the Colorado House of Representatives and the

Nevada Assembly, the second and third legislative chambers to have a female majority. With two state legislative chambers becoming majority female and others likely to become majority female in the near future, examining what happened in the New Hampshire Senate after it became majority female will give us an idea of what to expect in these new majority female chambers.

In this paper, we take a first look at the effects a female majority has on a legislative chamber. We examine the New Hampshire Senate during the 2009-2010 legislative session, when it was majority female, and compare it to the 2007-2008, when the chamber was majority male. We examine whether there was increased cooperation in the chamber and whether there was more bipartisan cooperation in the chamber. We find there was an increase in co-sponsorship of bills when the chamber became majority female and co-sponsored bills were more likely to pass the chamber when it was majority female. However, we find this increased cooperation occurred along party lines, not across party lines.

The New Hampshire Senate

The New Hampshire Senate is made up of 24 members each representing a single district. All members of the New Hampshire Senate serve two-year terms and all seats are up for reelection in even numbered years. The New Hampshire Senate is one of the least professional state legislatures in the United States (Squire 2017). Members are paid a \$100 dollar annual salary and receive no per diem. The New Hampshire Senate meets annually, but the state constitution limits its session to meeting only 45 days a year. It usually begins its session in January and the legislature is constitutionally required to adjourn by July 1. During the legislative session, most committees only meet on Tuesdays and the full chamber is usually only in session on Thursdays. Individual senators do not receive their own staff. The presiding officer of the chamber is the President of the Senate. The chamber elects the President of the Senate from amongst its members at the beginning of each session. Historically, the President of the Senate is a member of the majority party and serves as the leader of their party in the Senate.

Our study focuses on the 2007-2008 and 2009-2010 sessions, so it is important to understand how the chamber looked in these two sessions. In both the 2007-2008 session and in the 2009-2010 session the partisan

composition of the chamber was fourteen Democrats and ten Republicans. In the 2007-2008 session, ten Senators were female. Nine of the women Senators were Democrats and one was a Republican. Of the thirteen women Senators in the 2009-2010 session, eleven were Democrats and two were Republicans. During both sessions, the governor was Democrat John Lynch and Democrats controlled the New Hampshire House of Representatives. Democratic Senator Sylvia Larsen served as President of the Senate in both sessions. Democrat Maggie Hansen served as majority leader in both sessions, although there was a change in minority leader between the two sessions. As is common in the New Hampshire Senate, there were a significant number of freshmen members in both sessions, but the two sessions had similar numbers of freshmen. Seven of the twenty-four members were freshmen in the 2007-2008 session, while six of the twenty-four members were freshmen in the 2009-2010 session. Five of the freshmen members were women in the 2007-2008 session while four of the freshmen members were women in the 2009-2010 session.

One might wonder why New Hampshire was the first state to elect a majority female legislative body. While we cannot know exactly why it happened in New Hampshire first, there is evidence that suggests the state's civic culture encourages participation by women. Former New Hampshire governor and current U.S. Senator Maggie Hansen described the state's civic culture as one that promoted inclusion and presented opportunities for women to engage in civic society and political life (Hansen 2016). Hansen also noted that New Hampshire voters are pragmatic and have traditionally been open to electing women to political office (Hansen 2016). Recent history shows this to be the case. Jeanne Shaheen (D) was elected governor in 1996 and reelected in 1998 and 2002. She was later elected US Senator in 2008 and reelected in 2014. Maggie Hansen (D) was elected governor in 2012 and 2014 and elected to the US Senate in 2016. Kelly Ayotte (R) was elected Senator in 2010. Besides showing New Hampshire voters are willing to elect women, the presence of women in positions like governor and US Senator has been found to encourage women to run for state legislature (Ladam, Harden, and Windett 2018). Besides political culture, the design of the New Hampshire legislature encourages more women to run for state legislature. Legislative districts in New Hampshire are small (a Senators district is less than 55,000 people) and the cost of elections is therefore low. Given that women

