Is a Woman's Place in the House?

An Analysis of Shared Gender and Political Representation

in the U.S. House of Representatives

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May 7, 2014

Abstract:

This study examines the impact of gender on the political representation of women in the United States. Focusing on members of the House of Representatives, I analyze through congruence and legislative decision models whether female representatives are more likely than male representatives to reflect the policy preferences of their female constituents. Using data from Harvard University's Cooperative Congressional Election Survey, this paper takes a unique approach in analyzing the relationship of politics and gender by tying the stated policy preferences of constituents to the actions of their representatives in determining the substantive representation of women. The results show that male representatives consistently reflect the preferences of their male constituents over those of their female constituents, particularly on issues over which men and women disagree. The effect of shared gender on political representation is less clear for female legislators. In simple legislative decision models, female representatives weigh the preferences of their female constituents more than those of their male constituents. However, upon controlling for three kinds of fixed effects, this pattern disappears and eventually reverses, with congresswomen exhibiting the same partiality toward the attitudes of their male constituents. When the analysis is restricted to contentious bills, those over which men and women disagree the most, congresswomen appear to consistently reflect the political views of their female constituents to a greater extent than those of their male constituents. Supporting literature in this area, shared political party has the strongest relationship with a legislator's voting behavior. I discuss feminist, financial, cultural and political explanations of these dynamic results.

Acknowledgements

I would like to thank all of the individuals who helped and supported me throughout my thesis.

I am indebted to my thesis advisor, Professor Sean Nicholson, whose guidance, patience, and assistance from the very first day I decided on this topic has been crucial in composing my final research paper.

Secondly, I wish to thank Professor Peter Enns, who has been an incredible source of knowledge and advice throughout the composition of my paper.

Thirdly, I owe deep gratitude to Professor Avery, who has invested so much of her time in designing and implementing the rigorous PAM honors program, from which I have benefited so very greatly in my final year at Cornell University.

Lastly, I am so very grateful for the help of the CISER consultant team, namely Sandeep Satyavolu, Florio Arguillas, and June Pan, for their invaluable assistance in coding my data sets in STATA.

This thesis would not have been possible without the terrific data from Harvard University's Cooperative Congressional Election Study.

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Introduction

As Sidney Verba argued, "the equal consideration of the preferences and interests of all citizens" is "one of the bedrock principles in a democracy" (2003, 663). While this concept is widely accepted as an American axiom, the means by which it occurs is unclear. It is possible that equal consideration of all citizens' preferences requires an equal distribution of their characteristics (e.g., gender, race, religion) in office. This notion of mutual resemblance between legislature and society rests on the assumption that descriptive representation, the personal traits a politician shares with his or her constituents, such as gender and race, may in turn affect his or her ideology (Swers 2005). Put plainly, men in office may do a better job representing male interests, while female representatives may be superior in advocating on behalf of women. This relationship appears simultaneously intuitive and erroneous.

On one hand, one needs only to reflect on the waves of the feminist movement in this country to observe the communal rallying of women, not men, for equal rights. It makes sense that, having experienced life as female, women would be better equipped than males to advance their own gender's priorities. There are a multitude of organizations, from non-profits to PACs (political action committees), dedicated to placing women in political office. Their assumption is clear: women in office are more likely to advocate on behalf of women in the general population.

On the other hand, the democratic expectation that legislators represent all of their constituents' substantive policy preferences – what legislative scholars term "dyadic representation" (Weissberg 1978) – has been a deep-seated value since the Founding (Miller and Stokes 1963). If female representatives advocate for women significantly more so than their male counterparts, as this paper attempts to determine, the idea of delegation breaks down. Americans tend to view representatives as delegates who will advocate on behalf of all of their constituents,

since legislators are beholden to their district for the votes required for election. However, that advocacy may be more a condition of that representative's shared personal characteristics with certain constituents than their willingness to promote the interests of the entire district's population. If it is indeed correct that female legislators are best representative of women, it is not a far reach to assume that African Americans are best represented by African Americans, Catholics by Catholics, Hispanics by Hispanics, homosexuals by homosexuals, and so on and so forth. Viewing representation from this angle, the idea that each vote is equal, and as such, the faith and soundness behind the U.S. electoral system, begins to break down.

There is indignation surrounding the imbalance between the proportion of women in office compared to their composition as half of the population. Although the number of women in the U.S. Congress has steadily risen over the past century, there are currently only 98 seats held by female legislators (CAWP 2014).
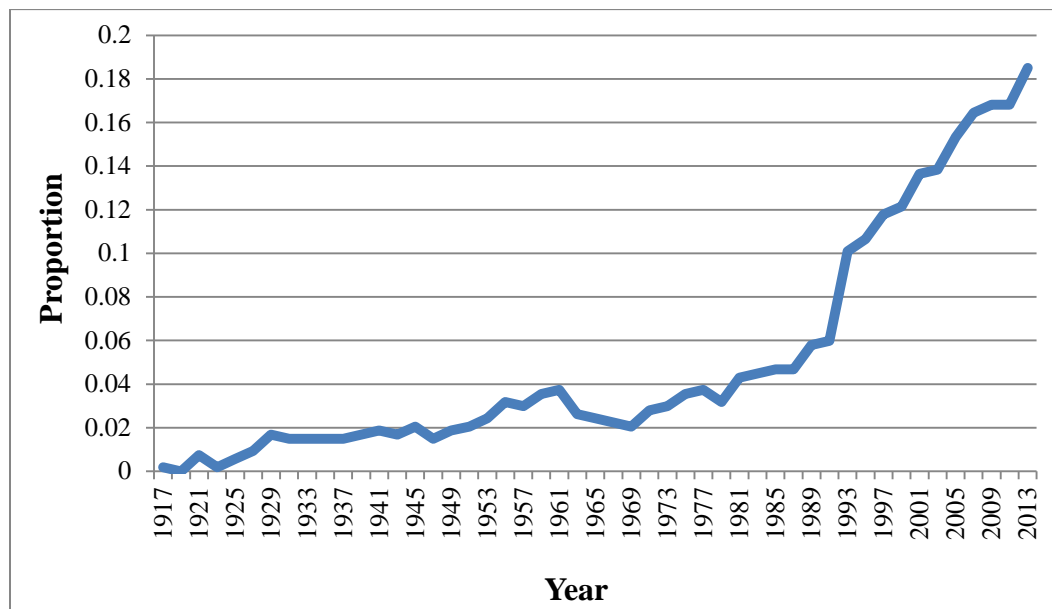

Figure 1. The Proportion of Women in Congress Over Time

This means women account for about 18% of Congressional seats (Figure 1). This gender imbalance is often seen not only as unfair, but harmful to the democratic process (Mansbridge

1999). Many scholars who research the impact of women in politics maintain that the election of more women to the U.S. Congress is not just a matter of equity, but would have a substantive policy impact (Swers 1998). In her book *Why We lost the ERA*, Jane Mansbrindge reasons "…descriptive representation by gender improves substantive outcomes for women in every polity for which we have a measure" (2005, 622). Sheryl Sandberg, in her book *Lean In*, echoes this sentiment, arguing, "conditions for all women will improve when there are women in leadership roles giving strong and powerful voice to their needs and concerns" (2013, 15). However, as I show below, the true policy impact of women in office is debated, making this paper all the more relevant if women's numbers in office continue to climb. Although often stated matter-of-factly, the literature on the relationship between female legislators and greater representation of women is mixed.

Literature Review

The effect of gender on voting behavior in Congress

Several studies have analyzed the effect of gender on ideology in congressional voting (Welch 1985, Vega & Firestone 1995, Schwindt-Bayer & Corbetta 2004, Simon & Palmer 2010, Frederick 2009). For the most part, these studies have found that, although political party is consistently the major determinant of liberalness or conservatism in voting behavior, gender still has an effect. This influence is particularly potent within parties, even after the analyses are adjusted for constituency characteristics and party affiliation.

Welch (1985) was one of the first scholars to investigate the impact of gender on representation. Using Congressional Quarterly's conservative coalition supports scores – a measure of conservatism – to analyze the U.S. House of Representatives from 1972 to 1980, she found that men were significantly more conservative than women, both generally and within

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their respective political parties. Interestingly, Welch found that this difference between the genders in Congress has diminished over time, despite the growth in ideological disparity between men and women of the public. Importantly, the disparity between male representatives' and female representatives' ideology was greatly diminished, though still significant, upon controlling for constituency characteristics. In fact, Welch discovered that certain kinds of districts, such as northern and urban constituencies, or those that have higher proportions of immigrants or blacks in their populations, were more likely to elect a woman. She observed the greatest differences between female and male representative's voting behaviors among Republicans and Southern Democrats; among Northern Democrats, the difference was insignificant. Thus, even controlling for the district characteristics that some may argue account for any difference observed between the legislative behavior of female and male representatives, Welch found that gender has an effect on congressional voting choices.

Vega & Firestone (1995) also used conservative coalition support scores for the U.S. House of Representatives in order to analyze voting behavior from 1981 to 1992. The authors found that although female legislators had voting patterns that were more liberal, these patterns were not significantly different from those of their male counterparts (the authors noted that given so few women in Congress at the time, significant coefficients were less likely to be obtained). Upon breaking down this time period, however, Vega & Firestone ultimately agreed with Welch (1985) in finding that certain years did reveal statistically significant differences among male and female members of Congress.

This observed gender disparity in political ideology was further enhanced when examining differences between male and female co-partisans: Republican women were found to be significantly more liberal than Republican men throughout the interval. Observing bill

introductions in the House of Representatives by gender, the authors found that the proportion of women-related legislation enacted by women increased as the number of women increased. Further supporting Welch's findings, Vega & Firestone concluded that party, constituency, and district characteristics bettered predicted congressional voting behavior than gender did.

Frederick (2009) sought to confirm if female representatives were still generally more liberal in a more "polarized era," referencing the rise of "women of the new right" who were "more in line with the GOP mainstream than Republican women in previous eras" (182). To address this recent evolution, Frederick analyzed the roll call voting behavior of women in the U.S. House of Representatives from the 97th through 10th Congresses (1981-2006), controlling for the members' party and the districts' demographic characteristics. He found that women in the House were "more divided along partisan and ideological lines" during this period than ever before, even more so than their male colleagues (2009, 181). Moreover, he discovered that, in contrast to previous research (Welch 1985, Vega and Firestone 1995, Clark 1998), female House Republicans were ideologically indistinguishable from their male counterparts. Frederick ultimately hypothesized that, given the advancing polarization between the party's bases, it was unlikely that greater descriptive representation of women would translate into differences in substantive representation.

Michele Swers (1998) is one of the few authors who have attempted to isolate the impact of gender on women's issue bills. She did so by analyzing representative's voting records for a total of fourteen bills during the "Year of the Woman," the 103rd Congress (437). Controlling for representatives' personal characteristics, party, and ideology, as well as regional and constituency factors, Swers found that gender "[exerted] substantial influence" on legislators' votes on women's issues overall (440). By organizing the bills by issue area, Swers determined

that the most notable impact of gender was on votes concerning reproductive issues. Like Vega & Firestone, Swers found that gender played a much more significant role in the voting behavior of Republican women, who defected from their party's typical conservative stance to vote in favor of certain women's-issue bills.

Controlling for specific demographic, regional, and political characteristics within the Congressional districts, she refuted Schwindt-Bayer & Corbetta's assertion that member differences attributed to gender can simply be explained by constituency preferences – that is, the tendency of certain districts to elect women because of the population's own priorities. Echoing findings from other studies, Swers conceded that the effect of representatives' gender on voting behavior was overwhelmed by "ideological, partisan, and district factors," once bills involving reproductive issues were eliminated from the analysis (1998, 443).

In narrowed research similar to that of Swers, Gerrity, Osborn & Mendez (2007) used the predecessor-successor method to assess whether female House members who replaced male House members of the same party were more likely to introduce bills dealing with women's issues. Using detailed data concerning sponsorship and floor remarks from the 105th through 107th Congresses, the authors examined 37 predecessor-successor pairs. They concluded that women of both parties, upon replacing men, were indeed more likely to sponsor such legislation, even after controlling for district-level effects.

