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This research examines whether or not electing women to the House of Representatives produces substantive representation for women in Congress. The analysis is based on members' voting records on gender-related legislation. I controlled for the gender, seniority, and ideology of members of the House. Ideology was the only significant predictor in the model. These results imply that gender is not a driving force behind voting for female members. It is possible that ideology drowns out other predictive variables in the model. Further research should include a longitudinal study of the House for multiple sessions of Congress, not just the 110th Congress. A study that incorporates more votes and shows a pattern over time will be a better assessment of whether or not gender affects voting.

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INTRODUCTION

Women are substantially underrepresented in Congress. Females make up only 16 percent of the U.S. House of Representatives in the 110th Congress, but about 51 percent of the total population.[1] If members do vote based on their constituency's needs, then it should not matter what characteristics a member of Congress possesses. But, since many of the votes in Congress are not on high salience issues, members can get away with voting based on other factors besides constituency opinion and needs, such as gender or overall personal political ideology. This paper seeks to answer the following question: Do female representatives in the House vote differently than their male colleagues on gender-related issues? Whether or not women vote differently than men is important because it is an indication of whether or not female representatives substantively represent the female constituency.

LITERATURE REVIEW

The question of whether or not electing more female members to the House of Representatives will create a more substantively representative House for women has become more prevalent since the drastic increase in female representatives in Congress over the last seventeen years. Most literature revealed that being female does in fact impact voting in the House, even after variables such as personal traits, constituency characteristics, ideology, party, freshman status, leadership positions, and other factors are taken into account.[2] The few pieces of literature that claim that gender is not an indication of substantive representation for women are mostly generalized from case studies.[3]

Research from the 1980s suggests that females' voting patterns were not significantly different from male members of Congress. Other factors, such as party, constituency characteristics, and ideology, accounted for voting behavior, even on gender-related bills. Even though there was not sufficient evidence from the small sample examined in the 1980s to conclude

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[1] *CQ's Politics in America 2008: The 110th Congress* (District of Columbia: Congressional Quarterly, 2007).

[2] Noelle Norton, "Uncovering the Dimensionality of Gender Voting in Congress," *Legislative Studies Quarterly* 24, no. 1 (1999): 65-86.; Michele Swers, "Are Women More Likely to Vote for Women's Issue Bills than Their Male Colleagues," *Legislative Studies Quarterly* 23, no. 3 (1998): 435-448.; Michele Swers, *The Difference Women Make* (Chicago: University of Chicago , 2002).

[3] Leora Tanenbaum, "Model Minority," *Women's Review of Books*, (1997): 7-10.

that women were becoming substantive representatives, Vega and Firestone (1995) predicted that as the number of females increased, so would their substantive representation.[4] They based these predictions on the increased cohesiveness in voting on gender-related bills and gender-related bill sponsorship.

Analysis from the late 1980s and early 1990s begins revealing a more definite connection between gender and voting behavior, and by the late 1990s and into 2000, Michele Swers showed in 1998 that gender was significant and second only to overall ideology in ability to explain Congressional votes on gender-related bills.[5] Gender plays a more significant role in determining votes on gender-related bills in Republican rather than Democratic females, because the Republicans are more likely to be breaking from their party to vote with the rest of the female members.[6]

Noelle Norton's work on voting patterns for gender-related legislation from 1999 claims that these pieces of legislation are not outliers in the typical ideologically-centered explanations of voting patterns. She tries to provide evidence that gender should be taken seriously as a dimension of voting behavior, not just as a minor part of an ideologically based notion of voting patterns. Norton uses the term "gender consciousness" to describe the voting patterns of female legislators on gender-related legislation. She claims that women care more about these types of legislation, because they directly affect women and families. She provides evidence that voting based on gender should be recognized as a significant factor in deciding political conflicts over gender-related legislation.