candidates often have to devote more time to the distasteful task of fundraising (Jenkins 2007), the lower cost of campaigns may encourage more potential women candidates to run for office since they have to devote less time towards fundraising and have to raise less money to win. Also, states with low levels of professionalization tend to have more women legislators represented because the lower time commitment reduces the burdens of serving in office (Squire 1992). As mentioned earlier, New Hampshire's legislature is virtually an all-volunteer law-making body, making it one of the least professional legislatures in the United States. Typically, members only need to be at the state capital two days a week when the chamber is in session, so the time commitment is low. Given that evidence suggests the lack of women elected officials is due to women deciding not to seek office (Burrell 1998; Fox, Lawless, and Feeley 2001), the likely reason New Hampshire elected the first majority female legislative chamber is due to the fact in many ways, New Hampshire's political culture and structure encourages women to seek office. Since these two sessions, New Hampshire has usually had more women in its legislature than the most states. Although the number of women in the legislature did significantly decline after the 2010 election (largely due to major losses by the Democrats in that election), the numbers quickly rebounded in the 2012 election. The number of women dropped to six in the 2010 election but increased to 9 in the 2012 election. After the 2018 and 2020 elections, New Hampshire has had 10 women serve in the New Hampshire Senate.

The Impact of Women's Representation in State Legislatures

Historically, few women were elected to representative bodies before the early twentieth century, making it difficult to understand to the fullest extent the influence women have in legislative chambers. Not until the early 1970s did the number of women elected to state legislatures increase from only a small number of legislators. In 1971, only 4.5 percent of state legislators were women; by the early 2000s 22.4 percent of state legislators were women (Carroll 2004, CAWP).

There are two prevailing threads in the literature on women in politics. One focus concentrates on the research of women as candidates and the other on representation. This paper emphasizes the latter, focusing on gender and legislative behavior in particular. Until 1992, the number of women elected to state legislatures was relatively low (Dolan and Ford 1997). Thus, it was difficult to fully appreciate how institutional dynamics,

dominated by male legislators and characterized by paternalistic social norms, affected the legislative behavior of women in public office. When there are few women represented in legislative bodies, women's legislative behavior appears guarded and cautious in terms of setting the legislative agenda due to concerns over legislative marginalization (Githens and Prestage 1977; Reingold 2019; Werner 1968; Dolan and Ford 1997; Whistler and Ellickson 1999). In legislatures where women were (and in some states still are) under-represented, female legislators may hesitate to work on legislation and policy initiatives that solely affect women (Bratton 2002; Osborn 2012; Clark and Caro 2013; Holman and Mahoney 2018; Thomas and Welch 2001). Consequences of political or legislative marginalization gave way to the gendered "double-bind" or the double standards that made it difficult for women to succeed as a minority group represented in an institutional dynamic dominated by masculine norms. In such conditions, women must outperform conventional expectations in order to overcome gendered stereotypes and the affiliated double standards to earn the respect of their male counterparts (Jamieson 1995; Tolleson-Rinehart 2001). Given this historical context, explorations on the question of gender in state legislatures have focused on varied statuses of representation.

Both female and male legislators have consensus on the outlook that women legislators seem to internalize a unique responsibility to represent women's concerns in state legislatures (Center for American Women and Politics 2011; Ford 2017). To begin to understand whether a special responsibility translated into substantive influence on public policy, the influence could only be tested in legislative bodies where women's representation reflected a testable critical mass, before differences could be observed, measured, and tested (Bratton 2005; Ford 2017; Rule 1990; Whistler and Ellickson 1999).

The research amassed on women in state legislatures has suggested that the increased number of women getting elected to state legislatures has made a difference on how men and women prioritize legislative issues (CAWP). With an increase in the number of women in state legislatures and other public offices, there is the potential for a supportive network to work on issues affecting women. Studies suggesting that is the case (Carroll 2001, 2004; Saint-Germain 1989; Tolleson-Rinehart 2001) reveal that when there are

more women in a legislative chamber, they tend work toward legislative agendas addressing issues concerning family, education, and social justice (Volden et al. 2018). While women may often feel they have a civic responsibility to sponsor bills focusing on issues affecting women and children, it is important to note women in public office do not limit themselves to sponsoring bills only addressing problems facing women. Women are involved in working on bills that represent a diverse range of issues (Thomas and Welch 2001; Atkinson and Windett 2019).