Schwindt-Bayer & Corbetta (2004) expressed concern that studies suggesting these results – the significant effect of gender on voting behavior – could be misleading due to insufficient controls for constituency influences. While it may have appeared that female representatives voted more liberally than did their male counterparts, Schwindt-Bayer & Corbetta argued that this behavior was simply a "function of the fact that women [tended] to be

elected in more liberal districts." Examining congressional turnover data, the authors controlled for constituency in order to better isolate the effect, if any, of gender on potential policy-making, addressing the problem of endogeneity.

Assuming that the composition of a given district was unlikely to vary greatly during two consecutive congresses, the effects of a constituency could be thought of as constant over time. Using this "Turnover Model" for the 103rd, 104th, and 105th Congresses, and DW-NOMINATE scores (a measure of liberalism or conservatism) the authors found that gender turnover had no significant effect on voting behavior. Whether a male replaced a female or a female replaced a male in the congressional office was of no consequence; when constituency preferences were held constant, differences in roll-call voting scores remained insignificant.

Simon & Palmer (2010) pursued a two-step strategy in evaluating differences in the voting behavior of the men and women in Congress. For the first analysis, they averaged Poole and Rosenthal's ideology scores for 36 Congresses, compared them by gender, and found that women were indeed more liberal than men. This disparity not only held within both political parties, but also persisted over time. Like Schwindt-Bayer & Corbetta, Simon & Palmer believed that the key to understanding congressional voting was the "fundamental relationship between members and their districts" (2010, 229). The authors thus all accounted for district influence by employing the same natural experiment in the second part of their research, in which the representative for a given constituency changed gender from one Congressional session to another, to determine the effect of gender on voting behavior.

Using this method, Simon & Palmer found that female successors were not more liberal than their male predecessor in either party. Conceding that the low number of predecessor-successors pairs rendered the probability of significance small, they nevertheless concluded that

the sex of the member did not produce shifts in liberalism within either party. Analyzing interparty change did not yield any significant sex-based differences either; it simply confirmed that ideological changes associated with shifts in partisan office were substantial (as expected), but had nothing to do with the gender of either the successor or predecessor.

Furthermore, the authors found that it took a specific type of district to elect a woman, one that possessed a distinct demographic profile from those that elect men. Simon & Palmer determined that a "particular configuration of characteristics" resulted in "women friendly districts," which were to credit in electing more liberal candidates (who may or may not be women) (2010, 243). They concluded that the difference in voting behavior between male and female members of the U.S. House of Representatives was a function not of sex, but of the constituencies the individuals represented.

Griffin, Newman, and Wolbrecht (2012) were the first researchers to evaluate the "dyadic policy representation experienced by women" by comparing U.S. House members' roll-call votes with the policy preferences of both their male and female constituents. In order to ascertain whether women's preferences are not as well represented as those of male constituents by their own legislators, and also to determine the factors (such as the politician's gender or party) that improve or weaken that representation, the authors examined the degree of congruence between citizens' expressed ideological and policy preferences and their own representative's roll-call voting behavior. They determined constituency preferences using the National Annenberg Election Surveys (NAES), which asked respondents questions on subjects comparable to the 11 issue areas of the 19 bills included in the data. Constituents were classified as "winners" or "losers" on each vote, depending on whether their opinion aligned with the legislator's choice.

These tallies were compiled into an overall "proximity" value, a measure of how much the ideology of a constituent differs from that of his or her representative.

Generally, the authors found that women do not experience unequal dyadic policy representation in the House of Representatives. However, they discovered a sizeable gap in representation favoring men in districts governed by Republicans, and a similarly sized gap favoring women in districts represented by Democrats. A Democratic majority in the House further improved women's representation relative to men. Interestingly, once the authors controlled for co-partisanship between constituents and representatives, representative party affiliation, majority party, and district characteristics, they found that having a female representative did not boost women's "win ratios," or substantive representation in the House.

They concluded that descriptive representation makes no difference to the relative representation of women. Nevertheless, given that women tend to be elected in districts with a unique set of characteristics (e.g., both male and female constituents are more liberal), Griffin et al. noted that female representatives may indeed differ from their male colleagues in terms of ideological positions. But in acting upon those beliefs, these female legislators improve the dyadic representation experienced by constituents of *both* genders, thereby having no affect on the gender gap in relative representation.

Summary

Many of the aforementioned studies on gender and ideology show that, although party is the single most significant variable in predicting voting behavior, gender still has a slight effect "at the margins" (Schwindt-Bayer & Corbetta 2004, 223). In other words, male and female Democrats vote liberally, just as male and female Republican vote conservatively, but women

within each party are more liberal than their male partisan colleagues (Welch 1985, Vega and Firestone 1995, Clark 1998). The very general conclusion drawn from these studies is that female representatives are more liberal than male representatives in their roll call voting behavior. However, the Turnover Model has consistently failed to produce a significant relationship between gender and voting behavior, leading to the conclusion that, in terms of policy impact, the gender of the legislator has no effect when constituency preferences were held constant. The literature regarding female representatives and women's issues in Congress is far less developed, but maintains that women in office are more likely to sponsor and vote for bills advancing women's issues, no matter which econometric approach is taken.

A Different Approach

Almost all of the previous literature attempts to discern the policy impact of women only by analyzing the difference in roll call voting between male and female officeholders. However, these results do not aid us in understanding whether a significant difference, if any, in voting behavior between men and women in Congress translates into better representation for women in society. Oftentimes this conclusion is reached transitively, with authors arguing that, because women in Congress appear to be more liberal, and women in society are more likely to be liberal as well, women are better represented when there are more female legislators. The only exception is Griffin et al., who link Congressional roll call votes to survey responses focusing on similar issues.

This paper takes a more direct approach in evaluating female representatives' representation of women, comparing legislators' specific roll call votes on specific proposal to their constituents' opinions of those same issues in order to determine whether female legislators

are more likely than their male counterparts to reflect the views of female constituents. I therefore fill a gap in the literature by refining the measure of representation to include only preferences and actions by constituents and legislators over clearly defined issues.

Theoretical Framework

Representative democracy, the system of governance in the United States, is based on the principle of elected officials representing a group of people. The two models often used to describe representative democracy are the trustee model and delegate model (Pitkin 1967). The trustee model allows representatives greater autonomy, permitting them to make decisions actually going against the interests of their constituents, than the delegate model, which requires representatives act as a mouthpiece for the wishes of their constituency. Obviously, these two models place contradictory demands on representatives.

Considering the delegate model, one could argue that representatives may not act in accordance to their entire constituency's interests, but simply to those who elected them. In other words, the legislator may act as a mouthpiece for Republicans or Democrats, depending on the party in office. Effects of this copartisanship could be misconstrued as the effects of shared gender, if women in the public belonged to the same party as women in office. I therefore control for copartisanship, arguing that my hypothesis – that female legislators represent the preferences of women in their constituency to a greater degree than do male legislators – extends beyond the influence of party. Again, if we believe that representatives may act as delegates for just certain factions of their constituency, this hypothesis is supported by the idea that women in office will act as representatives for women in their constituency.

My hypothesis that female representatives are more likely to represent the views of female constituents may also be understood through the trustee model of representation, in which

legislators are entrusted with the responsibility of making decisions for the 'greater good,' as opposed to following the explicit preferences of their constituents. If an individual's personal characteristics, such as religion, income, education, and the factor integral to my analysis – gender – impact his or her idea of what is ultimately right and wrong, or influences his or her personal perceptions of the 'common good,' my hypothesis then follows that a woman entrusted by her constituency to represent as she sees fit will systematically differ from a man charged with the same responsibility.

In her pioneering work, *The Concept of Representation*, Pitkin outlined four concepts of representation that parallel the discussion above: formal representation, symbolic representation, descriptive representation, and substantive representation (1967). Formal representation refers to the "institutional arrangements that precede and initiate representation" (Dovi 2011). Symbolic representation includes the manners in which a representative "stands for" the represented; in the context of this paper (Dovi 2011), symbolic representation refers to the figurative meaning that a female legislator has for female constituents. Rather than view the representation of women as a single-dimension concept, Schwindt-Bayer and Mishler proposed an integrated model linking formal, descriptive, substantive, and symbolic forms that are closely interconnected (2005). Nevertheless, my theoretical framework focuses on the interplay between descriptive and substantive representation.

The theory behind descriptive representation maintains that the shared characteristics and experiences held by congresswomen may cause them to have different views and priorities than congressmen (Schwindt-Bayer & Corbetta 2004). This common background may or may not translate into substantive representation, or the advocacy on behalf of groups that share certain characteristics. If we accept the idea that representatives, particularly women, act both as

individuals and as groups, then it easier to understand how possessing the characteristic of 'female' may lead women in Congress to act collectively – in a way that is different from their male counterparts – in "making a difference" for the women they represent (Vega & Firestone 1995). I therefore expect that the descriptive representation by women in office, who possess shared traits that men lack with their female constituents, results in an increase in substantive representation of women in society.

Conceptual Model

There are several factors that could plausibly affect how a representative in Congress votes. A legislator's party, constituents and even congressional experience may all influence the decisions politicians make in office. The district is of particular interest when dissecting the act of representation, because the legislator, in theory, adheres to the preferences of his or her constituents. Among all of the potential factors that impact a representative's vote on a given bill (e.g., party affiliation and personal demographic characteristics), I analyze the impact of the district (Figure 2).

Specifically, within the district, I examine the relationship between female constituents' views and the votes cast by their representatives. While I do not claim that the opinions held by female constituents are the most influential determinant of voting behavior, I hypothesize that shared gender between female constituents and their female representative does result in a significantly greater likelihood of congruence (that is, agreement in preferences) than that of male representatives with their female constituents.

Thus, in this conceptual model, gender affects both how constituents view political issues and how representatives vote. Shared gender (e.g., between female constituents and their female representatives), I posit, is the source of greater political agreement, and is therefore the main

analysis in my conceptual and empirical models. However, the threat of omitted-variable bias

begs us to consider whether other factors influence how men and women vote in both the district

and the House of Representatives. Notably absent thus far from an analysis of political

representation is the role of political party. Party affiliation, whether citizens and representatives

identify as Republicans or Democrats, obviously affects district preferences and legislative

behavior. Intuitively, the quality of representation enjoyed by constituents (measured by how

often their legislators' voting reflects their preferences) who share the political party of their

representative is higher than those who differ from their elected official in terms of political
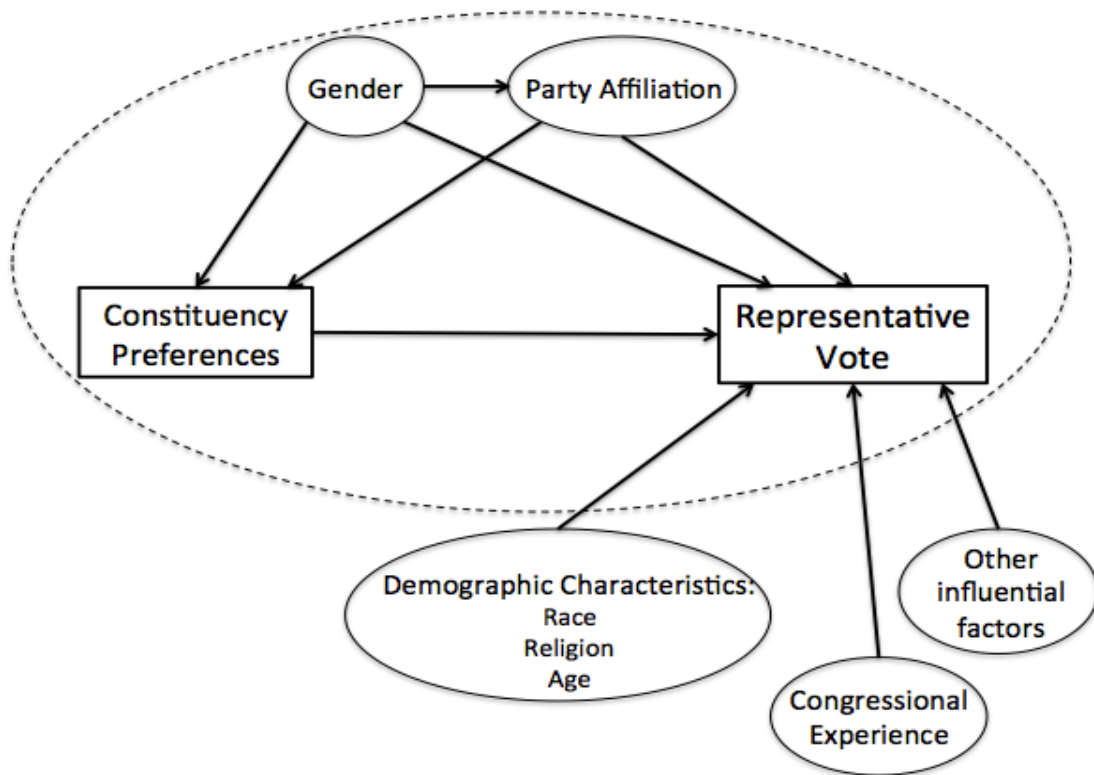
affiliation.