Leora Tanenbaum makes a different assertion. She claims that just having women in Congress does not mean that Congress is better substantively representing women. She argues that all women are not working toward a common goal. Many women run for office on the premise that they will bring change to our political system. Once many of these women are elected to office, they realize that they would rather accept the system as it is than try to drastically change it. While she does indicate that there are more bills being passed that benefit women, she also claims that women have become increasingly conservative, which will only hinder the advancing of legislation to benefit women.[7]

The analyses based on voting behavior and bill sponsorship seem to be the most credible since there is solid evidence to support the findings. The consensus seems to be that gender does play a role in how women vote in Congress, but that it does not play as significant of a role as ideology. Gender supplements the current measures of ideology as a predictive force in roll call votes. One measure, Poole and Rosenthal's NOMINATE scores, correctly classifies 85 percent of roll-call votes for members. Almost all votes can be placed on a one-dimensional continuum,

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[4] Arturo Vega and Juanita M. Firestone, "The Effects of Gender on Congressional Behavior and the Substantive Representation of Women," *Legislative Studies Quarterly* , (1995): 213-222.

[5] Norton, "Uncovering the Dimensionality," 65-86.; Swers, "Are Women More Likely," 435-448.

[6] Ibid., 435-448.

[7] Tanenbaum, "Model Minority," 7-10.

[8] Keith T. Poole and Howard Rosenthal, *Congress: A Political-Economic History of Roll-Call Voting* (New York: Oxford, 1997).

"nearly everything becomes a straight liberal/conservative issue."[8] This does not leave much variance to be explained by gender or any other force.

Researchers have examined how gender has affected voting through the 103rd Congress, but little research has been done on more recent Congresses. I will look at voting patterns in the 110th Congress to see if the theories that previous researchers have found still hold true now that there are more female members in the House of Representatives. Examining this Congress will also give insight into how more senior female members act now that the surge in female membership from the 1990s has had time to settle into office.

RESEARCH QUESTION AND THEORY

The election of members of the House of Representatives from various districts in each state implies that officials elected from these districts will uniquely represent each constituency's needs. Does this focus on constituency demands mean that women will not pay more attention to issues that directly affect them and their families? Gender identity seems to encompass certain life experiences particular to women, such as raising children or women's health issues, which means gender could play an important role as a dimension of voting behavior for female members of the House regarding these policy arenas.

Female voters in the constituency tend to have different preferences for policies than men. For example, women are more likely than men to support welfare, health and social service spending and less likely to support military action.[9] In order for female representatives to be substantive representatives of women, they must represent these opinions; one way to measure this is through roll-call voting records.

Another factor affecting women's voting patterns in the House could be the fact that women are a minority group in Congress. They could be identifying "with the 'underdog' to a greater extent than men."[10] Having minority status may create a certain degree of individualism; women may feel more comfortable going against popular sentiment regarding issues that are important to them, even if going against popular sentiment means voting without regard to party affiliation. Women also tend to be less successful in pursuing higher offices or even leadership positions on committees within the House, so they may feel like they have nothing to lose in regards to taking positions on policy issues that differ from the majority opinion. For all of these reasons, it is plausible to think that female House members might vote based on their identity as women above other factors when the policy issue is gender-related.

HYPOTHESIS

Female members of the 110th House of Representatives are more likely to vote in favor of gender-related legislation, regardless of ideology or seniority, than male representatives.

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[9] Susan Welch, "Are Women More Liberal than Men in the U.S. Congress," *Legislative Studies Quarterly* 10, no. 1 (1985): 125-134.
[10] Ibid., 125-134.

Given how accurate a one-dimensional model of voting based on ideology can be, I do not think that gender is a determining factor on all votes for female members. However, gender may be a significant predictor in votes on gender-related bills in the 110th Congress. Gender could serve as a supplement to ideology by explaining a small portion of the 15% of unexplained votes from the ideologically based model.

METHODOLOGY

The dependent variable is roll call voting records on gender-related bills. The dependent variable is the roll call vote on each of the bills under consideration. While these votes do not indicate a member's degree of support, it is the most reliable policy preference measure.

The independent variable is gender. I am also controlling for ideology and terms in office. I will be examining the effect gender has on voting behavior using logistic regression. As a proxy for the measurement of gender, the attitudes and behaviors associated with sex, I used the sex, female or male, of each representative. I used the entire population of female representatives and a numerically equal sample of randomly selected male representatives to ensure the variance of the female and male groups would be about equal.

Ideology seems to be the driving force behind much of the voting in Congress and is controlled for in this model. I used Poole and Rosenthal's NOMINATE scores to indicate the liberal/conservative position of each member in the sample. The more negative a member's number, the more liberal his/her policy preference. The more positive the number assigned to the representative, the more conservative the member's policy preference.