Although women are involved in legislating on a variety of policy issues, it is also understood that men and women legislators demonstrate disparate approaches and attitudes on specific policy areas. Women do not typically campaign as “women’s issues” candidates, but rather, recognize the areas and issues that affect women in greater proportions than the rest of the constituent population (Ford 2017). There is abundant research informing more recent conclusions about the influence of a legislator’s gender on policy-making (Carroll 2001, 2004; Dodson and Carroll 1991; Ford 2017; Stanwick and Kleeman 1983; Swers 2001; Thomas and Welch 2001; Werner 1968;) that suggest gendered differences in representational styles influence the legislative process. As more women are represented in legislative chambers, stylistic differences between men and women in state legislatures are observed (Carroll 2001, Kathlene, Clarke, and Fox 1991, Thomas 1994, and Thomas and Wilcox 1998).

Research suggests women, regardless of party affiliation, tend to gravitate toward more ideologically liberal legislative agendas than their male counterparts. Women representing both political parties are more likely to support moderate or moderately progressive issue positions on topics involving hate crime, same-sex marriage, racial preferences in job hiring, education, and abortion (CAWP). Furthermore, both Republican and Democratic women are more likely to work on legislation intended to help other women because they believe they have a responsibility to advocate for policies that reflect the concerns of women (Carroll 2002; Thomas 1994). The increased number of women serving in legislatures makes it easier for women legislators to work together.

Further research submits that women display leadership traits that lead us to believe they are more likely to be collaborative during the legislative process. Women in politics have been observed as compassionate, nurturing, collaborative, and consensus driven (Pew Research Institute 2014; Rhode and Kellerman 2007). However, there are additional complexities

involved in legislative behaviors that need to be considered here. Women office holders confront obstacles not presented to their male counterparts. These obstacles are traced to gendered stereotypes and conflicted expectations of women. Women legislators encounter competing demands of their positions as women and office holders, especially in legislative bodies where there may not be many women representatives present (CAWP 2011). Therefore, women adopt leadership styles that assist them in building collaborative and cooperative relationships to offset the opportunity costs associated with the challenges of double standards (Barnello and Bratton 2007; Bratton and Rouse 2011; Eagly and Carli 2007; Rhode and Kellerman 2007). Eagly and Carli (2007) conclude that women's leadership styles espouse democratic and participative characteristics, compared with men's tendency toward autocratic and directive styles. The analysis goes on to shore up the conclusion that women's leadership styles relate positively to legislative effectiveness (Saint-Germain 1989).

In addition to the observation that women legislators tend to cultivate collaborative legislative relationships that benefit the policy-making process, women are also observed, in the private domain, as predominant performers of care work – which constitutes an important form of civic activity through unpaid labor associated with childcare, community engagement, volunteerism, and philanthropy (Lachance-Grzela and Bouchard 2010; Heard and Meyer 2002; Lowndes 2004). Often referred to as invisible civic engagement, women cultivate and maintain collaborative networks within civil society intended to achieve civic goals. Once elected to public office, it is reasonable to expect these practices are conveyed in their legislative styles (Saint-Germain 1989; Stolle and Lewis 2002). Utilizing collaborative and communal approaches, women's representation styles help facilitate trust among legislative colleagues inside of legislative institutions. This facilitates more constructive strategies on conflict resolution as well as consensus-building efforts that contribute to successful legislative endeavors. Furthermore, women legislators are likely to belong to at least one woman-focused civic or political organization outside of the legislature (CAWP). Inside the legislature, they are also found to work collectively with other women on policy issues of importance to women, further suggesting that when more women are elected to legislatures, a supportive network of legislative colleagues yield productive policy results (Bratton and Rouse

2011; CAWP; Lawless and Theriault 2016). Therefore, we expect to observe that women in the New Hampshire 2009-2010 session will be collaborative in bill sponsorship and successful in building legislative coalitions.

Co-sponsorship of Bills

Most studies examining co-sponsorship have looked at co-sponsorship in the US Congress (See: Barrello and Bratton 2011; Fowler 2006; Lawless and Theriault 2016; Wilson and Young 1997). There are several different motives members may have to co-sponsor legislation. First, co-sponsorship can help a member's reelection interest. Co-sponsoring a bill is a low-cost action that allows a legislator to take a position on a particular issue. Members are punished or rewarded for the positions they take, so legislators have an incentive to co-sponsor bills, even if the bill has no chance of passing the chamber (Arnold 1994; Bianco 1994; Mayhew 1974). Koger (2003) finds that members often co-sponsor bills for reelection interest and are more likely to do so when they think the chances of a bill passing are slim. Roca and Gordon (2010) find co-sponsorship of bills important to interest groups increases the campaign donations members receive from these groups. While members may co-sponsor bills for electoral reasons, many studies looking at co-sponsorship rates find election margins have little effect on the number of bills a member co-sponsors (Campbell 1982; Kessler and Krehbiel 1996; Krehbiel 1995; Wilson and Young 1993). This may be because members feel "unsafe at any margin" (Mann 1978), so all members engage in similar behavior when it comes to co-sponsorship, which cost little time and effort. Koger (2003) is a rare study that finds closer reelection rates do lead to increased co-sponsorship rates, but he finds this only applies to first term members.