Figure 2: Conceptual Model Graphic

Yet, there is also reason to believe that party affiliation is a confounding variable in my

conceptual model, analyzing the effect of shared gender between representatives and constituents,

specifically. Evidence suggests that women of all ages are more likely to be democrats than are males (Newport 2009). In the three Congressional Sessions that I analyze in this paper, there are over twice as many female democrats than female republicans in the House of Representatives. For this reasoning, I control for shared political affiliation between constituents and their elected officials in my conceptual model. Otherwise, I may misattribute to shared gender what is actually the effect of shared political party.

Of course, there is a multitude of factors that could arguably influence both how constituents feel on any given issue and how represents vote on certain bills. For example, demographic characteristics, such as race, income, and religion, may result in attitudes, preferences, and values that form the opinions of both the public and politicians. However, these characteristics do not differ systematically based on gender. Therefore, their exclusion is unlikely to produce bias in my model.

Data

In order to discern the relative degree to which the views of male and female constituents are represented by their legislator's voting, I need data on legislative votes that include three variables: (i) how the legislator voted; (ii) how female voters wanted the legislator to vote on the issue; and (iii) how male voters wanted the legislator to vote on the issue. The first variable is simple to find, given that the U.S. House of Representatives' roll call votes are public record. However, the second and third variables are more difficult to uncover, as the personal preferences of constituents regarding specific issues are not as readily available.

Data for the second two types of variables are from the 2008, 2010 and 2012 Cooperative Congressional Election Study Common Content Survey. These surveys ask questions on specific bills that were put to a floor vote in the House of Representatives during that congressional term.

Specifically, the survey asks respondents whether they support or oppose certain pieces of legislation on which their own representative voted. Also recorded through the CCES Common Content Surveys is the respondent's gender and congressional district. The Cooperative Congressional Election Study further compiles data of the roll call votes for the same bills it includes in the Common Content Survey, recording the House of Representatives member, his or her state and congressional district, party, gender and voting decisions (as for, against, or no vote) on the same bills evaluated by CCES Common Content Survey respondents. I therefore am able to directly couple data of public opinion by gender for each district regarding specific bills with data on roll call voting for the same bills from the House of Representatives' 110th, 111th, and 112th Congressional terms.

Survey Information and Methodology

The Cooperative Congressional Election Study Common Content Survey is a 30,000+ person national stratified sample survey administered by YouGov Polimetrix. The sampling method uses matched random sample methodology, in which numerous demographic variables are used to match respondents to an individual in the "target sample," a true probability sample that is representative of all adults. The result is a sample of respondents who have the same measured characteristics as the representative target sample, which establishes confidence in the CCES Common Content Survey results.

The questionnaire consists of five parts: 1) sample identifiers (including state and congressional district); 2) profile questions (largely demographic); 3) pre-election questions; 4) post-election questions, an; 5) contextual data (including candidate names and parties, election results, and roll call votes). For the purposes of this paper, my analysis was limited to the sample

identifiers section and pre-election questions, which recorded respondents' gender, congressional voting district, and opinions on nine specific Congressional bills. The survey covers men and women from each congressional district in every state,

I used the 2008, 2010, and 2012 CCES Common Content Surveys, because these were the surveys that had matching roll call voting data sets from the relevant congressional session. The 2008, 2010, and 2012 CCES surveys had response rates of .468, .404, and .345 overall. The Common Content sections for each year asked questions about five to nine bills.

Dependent Variables

Representative Vote, by Gender

The Cooperative Congressional Election Study compiled data sets for the 110th, 111th, and 112th congressional terms, in which the House of Representatives roll call votes of the bills, also included in the 2008, 2010, and 2012 CCES Common Content Surveys, are recorded. The data sets consist of the names of members in the House that term, their state and district, their gender, and whether they were for, against, or did not vote on the bills. I recoded the three types of string observations, "For," "Against" and "Did Not Vote," into 1, 0 and missing, respectively, creating a binary variable for each bill that demonstrates support (coded as 1) versus opposition (coded as zero) by each member of the House. My analysis includes a total of 20 bills voted on in the House of Representatives from 2008-2013. This data on the voting record and gender of each member therefore allows me to create the two binary output variables – whether a female representative supports a bill and whether a male representative supports a bill – found in the two empirical equations discussed below.

Independent Variables

District Majority Support, by Gender

  The Cooperative Congressional Election Study Comment Content Surveys administered in 2008, 2010, and 2012 asked over 30,000 subjects their opinions about bills covering topics from foreign affairs to health insurance to gay marriage. The bills were explained in a sentence (e.g., "Foreign Intelligence Surveillance Act – Allow U.S. spy agencies to eavesdrop on overseas terrorist suspects without first getting a court order") and respondents were told to state whether they supported or opposed the legislation. They could also skip the question.

  The CCES Common Content data sets consist of information on the respondent's state, district number, gender, and policy opinions. I used the state and district variables to generate a new variable representing unique congressional voting districts, allowing me to sort by and observe proportions of support for a bill within districts. This step was crucial, as my analysis is at the district level, tying the preferences of the constituents in a given district to the voting behavior of their representative. I recoded the 4 types of responses for each bill – Support, Oppose, Skip and Not Asked – into a binary variable (1, 0, and missing, respectively). With unique voting districts encompassing clear groups of men and women, as well as their preferences on certain bills, I was able to calculate the proportion of female constituents and male constituents per district who supported a given bill. These proportions were used to create binary variables indicating whether or not a majority of constituents supported a bill. If 50% or more of women in a given district supported a bill, the variable indicating female majority support for a bill was coded as 1. If less than 50% of men in a given district supported a bill, the other variable in my empirical equation – indicating male majority support for a bill – was coded

as 0. This information comprised the two independent binary variables of interest, producing coefficients β_1 and β_2, shown below.

District Majority Support, by Party

Having data regarding subjects' political affiliation (i.e., Republican or Democrat), as well as their preferences on certain bills, I was able to calculate the proportion of Democratic constituents and Republican constituents per district who supported a given bill. These proportions were used to create binary variables indicating whether or not a majority of constituents in that party supported a bill. For example, if 50% or more of Democrats in a given district supported a bill, the variable indicating Democratic majority support for a bill was coded as 1. If less than 50% of Republicans in a given district supported a bill, the other party variable in my empirical equation – indicating Republican majority support for a bill – was coded as 0.

District Proportion Support, by Gender

When presenting the results, below, I argue that binary variables may not be the most revealing. I therefore replace in my equations the two binary indicators for majority support among men and women in the district with continuous variables, which demonstrate the *proportion* of men and women in the district who support a bill.

District Majority Support, by Legislator's Party

The analysis ultimately suggests a new approach to controlling for the effects of shared political party between representatives and their constituents, which must be separated out from any impact of shared gender. Therefore, I replace the two indicators of majority support by party,

above, with a single binary variable representing whether a majority of the constituents of the party of the legislator (either Democrats or Republicans) favor the bill. This variable is coded as 1 if the legislator is Democratic and the majority of his or her Democratic constituents support the bill, 1 if the legislator is Republican and the majority of his or her Republican constituents support the bill, and zero otherwise.

Timing of Survey Concerns

Since the surveys were conducted throughout the year, it is important to consider the effect, if any, of instances when the legislature voted before the public was questioned. This timing raises the concern that a citizen's response for an issue may be "influenced by the legislative vote on the same issue cast by his or her state representative" (Brunner et al 2013, 58). If this concern were valid, then respondents' answers would not be a very good measure of public opinion. Alternatively, if women and men were influenced to a different degree by the votes of their representatives, then my results would be biased. However, according to Brunner et al, who analyzed California's ballot propositions, this bias is unlikely for two reasons: voters do not view their representatives as being influential on how they vote, and they are unlikely to know how their state legislators voted. The 2006 CCES asked respondents how their senators voted on six high-profile issues during the 2005-2006 congressional session: stem cell research, Iraq withdrawal, immigration reform, minimum wage increase, capital gains tax increase, and the Central American Free Trade Agreement (CAFTA). The average of fraction of the sample that answered correctly regarding their representatives' votes was only 49 percent.

Descriptive Statistics

I report the average percentage of the district population to support each bill included in the 2008, 2010 and 2012 Cooperative Congressional Election Study survey, then breakdown this support by gender and political party in Tables 1-3. Also included in the following tables are the standard deviation, minimum and maximum percentage of support for each bill, by district, gender and party. Not one bill sees the same proportion of support by men and women, though the disagreement is greater over some issues than others, such as withdrawing troops from Iraq and increasing the minimum wage. These summary statistics also provide some support for including data on the preferences of each political party in the empirical equation, as Democrats and women, as well as Republicans and men, are always in the same direction in terms of support. For example, when the average proportion of women across districts who support a bill is less than the mean percentage of support by men, it is always the case that a smaller fraction of Democrats than Republicans support the bill as well. Likewise, in every instance in which a greater percentage of men than women across districts support a bill, a larger proportion of Republicans than Democrats express support for that bill. Although the actual percentages of support among women and Democrats, as well as men and Republicans, differ substantially in some cases, this consistent agreement of direction suggests a gender-party relationship legitimate enough to include in my empirical model.

Since I analyze the voting choices of male and female representatives as a function of the preferences of men and women in the district, it is obviously integral to my analysis that constituents vary to some degree in their political preferences by gender. I therefore include visual aids in the form of graphs 3-5 that illustrate the level of disagreement between males and females over each bill included in the 2008, 2010, and 2012 CCES survey. I include identical

graphs that demonstrate the difference in female versus male opinion in the House of

Representatives during the 110th, 111th and 112th Congress (Figures 6-8, respectively).