I controlled for the seniority of members by using their number of terms in office. I controlled for seniority under the assumption that newer members will be more likely to remain loyal to party over other factors during the beginning of their service in office. These members may feel like party loyalty is necessary as the best strategy to succeed within Congress, especially if members aspire to leadership positions or higher office outside of the House. It is also possible that members will feel as if they owe the party for their successful election to Congress. Terms in office are coded based on the number of terms a member has served, starting with "1" for a freshman in the 110th Congress.

I chose not to control for some variables that previous researchers have controlled for, such as party, religion, and urbanicity of districts. Ideology and party are highly correlated with each other and particularly when using NOMINATE.[11] Controlling for ideology by using NOMINATE scores completely encompasses party affiliation. There are no members of the sample that have a negative (liberal) NOMINATE score and are also Republican and vice versa.

There are also no abortion bills or blatantly religion-oriented votes in my sample of bills. Religiosity is also hard to determine for members and is also highly correlated with ideology. Almost every member is affiliated with some sort of religion, but to determine the extent to which religion actually plays a role in their daily lives or in their moral understanding of issues is nearly impossible.

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[11] Gregory L. Hager and Jeffery Talbert, "Look for the Party Label: Party Influences on Voting in the U.S. House," *Legislative Studies Quarterly* 25, no. 1 (2000): 75-99.; Schaffer, William. "Party and Ideology in the U.S. House of Representatives." *The Western Political Quarterly* 35, no. 1 (1982): 92-106.

Female members' voting behavior is often associated with more liberal voting for welfare programs, such as housing or federal monetary assistance programs. Women tend to be elected from more urban and liberal constituencies than men, so if female Representatives vote based on constituency preferences they will take more liberal positions on issues also. However, the NOMINATE scores sufficiently take ideology into account, which overshadows constituency characteristics and urbanicity. Furthermore, the urbanicity of a district has not been significant in previous research, so I did not include it in this model.

Bills

Gender-related: Bills are categorized as gender-related if they have appeared as a policy preference on at least one of the national women's organizations' Web sites, the National Organization for Women, the Feminist Majority Foundation, the National Council of Women's Organizations, and the National Association of Women Business Owners. The bills concern welfare, family or children, women's health, equity, or education issues. These bills can be seen as more relevant to female members' priorities or experiences as women and mothers than those of men.

> H.R. 1338, the Paycheck Fairness Act, was created to "amend the Fair Labor Standards Act of 1938 to provide more effective remedies to victims of discrimination in the payment of wages on the basis of sex."[12]
> H.R. 1424, the Paul Wellstone Mental Health and Addiction Equity Act, which gives patients with mental illnesses and addiction problems the same benefits as any other medical patients.
> H.R. 3162, the Children's Health and Medicare Protection Act of 2007, was designed to create funding for children's health services for uninsured children.
> H.R. 3963, the Children's Health Insurance Program Extension and Improvement bill, makes improvements to the health insurance program for children.

Control sample: If my results do show that gender is a significant predictor in the gender-related bills, then I have chosen four non-gender related bills to serve as a check on the gender-related bills. The voting record on non-gender-related bills will be a check against female members simply voting with other women regardless of the issue. The non-gender bills are also a check on the male members voting patterns on gender-related bills. These bills are not obviously related to gender. Such bills include transportation, infrastructure, and consumer safety. These issues should be equally important or relevant to all members.

> H.R. 6899, the Comprehensive American Energy Security and Consumer Protection Act, was created to decrease dependency on oil and increase the use of renewable resources, in part by eliminating subsidies for large oil companies.
> H.R. 6052, the Saving Energy Through Public Transportation Act, was created to increase the use of public transportation and alternative fuels by avoiding increased fairs in public transportation services.
> H.R.1344, was a resolution concerning the safety of highway bridges. It intended   to increase safety and inspection standards.

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[12] Library of Congress. *Thomas.* 2008. http://thomas.loc.gov/ (accessed October 12, 2009).

H.R. 7321, the Auto Industry Financing and Restructuring Act, gives financial assistance to automobile manufacturers and other manufacturers that qualify under this bill.