Members may also co-sponsor bills to help improve the likelihood a bill passes. Party leaders and committee leaders usually determine which bills are considered by the chamber. In order to decide which bills to consider, leaders need to know the impact a bill will have on every member's policy goals and the time and effort that will be needed to pass a bill. Co-sponsorship serves as a signal from rank and file members to the leadership about the bill's impact on members' policy and reelection goals. It is also a way for legislative leaders to determine the effort it will take to pass a bill. The number of co-sponsors is a signal to leaders in the chamber that a bill has support, which suggests leaders will need to spend less time getting the bill through the chamber (Cox and McCubbins 1993, 2005). Leaders are

more willing to bring a bill to the floor when it has a large number of co-sponsors. At the same time, a large number of co-sponsors also serves as a signal to party leaders they may need to put a logroll together, which will help several groups of members pass their preferred policies (Cox and McCubbins 1993, 1995). Co-sponsorship is an effective communication tool because it is a low-cost commitment for the legislator and it allows members to clearly give an indication of where they stand on a bill. Co-sponsorship might also help members achieve their policy goals even if the bill does not pass the chamber. Members may co-sponsor legislation to apply political pressure for specific action by one of the other branches of government, otherwise the legislature might take up the issue (Bratton 2005; Koger 2003).

While a higher number of co-sponsors increases the likelihood a bill will pass, members will also seek bipartisan co-sponsors to suggest a bill has broad support and that it will take little effort to pass the bill. Members of the minority party are especially likely to seek out bipartisan cosponsors. Because legislative rules favor the majority party's agenda in most legislatures, having the backing of members of the majority is crucial for a bill's success. Koger (2003) interviews members of Congress and their staff and finds minority members feel co-sponsorship is necessary to get a minority member's bills passed. Koger (2003) finds minority members on average cosponsor 16 more bills per session compared to majority members. However, majority members still seek out minority co-sponsors because it signals passing their bill will take less effort from party leaders and committee chairs.

There is evidence that women's legislative sponsorship and co-sponsorship behavior is different than their male colleagues (Lawless and Theriault 2016). First, women legislators sponsor more bills than their male counterparts (Barnello and Bratton 2007; Bratton and Rouse 2011; Lazarus and Steigerwalt 2018; Rickard 2016). Women legislators have also been found to co-sponsor more bills than their male colleagues (Barnello and Bratton 2007; Bratton and Rouse 2011; Bratton 2005; Swers 2005). Holman and Mahoney (2018) find the presence of a women's caucus leads to increased bill co-sponsorship, but only in legislative bodies with a Democratic majority. This indicates a party effect is dampening the impact of women legislators to change the chamber.

Given that female legislators are more likely to co-sponsor bills with members of the other party than their male counterparts, we would expect that we would see greater co-sponsorship when the chamber is majority female (Fowler 2006; Lawless and Theriault 2016). Since women legislators are more likely to seek bipartisan legislative coalitions on a bill, we expect to see greater bipartisan co-sponsorship when women members are a majority of the chamber. If women are more likely to govern in a cooperative manner, we would also expect the chamber to pass more bills that have co-sponsors and more bills that have bipartisan co-sponsors when the chamber is majority female.