	% District Support	% Female Support	% Male Support	% Democratic Support	% Republican Support
Withdraw Troops From Iraq					
Mean	54.63	63.05	46.22	89.57	13.96
Standard Deviation	11.7	12.88	14.08	6.52	9.05
Minimum	22.22	24.24	14.29	61.11	0
Maximum	96.97	100	100	100	75
Increase The Minimum Wage					
Mean	78.08	86.39	69.1	96.62	53.5
Standard Deviation	7.91	7.42	11.66	3.64	12.63
Minimum	52.94	56	25	77.78	0
Maximum	100	100	100	100	100
Funding Stem Cell Research					
Mean	64.23	66.43	61.98	89.56	35.2
Standard Deviation	11.47	13.11	13.34	7.42	13.12
Minimum	31.67	23.33	21.05	60	0
Maximum	98.59	100	100	100	83.33
Allow U.S. to Eavesdrop Overseas					
Mean	67.71	64.78	70.42	44.86	91.05
Standard Deviation	10.47	12.89	11.61	12.74	6.98
Minimum	24.19	8.33	25.93	11.76	25
Maximum	88.14	93.1	93.33	80	100
Children Health Insurance Program					
Mean	69.47	76.2	62.29	44.86	91.05
Standard Deviation	9.88	10.18	13.5	12.73	6.98
Minimum	45.45	47.37	20	11.76	25
Maximum	100	100	100	80	100
Ban Gay Marriage					
Mean	47.04	43.78	50.57	22.12	75.2
Standard Deviation	12.9	14.8	14.53	12.37	12.78
Minimum	4.08	0	3.7	0	0
Maximum	85.71	78.79	95.24	100	100
n	872	436	436	436	436

Table 1: 2008 CCES Descriptive Statistics – support for bills by district, gender and party

	% District Support	% Female Support	% Male Support	% Democratic Support	% Republican Support
Federal Assistance Housing Crisis					
Mean	51.23	57.92	44.59	71.44	29.3
Standard Deviation	11.27	13.37	13.69	11.76	11.59
Minimum	22.22	22.22	5.88	23.08	0
Maximum	94.74	100	87.5	100	100
Extend NAFTA					
Mean	48.34	46.99	49.68	42.02	56.7
Standard Deviation	9.85	14.29	11.29	14.37	13.88
Minimum	24.44	0	20.59	0	17.86
Maximum	79.55	100	88.89	100	100
Bank Bailout					
Mean	27.9	28.72	27.2	35.95	21.78
Standard Deviation	9.53	9.53	11.29	12.85	11.66
Minimum	3.13	12.16	0	5.88	0
Maximum	68.09	71.43	73.91	90	80
n	872	436	436	436	436

Table 1 (contd.): 2008 CCES Descriptive Statistics – support for bills by district, gender and party

	% District Support	% Female Support	% Male Support	% Democratic Support	% Republican Support
American Recovery and Reinvestment					
Mean	49.79	56.34	42.75	85.57	12.66
Standard Deviation	11.6	11.48	13.56	5.96	7.23
Minimum	27.08	31.03	10.53	61.7	0
Maximum	84.75	91.67	88.24	100	83.33
State Children's Health Insurance					
Mean	70.14	77.43	62.2	94.18	43.97
Standard Deviation	8.14	7.97	10.38	3.6	9.78
Minimum	52.5	54.35	36.11	74.36	18.75
Maximum	94.12	98.21	96	100	83.33
American Clean Energy and Security					
Mean	75.14	83.12	66.44	97.65	50.21
Standard Deviation	7.87	7.32	10.29	2.39	9.68
Minimum	56.57	58	38.89	87.18	25
Maximum	96.72	100	100	100	83.33
Comprehensive Health Reform					
Mean	50.76	57.53	43.39	88.8	10.96
Standard Deviation	12.33	12.69	13.55	5.71	7.06
Minimum	23.08	27.91	15.52	58.97	0
Maximum	94.74	97.22	90.91	100	66.67
Financial Reform					
Mean	68.11	73.07	62.85	93.78	40.28
Standard Deviation	8.71	8.69	11.01	3.93	8.6
Minimum	47.33	50	35.42	78.95	15.38
Maximum	92.68	97.92	100	100	80
End Don't Ask, Don't Tell					
Mean	58.7	66.52	50.4	85.22	30.39
Standard Deviation	10.19	10.32	12.47	7.52	9.65
Minimum	28.89	31.37	20.59	54.84	5.88
Maximum	89.09	95.12	86.36	100	75
n	872	436	436	436	436

Table 2: 2010 CCES Descriptive Statistics – support for bills by district, gender and party

	% District Support	% Female Support	% Male Support	% Democratic Support	% Republican Support
Repeal of ACA					
Mean	43.99	39%	49%	17%	78%
Standard Deviation	9%	10%	12%	7%	8%
Minimum	11%	3%	13%	0%	38%
Maximum	64%	62%	77%	44%	100%
Ryan Budget					
Mean	19%	14%	24%	8%	33%
Standard Deviation	5%	5%	7%	5%	10%
Minimum	6%	3%	5%	0%	8%
Maximum	34%	33%	47%	28%	100%
US-Korea Free Trade					
Mean	51%	45%	57%	49%	55%
Standard Deviation	6%	7%	8%	8%	10%
Minimum	34%	22%	30%	23%	0%
Maximum	73%	63%	81%	76%	88%
Simpson-Bowles Budget					
Mean	49%	46%	52%	48%	52%
Standard Deviation	6%	7%	7%	8%	10%
Minimum	33%	28%	29%	25%	0%
Maximum	69%	76%	77%	74%	100%
Keystone Pipeline					
Mean	73%	70%	77%	60%	90%
Standard Deviation	7%	8%	9%	9%	7%
Minimum	44%	34%	45%	32%	0%
Maximum	88%	89%	94%	82%	100%
n	872	436	436	436	436

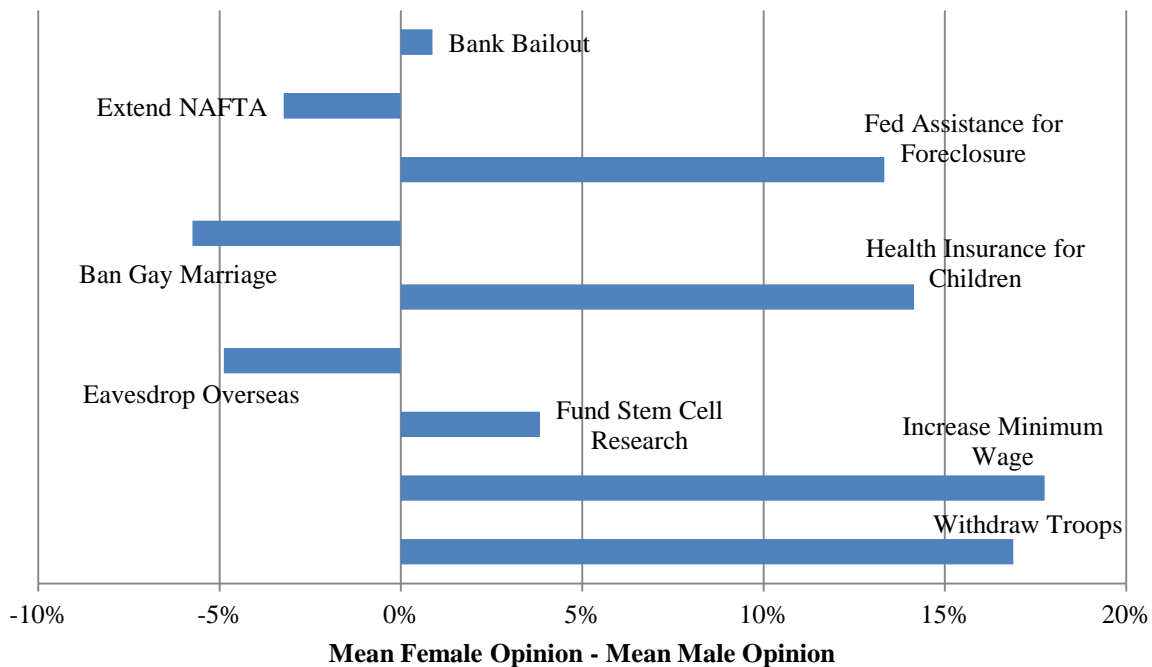Table 3: 2012 CCES Descriptive Statistics – support for bills by district, gender and party

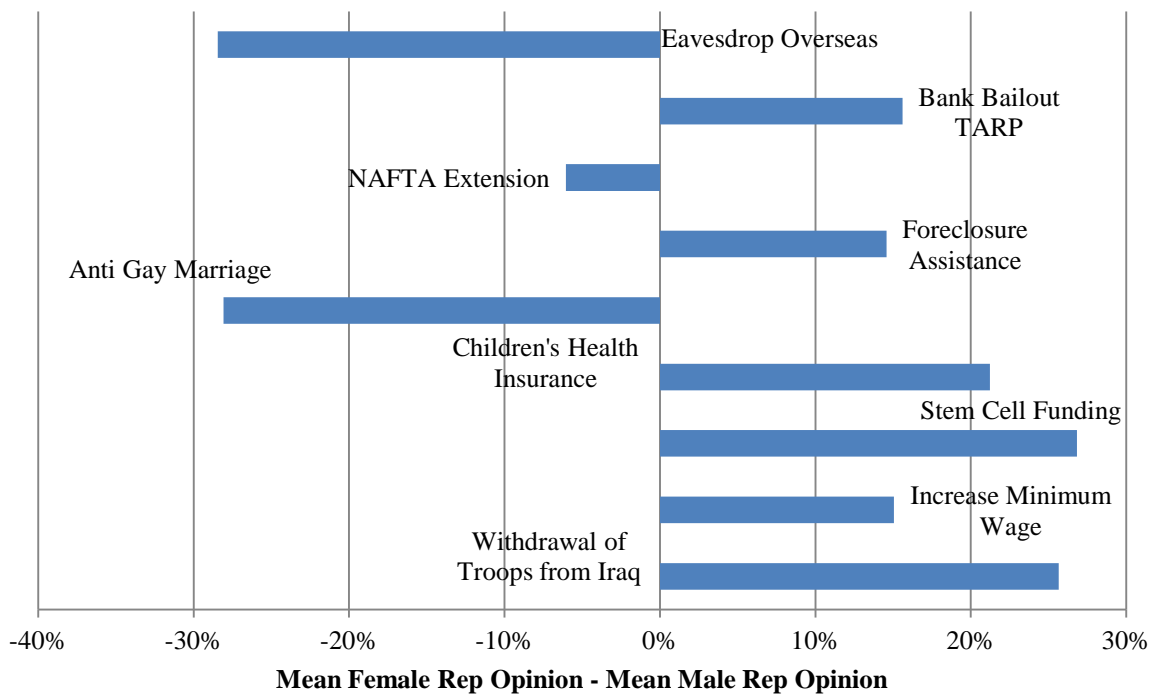Figure 3: Gender Differences in Policy Opinions – 2008 CCES