RESULTS

For the gender-related bills, H.R. 3162, 1338, 1424, and 3963, I used binary logistic regression (since my dependent variable is dichotomous) to create a model that predicts voting on these bills using gender, ideology, and seniority as predictors. Logistic regression "can be used to predict a dependent variable on the basis of continuous and/or categorical independents and to determine the percent of variance in the dependent variable explained by the independents; to rank the relative importance of independents; to assess interaction effects; and to understand the impact of covariate control variables. The impact of predictor variables is usually explained in terms of odds ratios."[13]   The odds ratio is the "factor by which the independent increases or decreases increases the log odds of the dependent."[14]

TABLE 1

Correlation between Gender-related Bills and Constants

	Exp(B) – H.R. 3162	Exp(B) – H.R. 1338	Exp(B) – H.R. 1424	Exp(B) – H.R. 3963
Gender	-1.149	-0.132	-1.152	-0.615
Seniority	-0.007	0.120	0.074	0.033
Ideology	-9.036***	-10.698***	-10.149***	-6.443***
Constant	1.578	0.496	4.318	2.329

N = 136, R^2 = .916   N = 129, R^2 = .942   N= 131, R^2= .822   N=132, R^2=.762

***Correlation is significant at the .01 level

For H.R. 3162, the Children's Health and Medicare Protection Act of 2007, Table 1 considers the impact of gender, ideology, and seniority as predictors for the model. The Nagelkerke R Square for this model is .916, which means that this model explains 91.6% of the variance in votes by using gender, ideology, and seniority of members as predictors. The Classification table shows that this model correctly classified the vote 97.1% of the time whereas the percentage for the model with only an intercept and base rates is 59.6%.

The B values for H.R. 3162 are -1.149 for gender, -0.007 for seniority, and -9.036 for ideology. Ideology was the only significant variable. As members' preferences become more liberal, they are more likely to vote in favor of the bill.

The odds ratio (Exp(B)) is .000 for ideology. The odds ratio is "the natural log base, e, to the exponent, b, where b = the parameter estimate…when b=0, Exp(b)=1, so therefore an odds ratio of 1 corresponds to an explanatory variable which does not affect the dependent variable. For

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[13] G. David Garson, *Logistic Regression.* August 7, 2009.
[14] Ibid.

continuous variables, the odds ratio represents the factor by which the odds (event) change for a one-unit change in the variable.[16]

For H.R. 1338, the Paycheck Fairness Act, Table 1 considers the impact of gender, ideology, and seniority into the model. The Nagelkerke R Square value is .942, which means that this model explains 94.2% of the variance in votes by using gender, ideology, and seniority of members as predictors. The Classification Table shows that the model correctly classified the votes 98.4% of the time. The percentage for the null hypothesis was only 61.2%.

The B values for H.R. 1338 are -0.132 for gender, 0.120 for seniority, and -10.698 for ideology. Ideology was the only significant variable. It is significant at the .01 level. As members' ideological preferences become more liberal, they are more likely to vote in favor of this bill.

For H.R. 1424, the Paul Wellstone Mental Health and Addition Equity Act, Table 1 considers the impact of gender, ideology, and seniority as predictors in the model. The Nagelkerke R Square value is .822. This means that about 82 percent of the variance in votes can be explained by using gender, ideology, and seniority of members as predictors. The Classification Table shows that this model correctly classified the votes 93.9% of the time. The Block 0 output for the null hypothesis correctly classified 71% of the votes. The odds ratio values are .316 for gender, .000 for ideology and 1.077 for seniority.

The B values for H.R.1424 are -1.152 for gender, 0.074 for seniority, and -10.149 for ideology. Ideology is the only significant variable. It is significant at the .01 level. As members' ideological preferences become more liberal, they are more likely to vote in favor of the bill.

For H.R. 3963, the Children's Health Insurance Program Extension and Improvement bill, Table 1 considers the impact of gender, ideology, and seniority as predictors in the model. The Nagelkerke R Square value is .762, which means that 76.2% of the variance in votes can be explained by using gender, ideology, and seniority of members as predictors. The Classification Table shows that this model correctly classified the votes 90.9% of the time. The Block 0 output for the null hypothesis correctly classified 68.9% of the votes.

The Variables in the Equation table shows the B values to be -.615 for gender, -6.443 for ideology and .033 for seniority. Gender and seniority were not significant. Ideology was a significant predictor in the model at the .01 level. As members' ideological preferences become more liberal, they are more likely to vote in favor of the bill. The odds ratio values are .540 for gender, and 1.033 for seniority, and .002 for ideology.