Data and Methods

We examine differences between the 2007-2008 and 2009-2010 legislative sessions in our analysis. In 2007-2008 the chamber was majority male, while in 2009-2010 the chamber was majority female. Given the similarities between the two sessions, this case presents a good opportunity to see if cooperation increased in the chamber after it became majority female. The partisan composition was the same in both sessions (14 Democrats and 10 Republicans), so our results cannot be due to which party controls the chamber or the size of the majority. The governor was the same in both sessions and the Democrats controlled the House of Representatives in both sessions, so our results cannot be due to these outside influences. The President of the Senate was the same in both sessions, so the leader of the chamber was the same. The number of freshmen members was similar (seven in the 2008-2009 session and six in the 209-2010 session). Our unit of analysis is bills introduced in the New Hampshire Senate. To test the impact of the chamber flipping to a female majority, we perform a two series of crosstabs.¹ Our first set of crosstabs focuses on all bills introduced in the New Hampshire Senate; while the second set focuses only on bills that passed the chamber. There were 644 bills introduced during the two sessions in our analysis and 436 that passed the chamber. Our first set contains two crosstabs. For our first crosstab, the dependent variable is a binary variable indicating whether the bill has cosponsors. A bill is coded 1 if it is co-sponsored; otherwise, it is coded 0. For our second crosstab, our dependent variable is a binary variable indicating whether the bill has bipartisan

¹ Ideally, we would use a logit regression model. However, data issues prevent us from being able to perform such a test.

cosponsors. A bill is coded 1 if it has at least one sponsor from each party. A bill is coded 0 if it has no sponsor, has only one sponsor, or if all co-sponsors are from the same party. We also perform a t-test comparing the average number of female co-sponsors for bills in both sessions to see if any increase in co-sponsorship is a result of women legislators co-sponsoring more bills with each other. Finally, in this part of the analysis we examine in which policy areas we see more co-sponsorship by women Senators. We use the committee the bill originated from as proxy for the bills policy area. When then perform a series of t-test to see in both sessions what policy areas women were more likely to cosponsor bills.

Our second set of crosstabs only examines bills that passed the chamber. For the first crosstab in this set, our dependent variable is co-sponsorship. A bill with more than one sponsor is coded 1; otherwise, it is coded 0. For our second crosstab, our dependent variable is bipartisan co-sponsors, coded dichotomously. A bill is coded 1 if it has at least one sponsor from each party. A bill is coded 0 if it has no sponsor, has only one sponsor, or all co-sponsors are from the same party.

Our independent variable of interest for all crosstabs is whether the bill was proposed during a session where the chamber was majority female. A bill proposed in 2009 or 2010 (when the chamber was majority female) is coded as 1 and bills proposed in 2007 or 2008 are coded as 0. We expect that bills proposed when the chamber is majority female have a higher likelihood of being co-sponsored. We further expect bills proposed when the chamber has a female majority to have a higher likelihood of bipartisan co-sponsorship. We also expect bills that pass the chamber are more likely to be co-sponsored and are more likely to have bipartisan co-sponsorship.

Results

First, we examine whether there was more co-sponsorship of bills when the chamber was majority female. Increased levels of co-sponsorship would signal greater cooperation among members when the chamber is majority female. Table 1 shows the results of the crosstab between co-sponsorship and whether the chamber is majority female. When the chamber was majority male in 2007-2008, 59.04 percent of bills were co-sponsored. In

2009-2010, when the chamber became majority female, the percentage of bills co-sponsored increased to 76.91percent, an increase of almost eighteen percentage points. The chi-square finds this is a statistically significant difference in the rate of co-sponsorship.

Table 1- Rates of Bill Co-Sponsorship

	Male Majority	Female Majority	Total
Not Co-sponsored	68 (40.96)	100 (23.09)	168 (28.05)
Co-sponsored	98 (59.04)	333 (76.91)	431 (71.95)
Total	166 (100.00)	433 (100.00)	599 (100.00)

Pearson’s Chi Squared = 18.9865 Pr = 0.000

Although a larger percentage of bills are co-sponsored, one question is if this due to female members co-sponsoring more with each other. This does appear to be the case. The average number of female co-sponsors for bills during the 2008-2009 session was 1.21. In the 2009-2010 session the average number of female co-sponsors was 2.36. As seen in Table 2, a t-test confirms this is a statistically significant difference between the two sessions.

Table 2- Average Number of Female Co-Sponsors per Bill

	2007-2008 Session	2009-2010 Session
Average Number of Female Co-Sponsors	1.21	2.36
Standard Deviation	1.84	2.45
Observations	166	433

Ha: diff <0
P= 0.46

Ha: diff !=0
P= 0.00

Ha: diff >0
P=0.00

We also observe that women in the chamber are sponsoring more bills with each other. As seen in Table 3, during the 2007-2008 session only

29.52 percent of bills had multiple women co-sponsors. That almost doubles to 57.27 percent of bills during the 2009-2010 session when the chamber was majority female, a statistically significant difference.