Figure 4: Gender Differences in Political Attitudes – 110th Congress, House of Representatives
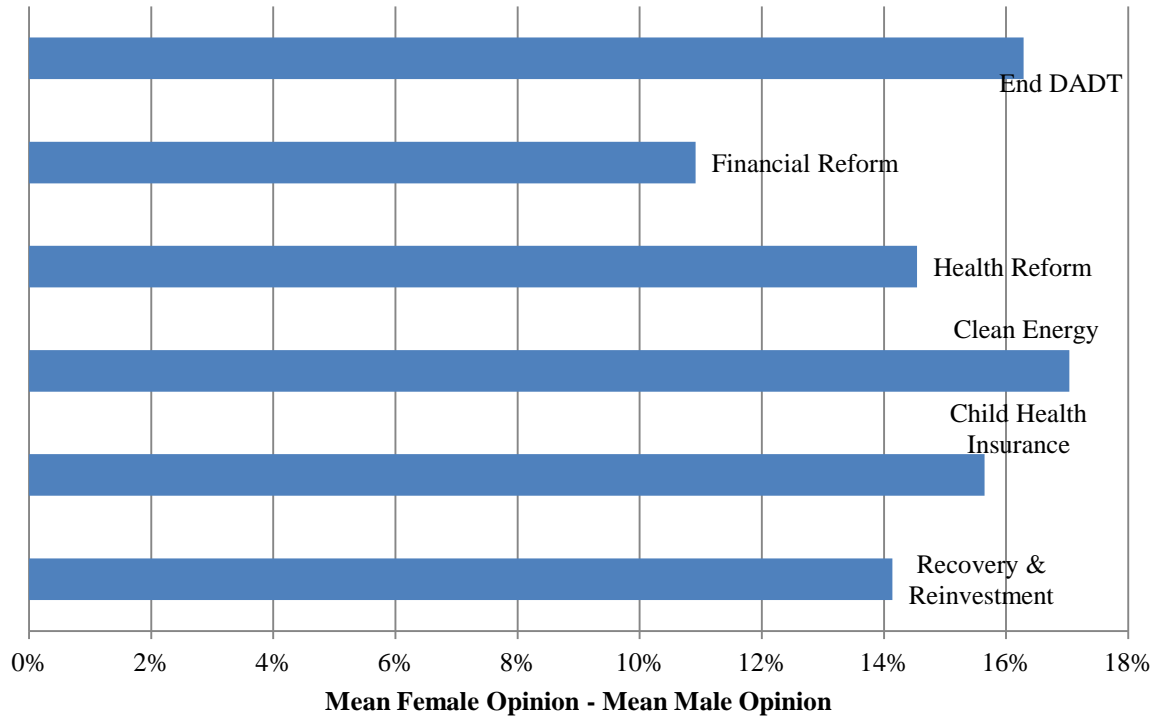
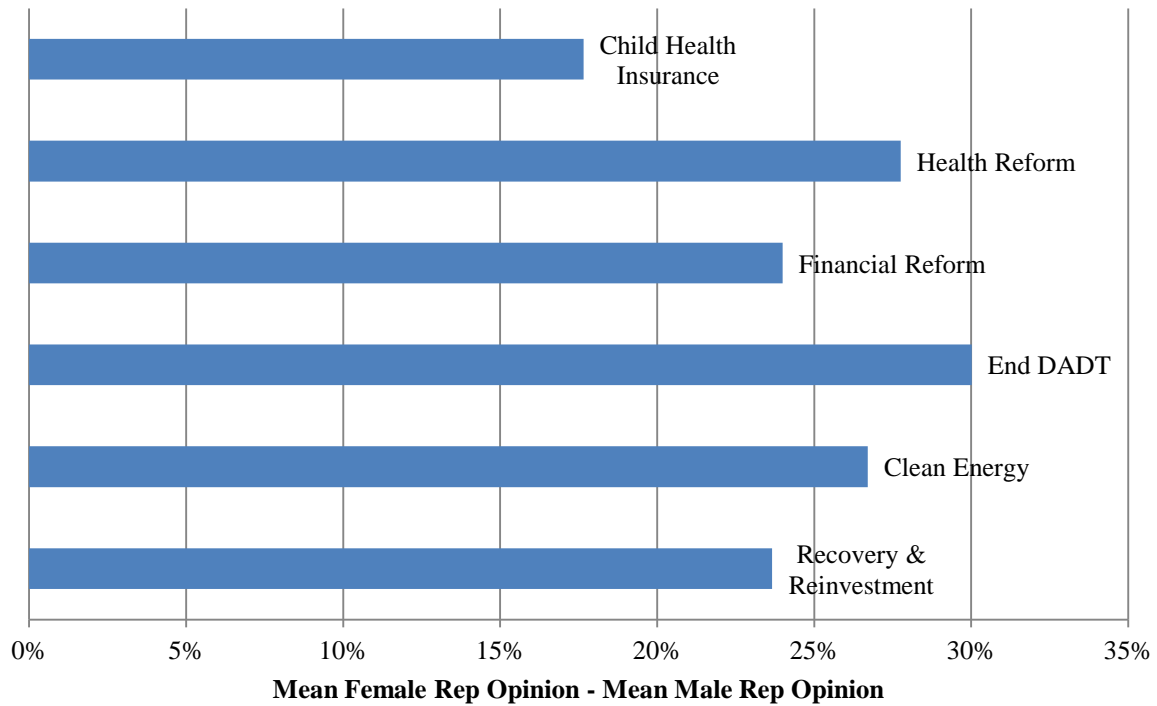Figure 5: Gender Differences in Policy Opinions – 2010 CCES

Figure 6: Gender Differences in Political Attitudes – 111th Congress, House of Representatives
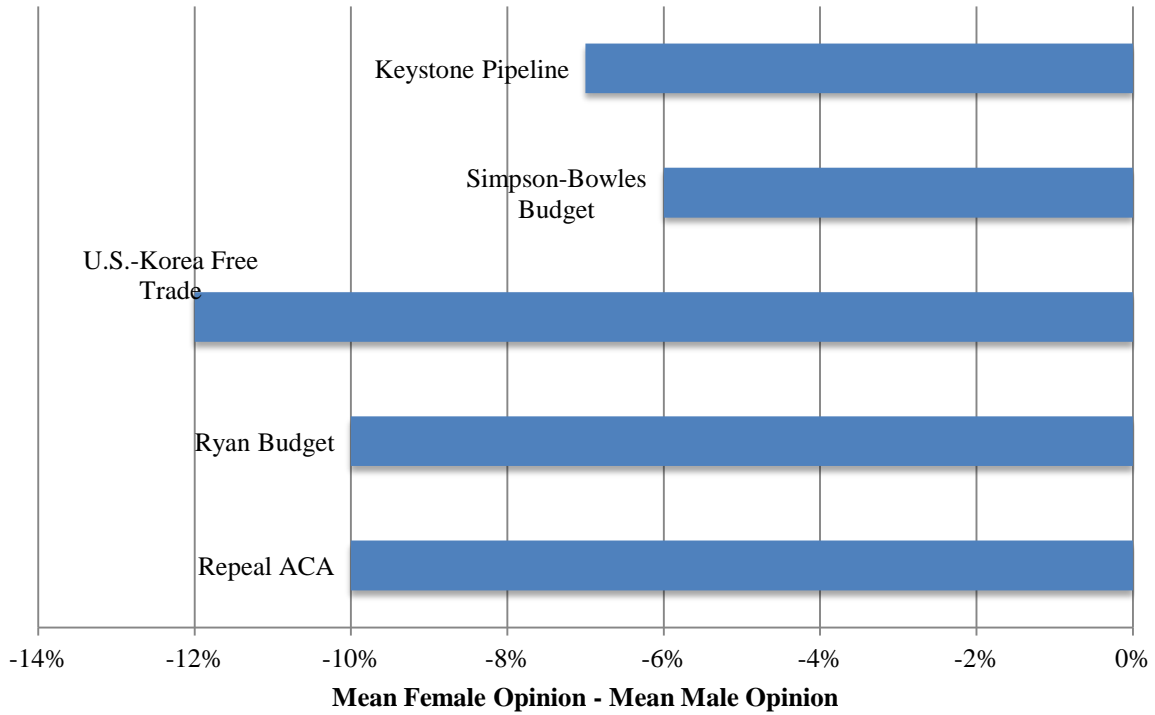
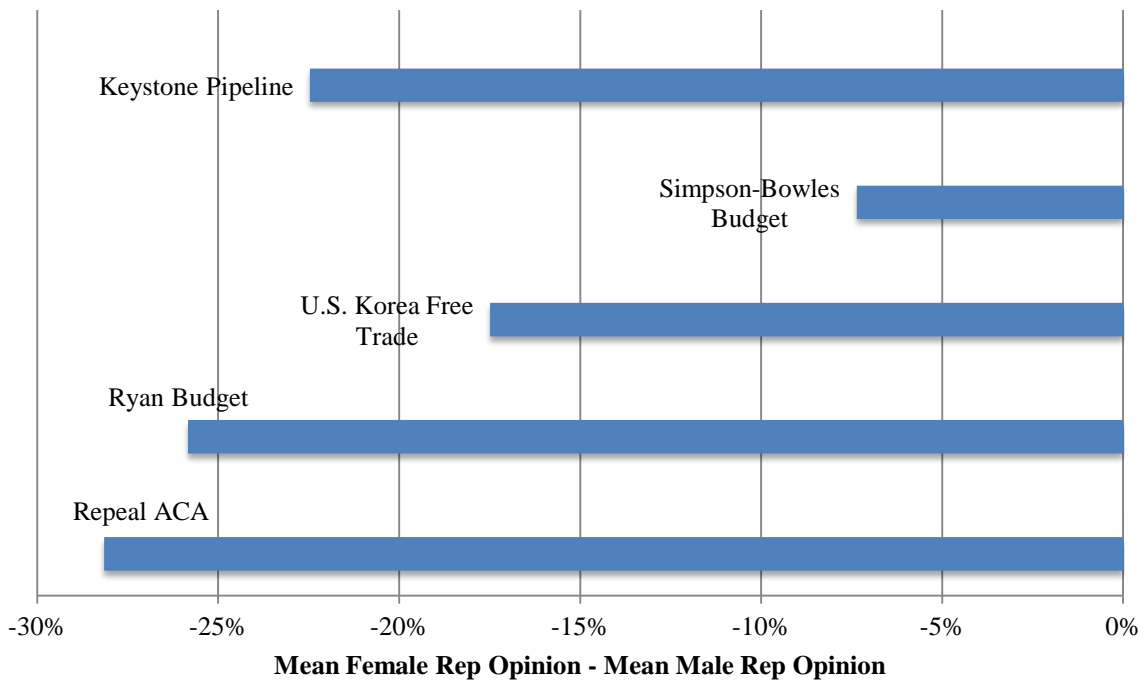Figure 7: Gender Differences in Policy Opinions – 2012 CCES

Figure 8: Gender Differences in Political Attitudes – 112th Congress, House of Representatives

Empirical Model

The goal of my investigation is to describe how legislative representation varies by gender. I answer this using the two approaches executed by Brunner et al., characterizing the extent to which legislative voting represents certain constituents' views both on average and "on the margin" (2013, 63).

Representation "On Average"

First, I analyze whether legislators are more likely to vote with one gender group than another. To answer this question, I assess the congruence, a value indicating the extent to which a representative's vote matches the beliefs held by the majority of their district (Brunner et al., 2013), between the legislators' votes and the policy preferences of their female and male constituents, respectively. I calculate the congruence by comparing roll call votes in the U.S. House of Representatives to stated constituent opinions, measuring the fraction of instances in which male and female legislators vote in accordance with the preferences of women and men in their district. I combine these results from each district (e.g., the proportion of time Female Representative X voted with the majority of women in her district, plus the proportion of time Female Representative Y voted with the majority of women in her district, and so on) and compute the average likelihood (i.e., my congruence value) that female legislators vote with their female constituents. I repeat this process to determine my four congruence values of interest: the proportion of time female legislators vote with respect to the majority of men and the majority of women, as well as the proportion of time male legislators vote with respect to the majority of men and the majority of women. I also include congruence measures for female and male legislators with their Democratic and Republican constituents.

This method amalgamates voting behavior by gender across the House of Representatives and the United States, allowing for a larger-scale analysis. In this way, I demonstrate whether legislators' propensity to vote with their gender groups varies significantly. I hypothesize that female legislators will demonstrate greater congruence with their female constituents than with their male constituents, that male legislators with have larger congruence with their male constituents over their female constituents, and that these gender differences will be statistically significant. I also expect that the congruence value between female legislators and their female constituents will be greater than the congruence between male legislators and their female constituents, and that this difference will be statistically significant.

Representation "On the Margin"

The second method by which I illustrate the relative representation by gender is by demonstrating congruence "on the margin" (Brunner et al. 2013). I run a legislative decision model to predict the legislator's propensity to support a bill, using the majority view of both male and female constituents as explanatory variables. In these two regressions (one for male legislators, one for female legislators), the output variable is binary, demonstrating whether or not a representative of the given gender voted yes or no on a given bill in the House of Representatives. The two independent variables are also binary, with the first showing whether or not the majority of female constituents in a district supported a given bill and the second showing whether or not the majority of male constituents in a district supported a given bill. These variables take the form of Equation 1:

(1)

i.

Female_Legislator_Voting_Yes =

$\beta_0 + \beta_1$*(Majority_Female_Constituents_Support)* $+ \beta_2$*(Majority_Male_Constituents_Support)*

and

ii.