CONCLUSIONS

My hypothesis was not consistent with the results from the regression analysis. Gender was not a significant predictor of votes on gender-related issues in the House for the 110th Congress. There could have been a few problems with my research design, such as using roll call votes as an indicator of policy preference, rather than using bill proposals, amendment proposals, or co-sponsorships. Basing the research on only the 110th Congress also limits the scope of information that can be considered in the research. It would be logical to assume that legislation

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[16] G. David Garson, *Logistic Regression.*

immediately following the 1992 election, "the year of the woman," would focus more on gender-related issues. Analyzing a time period directly following this election could be more insightful.

Ideology, however, was a significant predictor, which is consistent with Poole and Rosenthal's one-dimensional model of congressional voting. Ideology correctly predicts votes on bills about 85% of the time, which does not leave much unexplained voting.[17] Ideology is also highly correlated with other possible predictive factors, such as party affiliation.

One outstanding question given the results from this model is that if women do not substantively represent other women in Congress, then why should we concentrate energy on electing more women to Congress? There are a few reasons why electing women to Congress matters, regardless of whether or not they substantively represent other women.

Women serve as role models for other women, especially young girls. Female elected officials are not as present in the political world as male officials. By seeing that women can have prestigious positions in elected office, it may encourage more women to take part in the political process, and perhaps even run for a political office. As more women are elected to Congress, the presence of women in elected political offices will become the norm.

Rosenwasser and Rogers (1987) discuss the four reasons for the lack of female representatives in office.[18] They mention self-selection, targeting, political resources, and sexism as reasons that women are not as present in politics as men. Self-selection refers to females' unwillingness to run for office, targeting refers to the trend of female candidates running against very strong opposition and being unlikely to win a race, political resources refers to the lack of support that women receive from major political parties, and sexism refers to voters' negative attitudes toward female candidates. Solving any one of these four problems facing female candidates can lead to change. As women begin to pursue more open seats, rather than pursuing seats with strong challengers, it is also likely that they will receive more campaign contributions and backing from important political actors.[19] As women become more present in the political arena, they have the opportunity to be perceived as more competent political decision makers and are more likely to overcome these four problems they face in entering politics.

Women also bring unique opinions to debates over issues. All groups of people have unique experiences in life that can contribute to debates on policy issues. Having more female members in office will bring varying perspectives to the debate. Women are traditionally seen as being competent decision makers in the social policy realm, but not when it comes to military or foreign relations decisions. As more women are elected to seats in the House, the public will become more aware of the fact that gender is not a determining factor in how competent a member is regarding foreign policy. It is difficult to disprove misconceptions about women as officeholders if very few women are actually holding these positions.

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[17] Keith T. Poole, and Howard Rosenthal. *Congress.*

[18] Shirley M. Rosenwasser and Robyn R. Rogers, "Attitudes Toward Women and Men in Politics: Perceived Male and Female Candidate Competencies and Participant Personality Characteristics," *Political Psychology* 8, no. 2 (1987): 191-200.

[19] Robert A. Bernstein, "Why Are There so Few Women in the House?" *The Western Political Quarterly* 39, no. 1 (1986): 155-164.

It is also possible that once women reach a critical mass in Congress, they will be able to take cohesive action and pass more bills that are beneficial to women as a whole. As a minority group, women are unable to form a large enough coalition to push legislation through, especially since few women serve in leadership positions. As more women are elected to the House, the collective voice on women's issues will be much more prominent.

FUTURE RESEARCH

Future analysis of gender-based policy preferences in more recent sessions of Congress could be made more in-depth by capturing the entire legislative process, such as by examining sponsorship, co-sponsorship, floor debate, committee activity and amendment proposals. By looking at agenda-setting behavior rather than roll call votes, researchers may see a more definite pattern of female members' support for gender-related legislation. Examining these behaviors will give researchers a better idea of the extent of female members' substantive representation of women beyond mere roll call records.

A longitudinal study of members over the course of many sessions of Congress would also provide better data to analyze. By looking at a longer span of time, such as the 106th to 110th Congresses, there would be more gender-related bills to use as part of the sample. A larger sample of bills would greatly expand the scope of data analysis by covering more policy issues. A greater number of bills would also increase the confidence we can have in the results.