Table 3- Bills with Multiple Female Co-Sponsors

	Male Majority	Female Majority
Does Not have Multiple Female Co-Sponsors	117 (70.48)	302 (50.42)
Multiple Female Co-Sponsors	49 (29.52)	297 (49.58)
Total	166 (100.0)	599 (100.0)

Pearson’s Chi Square = 39.98 Pr =0.0000

We next examine what types of bills female Senators are more likely to co-sponsor. We perform ANOVA analyses examining the number of female co-sponsors bills received based on the policy area of the bill. We use the committee of jurisdiction to determine a bill’s policy focus. Table 4 shows which committees we observed women were more likely to co-sponsor bills. In both sessions we find women were more like to co-sponsor bills that are from the Health and Human Services committee. Given the issues this committee has jurisdiction over (healthcare, social services) are areas women legislators have traditionally focused on in the legislature, this is not surprising. In the 2008-2009 session women Senators are more likely to co-sponsor bills from the Education Committee (another policy area traditionally focused on by women legislators) and from the Finance Committee. The evidence indicates women Senators still somewhat focused on issues that traditionally have been important to women legislators.

Table 4- Policy Areas that Receive Greater Female Co-sponsorship

Committee	2007-2008 Session	2009-2010 Session
Election Law and Veterans Affairs		
Finance	**	
Energy, Environment, and Economic Policy		
Education	**	
Commerce, Labor, and Consumer Protection		
Ways and Means		
Public Municipal Affairs		
Transportation		
Health and Human Services	**	**
Agriculture		*
Executive Departments		
Capital Budget		

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

The next important question is whether this increase in co-sponsorship is being driven by incoming female members or by returning members. The evidence suggests that returning members are driving the change. The average number of freshmen female co-sponsors is not statistically different between the two sessions and the percentage of bills that have a freshman female member serve as a cosponsor is not statistically different between the two sessions (see Tables 5 and 6).

Next, we examine whether there was greater bipartisan co-sponsorship when the chamber was majority female. Greater bipartisan co-sponsorship would indicate the chamber being majority female encourages cooperation across party lines. Conversely, if bipartisan co-sponsorship does not increase when the chamber is majority female, this would indicate the increased cooperation is only among party members. Table 7 presents the results of the crosstab between bipartisan co-sponsorship and whether the chamber is majority female.

Table 5- Average Number of Freshmen Female Co-sponsors

	2007-2008 Session	2009-2010 Session
Average Number of Freshmen Female Co-Sponsors	0.52	0.46
Standard Deviation	0.99	0.74
Observations	166	433

Ha: diff < 0
P= 0.76

Ha: diff != 0
P= 0.47

Ha: diff>
P= 0.24

Table 6- Bills with a Female Co-sponsor

	Male Majority	Female Majority	Total
No Freshmen Female Co-sponsor	115 (69.28)	279 (64.43)	394 (65.78)
Freshmen Female Co-sponsor	51 (30.72)	154 (35.57)	205 (34.22)
Total	166 (100.00)	433 (100.00)	599 (100.00)

Pearson’s Chi Square = 1.2502 Pr = 0.264

As shown in Table 7, there was no statistically significant difference in bipartisan co-sponsorship when the chamber was majority female; 36.14 percent of bills had bipartisan co-sponsors when the chamber was majority male versus 39.95 percent when the chamber was majority female. These findings indicate while the chamber being majority female led to more cooperation in the chamber, it did not lead to more cooperation across party lines

Table 7- Rates of Bipartisan Bill Co-sponsorship

	Male Majority	Female Majority	Total
No Bipartisan Co- sponsors	106 (63.86)	260 (60.05)	366 (61.10)
Bipartisan Co- sponsors	60 (36.14)	173 (39.95)	233 (38.90)
Total	166 (100.00)	433 (100.00)	599 (100.00)

Pearson’s Chi Square = 0.7326 Pr = 0.392

Our next set of crosstabs examines bills that passed the chamber. First, we examine whether the bills that passed were more likely to be cosponsored when the chamber was majority female. Table 8 presents the results of this crosstab.