Male_Legislator_Voting_Yes =

$\beta_0 + \beta_1$*(Majority_Female_Constituents_Support)* $+ \beta_2$*(Majority_Male_Constituents_Support)*

… Where *[Gender]_Legislator_Voting _Yes* is an indicator for whether the legislator supported or opposed a piece of legislation, and *Majority_Female_Constituents_Support* and *Majority_Male_Constituents_Support* are indicators for whether the majority of female and male constituents supported the legislation. The coefficients β_1 and β_2 then measure the degree to which the female and male constituents "influence" the legislator's vote. If $\beta_1 - \beta_2 > 0$, this is evidence that the legislator weighs his or her female constituents' opinions more heavily in the decision function. If $\beta_1 - \beta_2 < 0$, this suggests that male constituents are more influential. We employ indicators for constituent view rather than continuous measures here so that the interpretation of β_1 (or β_2) is the marginal impact of the median female (or male) voter's support for the legislation.

As stated when describing my conceptual model, it is necessary to control for the effects of political party in this analysis on the impact of shared gender on representation. Since there is evidence that political party does vary systematically by gender, a significant coefficient in one of the above equations, such as β_1 or α_1, which signals an effect of female constituents' opinions

on representatives' voting behavior, could actually be picking up the effect of shared gender. It would therefore be presumptuous to conclude that, if, say, $\beta_1 > \beta_2$ in equation (1)i, above, female representatives placed greater weight in the opinions of their female constituents (i.e., my entire hypothesis). Thus, in order to more confidently prove or disprove the political consequences of shared gender between constituents and their representatives, I amend the previous two equations in the following way, to account for the influence of shared party:

(2)

i.

Female_Legislator_Voting_Yes =

β_0 + β_1*(Majority_Female_Constituents_Support)* + β_2*(Majority_Male_Constituents_Support)* +

β_3*(Majority_Democratic_Constituents_Support)* +

β_4*(Majority_Republican_Constituents_Support)*

and

ii.

Male_Legislator_Voting_Yes =

β_0 + β_1*(Majority_Female_Constituents_Support)* + β_2*(Majority_Male_Constituents_Support)* +

β_3*(Majority_Democratic_Constituents_Support)* +

β_4*(Majority_Republican_Constituents_Support)*

… Where *Majority_Democratic_Constituents_Support* and

Majority_Republican_Constituents_Support are controls, indicating whether the majority of

Democratic and Republican constituents, respectively, supported the legislation. I also complete

3 more regression models, including fixed effects for the year, bill and state.

Since it is possible that the correlation between men and women in terms of majority support for certain policies may be quite high, the equations above may not reveal the greatest extent to which shared gender between constituents and legislators has an effect on political representation. Therefore, instead of observing all issues collectively, as above, I find the bills over which women and men had the highest levels of disagreement, indicated by their CCES survey responses. I categorize bills as high or low disagreement based on the difference in mean support between the genders. Those bills over which male and female voters throughout the country greatly disagreed (over the 75th percentile of disagreement) are included in this more restricted analysis. In my data, the bills over the 75th percentile of disagreement were those that had a difference in mean female-male opinion of 16.3% and above.

After restricting the data to only contentious bills, I repeat the steps above. First, I compile the average congruence by legislator and constituent gender, including congruence between female and male legislators with political parties at the district level as well. I then run the regressions in the two sets of equations above: first, the simple equation, only analyzing the effect of share gender, then the second equation, including political party controls.

It is necessary to add in fixed effects to my models as well. Since I pool data from the 2008, 2010 and 2012 CCES (and, correspondingly, from the 110th, 111th and 112th Congressional sessions), I included fixed effects for year. This step is important, as the political climate, even with respect to gender, changes from year to year. For example, 2012 was dubbed by some political commentators as the "year of the woman," as women, their priorities and their voting behavior became a major element of the presidential election. Therefore, any unobserved changes from year to year are controlled for by adding in year fixed effects, such that comparisons are not being erroneously drawn across distinct time periods.

It is also necessary to include fixed effects for the type of bill being analyzed. As demonstrated in the descriptive statistics, women and men disagree over some political issues more than others. Intuitively, it is expected that more women than men will support so-called "women's issue" bills, such as those focusing on reproductive health and family policy. As a result, any impact of shared gender between constituents and their representatives may only occur for certain bills, or at least more so for certain bills. It is therefore important to hold the type of bill constant when interpreting the influence of gender on representation in my model.

The last set of fixed effects I include in my model are those for state. There is obviously regional political variation that could affect the relationship that representatives have with their constituents by gender. For example, women in certain parts of the country may be more vocal in their political preferences. The unobserved factors that conspire to elect more women in certain states over others are also critical variables for which to control.

The reasoning behind these fixed effects is best understood through specific examples. Since my analysis is at the district level, I will show, through comparing two distinct congressional districts, the need for the fixed effects that I include in my model. Without fixed effects, the model technically includes all three years, twenty bills and fifty states in the analysis, allowing for a great deal of unexplained variation. In the model controlling for political party with fixed effects for year, the regression becomes slightly more specific, presenting two districts from potentially two different states and focusing on possibly two different bills, but in the same year, such as 2010. This model incorporates the congruence demonstrated between a representative and his or her constituents in an Arizona district regarding a bill on gay rights with that from a district in Maine that focuses on health reform, both in 2010. Controlling for the type of bill brings us closer to the ideal controlled state: now, the coefficients on the gender variables

can be interpreted as referring to the same bill (e.g., health reform) in the same year (e.g., 2010), but still in different regions (e.g., Arizona and Maine). In the last model, which contains fixed effects for year, bill and state, the results have more reliability, as the analysis focuses on the relationship between constituents and their representatives in the same year and state for the same bills.

Taken together, these measures of average and marginal congruence describe both how frequently legislators vote in accordance with gender groups and also how likely the legislator is to favor one group over the other, particularly when men and women disagree.

Further analysis

Party Control

My initial results, below, indicate the need for slight amendments and changes to the empirical model displayed above. Therefore, after presenting and discussing the results from these equations, I change the means of party control, replacing the two variables that demonstrate majority support among Republicans and Democrats in a district with a single binary variable. This new variable, titled "Party Control," accounts for the effect of the opinions held by the majority of a legislator's *own* party on his or her vote. This component of the regression controls for the party of *both* the legislator and the constituents on the right-hand side of the equation, and thus demonstrates the relationship of shared party, just as I attempt to analyze the relationship of shared gender. The fixed-effects variables for year, bill and state remain the same as above in this new equation.

(3)

i.

Female_Legislator_Voting_Yes =

$\beta_0 + \beta_1$*(Majority_Female_Constituents_Support)* $+ \beta_2$*(Majority_Male_Constituents_Support)* +

β_3*(Majority_Legislator's_Party_Support)*

and

ii.

Male_Legislator_Voting_Yes =

$\beta_0 + \beta_1$*(Majority_Female_Constituents_Support)* $+ \beta_2$*(Majority_Male_Constituents_Support)* +

β_3*(Majority_Legislator's_Party_Support)*

Continuous Measures

There is reason to doubt the suitability of binary independent variables in this analysis. This skepticism is best illustrated with an example: if 49% of females and 51% of males support a bill, the two independent variables of interest are coded differently (as 0 and 1, respectively), despite negligible difference. Yet, if 51% of females support a bill that 80% of males support, the two independent variables of interest would be coded as the same (as 1 and 1, respectively). This seems illogical. Therefore, I replace the binary indicators of majority male and female support with continuous measures, which represent the *proportion* of men and women in a district to support a bill.

(4)

i.

$$Female\_Legislator\_Voting\_Yes =$$

$$\beta_0 + \beta_1(Proportion\_Female\_Constituents\_Support) +$$

$$\beta_2(Proportion\_Male\_Constituents\_Support) + \beta_3(Majority\_Legislator's\_Party\_Support)$$

and

ii.

$$Male\_Legislator\_Voting\_Yes =$$

$$\beta_0 + \beta_1(Proportion\_Female\_Constituents\_Support) +$$

$$\beta_2(Proportion\_Male\_Constituents\_Support) + \beta_3(Majority\_Legislator's\_Party\_Support)$$

Results

Representation "On Average" – Congruence

Table 4 presents the average congruence between representatives and their constituents by gender, including congruence measures for legislators and their constituents' parties as well. Female legislators in the House of Representatives voted in accordance to their female constituents' preferences on the 20 bills studied nearly 65% of the time during the three Congressional sessions considered, whereas this proportion agreement was 61.53% with their male constituents, amounting to a significant difference. Conversely, male legislators in the House reflected the preferences of their male constituents more often than that of their female constituents, with a significant difference between the congruence values of 59.95% and 54.61%, respectively.

Unexpectedly, female legislators had a greater congruence with their male constituents than did male legislators. While the congruence between female legislators with their female constituents was significantly greater than the congruence between male legislators with their female constituents, the difference in congruence between the women and men in the House with their male constituents was insignificant. In other words, although each sex of representatives in the House votes according to the beliefs of their gender in the district, female representatives represent to a significantly larger degree the preferences of women, yet there is no significant gender difference in the representation of men by males or females in the House.

	Legislator		
	Female	Male	F-test, p-value
Women	64.93 (.013)	54.61 (.006)	0
Men	61.53 (.013)	59.95 (.006)	0.264
T-test of Equality, p-value	0.006	0	
Democrats	64.17 (.013)	49.34 (.006)	0
Republicans	38.26 (.013)	52.77 (.006)	0
T-test of Equality, p-value	0	0	
n	1440	7226	

Table 4: Average Congruence by Gender and Party in the District and House of Representatives – All Bills

Female representatives also reflected the preferences of their Democratic constituents more frequently than those of their Republican constituents. The opposite was found was male legislators, who had significantly greater congruence with their Republican constituents than with their Democratic constituents. Moreover, women in Congress voted in accordance with Democrats in their districts significantly more often than do male representatives, while men in Congress agreed significantly more frequently than their female counterparts with Republican constituents.

	Legislator		
	Female	Male	F-test, p-value
Women	72.60 (.023)	54.53 (.012)	0
Men	69.86 (.024)	63.58 (.011)	0.023
T-test of Equality, p-value	0.233	0	
Democrats	70.96 (.024)	49.94 (.012)	0
Republicans	44.39 (.026)	53.31 (.012)	0.002
T-test of Equality, p-value	0	0.091	
n	365	1812	

Table 5: Average Congruence by Gender and Party in the District and House of Representatives – Contentious Bills

Table 5 restricts the average congruence analysis to only contentious bills, those over which men and women disagreed the most. Confining the data to these bills generally produces more extreme congruence statistics. Once again, female legislators vote in accordance to the preferences of their female constituents more often than those of their male constituents, 72.6% and 69.86%, respectively, though the difference is now insignificant. The congruence between male representatives and their male constituents is still greater than that with their female constituents, but this significant difference becomes greater upon restriction to only contentious bills. Female legislators still demonstrate greater representation of their female constituents opinions than do male legislators; this disparity is larger in the analysis of contentious bills, and remains significant. Interestingly, women in Congress still exhibit greater congruence with their male constituents than do men in Congress, though this larger difference now becomes significant.

A similar push to the extremes in Table 5 of the values from Table 4 is also exhibited by party congruence with both genders in Congress. Congresswomen reflect both Democratic and Republican preferences to a greater extent regarding contentious bills, though female representatives still demonstrate significantly greater congruence with Democrats in their districts than with Republicans. Once again, women in the House agree significantly more often with their Democratic constituents and significantly less often with their Republican constituents, than do men in the House.

Thus, "on average" both male and female legislators tend to represent the views of their own gender to a greater extent than those of the opposite sex. However, congresswomen consistently enjoy greater congruence with *both* their male and female constituents than do congressmen, who have lower "agreement rates" with both genders in their districts.

Representation "On the Margin" – Regression Analysis

All Bills

Table 6 displays the results of the empirical equations above, showing representation "on the margin" using a linear probability model[1]. The first model is the simplest, including only indicators for whether or not the majority of women and the majority of men supported a bill as independent variables, shown as the first two variables on the left-hand side of the table. The dependent variable is represented in the first row and is an indicator for whether or not the representative, either male or female, voted for a bill. The statistics show that if the majority of women in any district nationwide support a bill, their female representative is 25.5 percentage points more likely to vote for that bill. If the majority of men in a district support a bill, their female representative is 11.3 percentage points more likely to vote for it. Since $\beta_1 - \beta_2 > 0$ in this simple legislative model, I conclude that female representatives weigh the preferences of their female constituents significantly more heavily than those of their male constituents. The opposite is true for male representatives, who appear to place more importance on the opinions of their male constituents. However, all else is not equal in this model, which does not yet control for the influence of political party nor contain the fixed effects discussed above. Nevertheless, this outcome provides a good start to the analysis, and suggests the direction in which the results may transpire.