The results indicate bills that passed the chamber were more likely to be co-sponsored. As the crosstab shows, the percentage of bills that passed the chamber with co-sponsorship increased from 65.32 percent to 79.17 percent, an increase of almost fourteen percentage points. The chi-square shows this is a statistically significant increase. These findings indicate the chamber was more likely to reward cooperation among members when the chamber was majority female.

Table 8- Rates of Co-sponsored Bills that Passed the Chamber

	Male Majority	Female Majority	Total
Not Co-sponsored	43 (34.68)	65 (20.83)	108 (24.77)
Co-Sponsored	81 (65.32)	247 (79.17)	328 (75.23)
Total	124 (100.00)	312 (100.00)	436 (100.00)

Pearson’s Chi Square = 9.1263 Pr = 0.003

Next, we look at whether bills that passed the chamber were more likely to have bipartisan co-sponsorship. The results of this crosstab are shown in Table 9.

Table 9- Rates of Bills with Bipartisan Co-sponsors that Passed the Chamber

	Male Majority	Female Majority	Total
No Bipartisan Co-Sponsor	74 (59.68)	166 (53.21)	240 (55.05)
Bipartisan Co-Sponsor	50 (40.32)	146 (46.79)	196 (44.95)
Total	124 (100.00)	312 (100.00)	436 (100.00)

Pearson’s Chi Square = 1.5021 Pr = 0.220

As shown in Table 9 there is not a statistically significant difference in the percentage of bills that passed the chamber with bipartisan co-sponsors when the chamber was majority female. Combined with the results from Table 3, the evidence suggests cooperation increased, but only within party lines.

In summary, the results show increased cooperation in terms of bill co-sponsorship when the chamber was majority female, but this cooperation did not occur across party lines. This increased cooperation was driven by female members and especially by returning female members. Likewise, cosponsored bills were more likely to pass the chamber when the chamber was majority female, but this reward for cooperation only occurred within party lines. Combined, these findings indicate there are some partisan constraints to the effect a female majority has on the chamber.

Conclusion

This paper examines if cooperation between members increased when the New Hampshire Senate became majority female. The results provide some support that this may have occurred. We find the number of bills that had cosponsors increased when the chamber became majority female. Additionally, a greater percentage of bills that passed the chamber had co-sponsors. The evidence suggests this increased cooperation was mostly between female members that had previously served in the chamber. This suggests it is the fact the chamber is majority female that is increasing cooperation in the chamber. However, the evidence suggests this increased cooperation occurred within party lines, not across party lines. The percentage of bills that had bipartisan cosponsors did not change when the chamber became majority female. Also, bills that passed the chamber were not more likely to have bipartisan co-sponsors when the chamber was majority female.

The results raise several important questions. Why was there greater cooperation between members when the chamber was majority female? One possibility is women legislators understand the difficulty they face winning reelection, so they work with each other to help each other win reelection. Another possibility is female legislatures are more willing to work with their colleagues than their male counterparts and so when the chamber became majority female, cooperation increased. It is also possible this finding is due to the partisan breakdown of female members; eleven of the thirteen women

Senators were Democrats. The results might be different if both parties had majority female caucuses or if a vast majority of women Senators were Republicans.

Further, the results indicate there may be a partisan constraint on cooperation when a legislative chamber is majority female. While cooperation increased in the New Hampshire Senate, it did not increase across party lines; bills with bipartisan cosponsors were as likely to pass the chamber when it was majority male. These findings indicate while cooperation may increase when women are a majority of a legislative chamber, there are institutional constraints which may limit how much and how women legislators cooperate.

One might wonder if New Hampshire is an outlier or would we expect to see similar results in other legislatures. With the small amount of time legislators in New Hampshire spend together, it is possible this makes it harder for cross-party cooperation since members do not get to know their opposite party colleagues as well as legislators serving in professional legislatures. It is also possible that more professional legislators with stronger party structures would make it even more difficult for cross-party cooperation.

Since there have been no other majority female legislative bodies, we lack any comparison cases. However, this is about to change. Two other state legislative bodies, the Colorado State House and the Nevada Assembly (Nevada's lower house), elected female majorities in 2018. In 2020, Nevada voters again elected a female majority to the Nevada Assembly. Future cases may help us understand why we see the results we see in New Hampshire. Future cases will allow us to investigate if institutional differences (level of professionalization, partisan control, etc.) produce different effects when legislative chambers are majority female.

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