The story changes slightly upon controlling for party at the district level (Table 6, Model 2). Although the coefficients on the indicators for majority of female and male support remain significant, the difference between the two is far smaller, and becomes insignificant when

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[1] Probit models were also used for this analysis, because the output variable is binary (i.e., restricted to 0 or 1). Tables akin to Tables 6 and 7 with the marginal effects from the Probit model are included in the appendix for reference. However, the results were nearly identical as in the linear probability model, shown below.

focusing on female representatives. Interestingly, the coefficient on the majority female support indicator is the only statistic to shrink upon controlling for party preferences. When the predominant opinions of Democrats and Republicans in a district are included in the equation, the support for a bill by the majority of women has only an 18-percentage point effect on the likelihood that a female representative will vote for a bill. Therefore, in Model 1, I may have been overstating the effect of shared female gender on representation, possibly because more women are Democrats than not. Indeed, support of a bill by the majority of Democrats by district relates to a significant 5-percentage point increase in the likelihood that female representatives will vote for a bill. Given the imbalance in female composition among Democrats and Republicans, it may not be surprising that support for a bill by the majority of Republicans in a district significantly decreases the likelihood that a female representative will vote "Aye" by 16.9 percentage points. Yet, every other coefficient, in both gender's equations, grow upon controlling for political party preferences in Model 2. It is important to keep in mind that these results include variation in year, state and bill, and thus may not be the most refined.

In the second model, majority support by men for a bill increases the chance that a male representative will vote in favor by 21.8 percentage points, while the same support among women has an effect of only 9.8 percentage points. While we cannot statistically conclude that congresswomen are more influenced by the beliefs of their female constituents in the second model, we can still conclude that congressmen statistically differ in their representation of men and women in their district, significantly favoring the majority preferences of men, though at a smaller margin. Regarding Democratic support, we see an opposite effect than that on female representatives: male representatives are 15.2 percentage points less likely to vote yes on a bill

Model	1		2		3		4		5	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Women	.255***	.005	.181***	.098***	.091**	.086***	.148***	.156***	.129***	.154***
	(.031)	(.013)	(.037)	(.017)	(.038)	(.017)	(.041)	(.019)	(.041)	(.018)
Men	.113***	.215***	.162***	.218***	.173***	.22***	.243***	.279***	.251***	.278***
	(.03)	(.013)	(.031)	(.014)	(.031)	(.014)	(.033)	(.016)	(.034)	(.016)
Difference	.142***	-.21***	.019	-.12***	-.082	-.134***	-.095*	-.123***	-.122**	-.124***
	(.006)	(.0)	(.724)	(.0)	(.113)	(.0)	(.094)	(.0)	(.013)	(.0)
Democrats			.05**	-.152***	.017	-.14***	-.042	-.034	-.036	-.029
			(.038)	(.017)	(.039)	(.018)	(.049)	(.024)	(.05)	(.024)
Republicans			-.169***	-.012	-.115***	-.008	.007	.007	-.01	.0
			(.028)	(.014)	(.029)	(.015)	(.036)	(.019)	(.036)	(.019)
Year Fixed Effects					X	X	X	X	X	X
Bill Fixed Effects							X	X	X	X
State Fixed Effects									X	X
R^2	.097	.046	.13	.058	.166	.061	.215	.093	.255	.113
Observations	1381	7072	1381	7072	1381	7072	1381	7072	1381	7072

Notes: The dependent variable is an indicator for the legislator voting "Aye," on, or in favor of, a bill. The independent variables are indicators for the majority of a group supporting a bill. Year, bill and state fixed effects (of which there were 3, 20 and 50, respectively) are included as additional controls. Standard errors are in parentheses, except for in the "Difference" row, in which parentheses contain between the p-value from the chi2 equality test.
*** Significant at the 1 percent level
** Significant at the 5 percent level
* Significant at the 10 percent level
Table 6: Legislative Decision Model by Gender in the House of Representatives, 2008-2013 – All Bills

that has a majority of Democrats' support. This model still does not yet hold year, bill or state

constant in the analysis, so these results could be picking up the effects of such variation.

Model 3 introduces the addition of fixed effects into the equation. Controlling for year

(2008, 2010, 2012), the effect of majority support by female constituents' further diminishes,

while the effect of equivalent support by male constituents' grows, such that, for the first time, β_1

$- \beta_2 < 0$. However, the difference between the two coefficients is insignificant, meaning

congresswomen could in fact weigh the preferences of each gender equally. Congressmen still

reflect the majority preferences of their male constituents to a greater extent than those of their

female constituents, though this disparity has shrunk further upon including fixed effects for year.

Fixed effects for the type of bill in Model 4 change the pattern. Despite an increase in the

impact of majority female support on voting behavior by female legislators from the previous

model, congresswomen appear to significantly favor the opinions held by the majority of their

male constituents over those held by the majority of their female constituents, once the policy

issue is controlled for. Specifically, support for a specific bill in a specific year, say, healthcare

reform in 2010, by the majority of men in a district (in all states, from Arizona to Maine) relates

to a 24.3 percentage-point increase in the likelihood that a female representative will vote for a

bill, while the same support among women in the district sees only a 14.8 percentage point

increase. Nevertheless, the gender-representation disparity favoring men is still larger for male

legislators. Upon controlling for the type of policy, the effect of either party's support on

legislative behavior disappears; neither coefficient is significant.

The impact of male constituents' support on female representatives' voting choices

continues to grow in the last model (5), which contains fixed effects for all 50 states. The

disparity in emphasis placed on female versus male majority opinion in the district grows, such

that majority male support in a district for a bill has nearly double the effect on the likelihood that a female representative will vote in favor than does majority female support for the same legislation. Once again, male legislators significantly reflect the majority opinion of men over that of women to a greater extent than do female legislators. Using the same example to demonstrate the role of fixed effects, the results from Model 5 indicate that, in a given year (e.g., 2010) and state (e.g., Arizona), a male representative is 15.4 percentage points more likely to vote for a given bill (e.g., healthcare reform) that enjoys majority support among his female constituents, but this Arizona state congressman is 27.8 percentage points more likely to vote 'Aye' on comprehensive healthcare if the majority of his male constituents support the legislation. Continuing with this example, a congresswoman from Arizona is 12.9 and 25.1 percentage points more likely to vote for this comprehensive healthcare reform if the majority of women and men, respectively, support the legislation. In other words, holding constant year, bill and state, male and female legislators are both more likely to vote in accordance with their male constituents than their female constituents. This gender difference is slightly larger for male representatives, though majority support among representative voting yes) on their representative's behavior

Contentious Bills

As seen above in the average congruence table (Table 5), restricting the sample to the bills over which men and women disagreed the most pulls the statistics to more extreme values. There does not emerge the same pattern as in Table 6, however, with the relationship between the voting behavior of female representatives and the preferences of their female constituents becoming increasingly relatively smaller upon adding more and more controls. In fact, only once do female representatives appear to favor the opinions of their male constituents more so than

Model	1		2		3		4		5	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Women	.308***	.147***	.301***	.155***	.303**	.188***	.148***	.227***	.096***	.16***
	(.111)	(.04)	(.111)	(.04)	(.112)	(.04)	(.041)	(.04)	(.098)	(.038)
Men	.241***	.297***	.21***	.303***	.212***	.325***	.243***	.372***	.057***	.299***
	(.056)	(.024)	(.059)	(.027)	(.059)	(.027)	(.033)	(.029)	(.053)	(.028)
Difference	.067	-.15***	.091	-.148***	.091	-.137***	-.095*	-.145***	.039	-.139***
	(.632)	(.004)	(.515)	(.0)	(.516)	(.009)	(.094)	(.0)	(.739)	(.005)
Democrats			N/A	-.13	N/A	-.104***	-.042	-.029	N/A	-.009
				(.134)		(.133)	(.049)	(.131)		(.123)
Republicans			.086	-.015	.086	-.023	.007	.04	.037	.032
			(.052)	(.029)	(.053)	(.029)	(.036)	(.033)	(.051)	(.031)
Year Fixed Effects					X	X	X	X	X	X
Bill Fixed Effects							X	X	X	X
State Fixed Effects									X	X
R^2	.098	.107	.105	.108	.105	.127	.132	.166	.523	.308
Observations	347	1751	347	1751	347	1751	347	1751	347	1751

Notes: The dependent variable is an indicator for the legislator voting "Aye," on, or in favor of, a bill. The independent variables are indicators for the majority of a group supporting a bill. Year, bill and state fixed effects (of which there were 3, 20 and 50, respectively) are included as additional controls. Standard errors are in parentheses, except for in the "Difference" row, in which parentheses contain between the p-value from the chi2 equality test.
*** Significant at the 1 percent level
** Significant at the 5 percent level
* Significant at the 10 percent level
Table 7: Legislative Decision Model by Gender in the House of Representatives, 2008-2013 – Contentious Bills

their female constituents (Model 4) regarding preferences towards contentious legislation, and that gender disparity is only significant at the 10% level. Instead, the difference between men and women at the district level in terms of the effect they have on female legislators' voting behavior is insignificant in virtually all models.

Nevertheless, majority support among female constituents appears to exert consistently greater influence on female legislators than majority support among male constituents. For instance, Model 5 suggests that a congresswoman is 9.6 percentage points significantly more likely to vote in favor of a given contentious bill when the majority of her female constituents also favor it, but only 5.7 percentage points significantly more likely to do so when the majority of her male constituents support the legislation. Holding constant year, bill and state, majority support among women and men, respectively, in a district significantly increases the likelihood that a male representative will vote in favor of the given contentious bill by 16 and 30 percentage points. Thus, congressmen demonstrate a similar legislative decision framework behavior pattern as above, weighing the opinions of the majority of their male constituents significantly more highly than those of their female constituents. For male representatives, $\beta_1 - \beta_2$ is consistently less than zero, meaning majority support by men systematically has a greater effect than majority support by women on the likelihood that male representative will vote for a piece of legislation. For contentious bills, those over which men and women greatly disagree, majority support among men indicates an even higher increase in positive voting by male representatives than it does for all bills in the sample.

The same can be said of congresswomen: regarding controversial issues, majority support by women in districts leads to an increased chance that female representatives will vote in favor of the bill by around 30 percentage points (Table 7, Model 1-3), not controlling for year, bill or

state. As in the previous analysis, however, additional controls, particularly the fixed effects of bill and state, decrease the influence of shared gender on representation. In fact, up until these last two models, the influence of female constituents' opinion on their female legislators was larger than on their male legislators, as indicated by the magnitude of the coefficient on female majority support in the two legislative decision models. However, these fixed effects so greatly reduce the influence of female political preferences that majority support among women in a district leads to a greater likelihood that their male representatives, as opposed to their female representatives, will vote in favor of a bill (Table 7, Models 4 and 5).

Further Analysis

Different Party Control

In Table 7, there is clear and large drop in the magnitude of the coefficient on the variable representing majority support among women (*Majority_Female_Constituents_Support*) in a district in the female representative equation of Model 4, which introduces fixed effects for bill. However, a similar drop is not seen for any other coefficient, in either equation (male or female representative) upon including bill fixed effects. In brainstorming why this may have occurred, party affiliation of the representative comes to mind. Since men in the House of Representatives and the general public are more evenly distributed between the political parties, controlling for the type of legislation, whether left- or right-leaning, may result in a gender-representation relationship that is essentially "cancelled" out for male constituents (i.e., the men who support a bill balance out those who do not). Yet, since women in the House and in the general public are more likely to be Democrats, the legislation in the data may lead to a mutual agreement between female representatives and their female constituents regarding Democratic opinions over the

legislation. In this way, controlling for the type of bill would reduce the coefficient on majority *female* support in the *female* representative equation (because women often share both gender and party with their female representatives), while having very little, if any, effect on the any of the other coefficients in either equation, since those relationships (e.g., male-male or male-female) do not share gender while at the same time systematically favoring a certain political party as well. It is therefore necessary to create and include a variable that accounts for the agreement between legislators and the constituents that belong to their political party; there is reason to believe that the variables used in the regression equations above do not accomplish this, as the coefficients on indicators of majority support by party were surprisingly small (the literature on this subject found that political party is the largest predictor of voting behavior).

It is important that the agreement between legislators and their constituents regarding certain bills due to shared political party and shared gender are differentiated. Thus, I create a variable that is equal to 1 if a majority of the constituents of the party of the legislator (either democrats or republicans) favor the bill, and zero otherwise. This new variable replaces both of the binary indicators, and demonstrates the influence of majority support among constituents of a legislator's own party. For example, for a Democratic legislator, it is the influence that majority support among his or her Democratic constituents has on the likelihood that he or she will vote for a bill. This variable is titled "Party Control" (first demonstrated in Equation 3, above) in subsequent tables.

The results from including this variable are noteworthy, and support the findings discussed in the literature review. If the majority of constituents in a legislator's (either male or female) own party support a bill, the representative is 54-58 percentage points more likely to vote for the bill. For example, a Republican female representative in a given state is 57.3

Model	1		2		3		4		5	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Women	.255***	.005	.019	-.115***	-.126***	-.126***	-.065*	.003	-.071**	.005
	(.031)	(.013)	(.029)	(.012)	(.031)	(.013)	(.035)	(.016)	(.035)	(.016)
Men	.113***	.215***	-.046*	.015	-.011	.016***	.069**	.067***	.073**	.066***
	(.03)	(.013)	(.027)	(.012)	(.026)	(.012)	(.033)	(.014)	(.03)	(.014)
Difference	.142***	-.21***	.065	-.13***	-.115**	-.142***	-.134***	-.064***	-.144***	-.061*
	(.006)	(.0)	(.151)	(.0)	(.014)	(.0)	(.005)	(.004)	(.003)	(.0057)
Party Control			.565***	.536***	.569	.547***	.579***	.579***	.573***	.576***
			(.027)	(.012)	(.026)	(.012)	(.026)	(.012)	(.027)	(.012)
Year Fixed Effects					X	X	X	X	X	X
Bill Fixed Effects							X	X	X	X
State Fixed Effects									X	X
R^2	.097	.046	.311	.265	.368	.279	.422	.33	.442	.341
Observations	1381	7072	1381	7072	1381	7072	1381	7072	1381	7072

Notes: The dependent variable is an indicator for the legislator voting "Aye," on, or in favor of, a bill. The first two independent variables are indicators for the majority of a gender supporting a bill, and the third independent variable is an indicator for whether or not the majority of a legislator's own party supported a bill. Year, bill and state fixed effects (of which there were 3, 20 and 50, respectively) are included as additional controls. Standard errors are in parentheses, except for in the "Difference" row, in which parentheses contain between the p-value from the chi2 equality test.
*** Significant at the 1 percent level
** Significant at the 5 percent level
* Significant at the 10 percent level
Table 8: Legislative Decision Model by Gender in the House of Representatives with Legislator's Party, 2008-2013 – All Bills

Model	1		2		3		4		5	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Women	.308***	.147***	-.011	.019	-.012	.047	.008	.095***	-.106	.059*
	(.112)	(.04)	(.07)	(.032)	(.07)	(.032)	(.07)	(.032)	(.071)	(.031)
Men	.241***	.297***	.037	.047**	.036	.064	.064	.138***	-0.031**	.088***
	(.056)	(.242)	(.035)	(.021)	(.036)	(.021)	(.038)	(.024)	(.038)	(.023)
Difference	.067	-.15***	-.147	-.028	-.048	-.017	-.056	-.043	-.075	-.029
	(.632)	(.004)	(.576)	(.501)	(.576)	(.674)	(.517)	(.301)	(.379)	(.462)
Party Control			.871***	.656***	.871***	.65***	.866***	.65***	.754***	.605***
			(.036)	(.021)	(.036)	(.021)	(.036)	(.02)	(.044)	(.02)
Year Fixed Effects					X	X	X	X	X	X
Bill Fixed Effects							X	X	X	X
State Fixed Effects									X	X
R^2	.098	.107	.662	.429	.662	.442	.675	.33	.753	.341
Observations	347	1751	347	1751	347	1751	347	1751	347	1751

Notes: The dependent variable is an indicator for the legislator voting "Aye," on, or in favor of, a bill. The first two independent variables are indicators for the majority of a gender supporting a bill, and the third independent variable is an indicator for whether or not the majority of a legislator's own party supported a bill. Year, bill and state fixed effects (of which there were 3, 20 and 50, respectively) are included as additional controls. Standard errors are in parentheses, except for in the "Difference" row, in which parentheses contain between the p-value from the chi2 equality test.
*** Significant at the 1 percent level
** Significant at the 5 percent level
* Significant at the 10 percent level
Table 9: Legislative Decision Model by Gender in the House of Representatives with Legislator's Party, 2008-2013 – Contentious Bills

percentage points more likely to support a bill if the majority of her Republican constituents support it, even controlling for both male and female preferences on that bill (Table 8).

An unexpected pattern emerges when observing the relationship between female majority support at the district and female representative voting behavior, however. In almost all of the models, majority support among women in a district leads to a significant decrease in the likelihood that a congresswoman will vote for the bill. Yet, majority support by men in a district is almost always significantly and positively correlated with an affirmative vote by a female representative. As seen consistently above, congressmen appear to be more swayed by majority preferences of their male, as opposed to female, constituents. Also important are the R^2 values; the larger numbers indicate that the new party control variable produces a stronger model, which explains a greater deal of the variation in the system. These findings support the construction of a new variable to control for the shared party of the legislator and constituents in the first place.

When the analysis is restricted to contentious bills, as is done above, the coefficient on the "party control" variable grows (Table 9). Congresswomen are 75-87 percentage points more likely to vote for a controversial bill if the majority of her constituents in her party support it, while congressmen are only 60-65 percentage points more likely to do so. None of the coefficients on the majority female support indicators are significant in this table, potentially a result of the smaller sample size. Male legislators still appear to be more influenced by the majority support of their male constituents than by that of their female constituents, even when controlling for the effects of shared political party with constituents. The magnitude of these coefficients is notably smaller than in Tables 6 and 7, possibly suggesting that earlier results were attributing to shared gender what are actually the representation implications of shared party.

Model	1		2		3		4		5	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Proportion Women	.828***	-.05	.3***	-.311***	-.146	-.378***	.131	.363***	.142	.37***
	(.083)	(.037)	(.08)	(.034)	(.092)	(.041)	(.109)	(.054)	(.11)	(.054)
Proportion Men	.04	.803***	-.269***	.204***	-.026	.233***	.305***	.512***	0.298***	.513***
	(.1)	(.044)	(.091)	(.042)	(.092)	(.044)	(.099)	(.051)	(.038)	(.051)
Difference	.788***	-.853***	.569***	-.515***	.06	.611***	-.174	-.149*	-.156	-.143*
	(.0)	(.0)	(.0)	(.0)	(.476)	(.0)	(.32)	(.082)	(.382)	(.096)
Party Control			.527***	.527***	.551***	.541***	.528***	.509***	.522***	.507***
			(.029)	(.012)	(.028)	(.012)	(.028)	(.037)	(.029)	(.012)
Year Fixed Effects					X	X	X	X	X	X
Bill Fixed Effects							X	X	X	X
State Fixed Effects							X	X	X	X
R^2	.15	.072	.317	.263	.362	.277	.425	.348	.445	.359
Observations	1381	7072	1381	7072	1381	7072	1381	7072	1381	7072

Notes: The dependent variable is an indicator for the legislator voting "Aye," on, or in favor of, a bill. The first two independent variables are continuous measurements of the proportion of either gender that supports a bill, and the third independent variable is an indicator for whether or not the majority of a legislator's own party supported a bill. Year, bill and state fixed effects (of which there were 3, 20 and 50, respectively) are included as additional controls. Standard errors are in parentheses, except for in the "Difference" row, in which parentheses contain between the p-value from the chi2 equality test.

*** Significant at the 1 percent level
** Significant at the 5 percent level
* Significant at the 10 percent level

Table 10: Continuous Legislative Decision Model by Gender in the House of Representatives with Legislator's Party, 2008-2013 – All Bills

Continuous Variables

In Tables 10 and 11, I repeat the regressions executed previously, running the same progression of five models, but with continuous variables instead of binary ones in order to represent the support among men and women in the district. Specifically, I replace the binary variables indicating majority or minority support among men and women (0 and 1, respectively), with continuous variables that equal the *proportion* of support among men and women for a bill.

Initial results (Model 1, Table 10) suggest a representation bias in attention towards one's own gender. In the simplest model, a 1-percentage point increase in support among a district's female constituents translates to an 83 percentage-point increase in the likelihood that their congresswoman will vote for a bill, while the same increase in political backing among male constituents leads to an 80 percentage-point increase in the likelihood that their congressman will vote for the bill. This gender difference in 'influence,' with female legislators responding more heavily to their female constituents, and male legislators to their male constituents, is statistically significant for both female and male representatives. These coefficients plummet, however, upon controlling for the legislator's party beliefs: a 1-percentage point increase in support for a bill among either gender group is associated with a roughly 30 percentage point increase that their same-sex legislator will vote for the bill.

Consistent with values found in the last analysis, majority support among a legislator's own party for a bill leads to a 53-percentage point rise in the chance that the legislator will support it. By the most complex model, which also controls for year, bill and state, another unexpected pattern emerges. Female legislators once again appear to be more guided by the preferences of their male constituents than by those of their female constituents when deciding how to vote: a 1-percentage point increase in support for legislation corresponds to a 30-

percentage point increase in the likelihood that a female representative will vote for the bill, but the same marginal growth in support among women in the district increases the chances that the congresswoman will vote for the bill by only 14 percentage points, less than half the 'effect' that men enjoy. Consistent will all previous findings, it seems that congressmen are more heavily influenced by the views of male constituents: a 1-percentage point increase in support among the district's men for certain legislation relates to a 51-percentage point increase in the probability that their male representative will vote in favor of the bill, but a corresponding uptick in support among the district's women leads to only a 37-percentage point increase.

Restricting the analysis to contentious bills when examining the continuous measures of gender support leads to different results (Table 11). For these kinds of controversial acts of legislation, shared political party appears to have a much greater impact on a representative's voting behavior: congresswomen are 72-85 percentage points more likely, and congressmen 55-63 percentage points more likely, to vote for a bill that has majority support among his or her party in the district. It is difficult to extract any consequences behind possible relative benefits female constituents share with their female legislators, as almost all of the relevant coefficients are insignificant in Table 11. Nevertheless, the pattern congressmen have exhibited throughout this investigation holds, suggesting again that they are more influenced by the political attitudes of their male, not female, constituents, even if only marginally (Model 5).

Model	1		2		3		4		5	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Proportion Women	.913***	.464***	-.068	-.04	-.07	.014	.214	.644***	.14	.466***
	(.224)	(.102)	(.15)	(.086)	(.152)	(.085)	(.165)	(.1)	(.167)	(.096)
Proportion Men	.416**	.939***	.248*	.373***	.248	.409***	.333**	.649***	.004	.473***
	(.206)	(.099)	(.133)	(.084)	(.133)	(.083)	(.133)	(.082)	(.142)	(.084)
Difference	.497	-.505**	-.316	-.413***	-.318	-.395***	-.119	-.005	.136	-.007*
	(.219)	(.0108)	(.229)	(.007)	(.227)	(.009)	(.649)	(.973)	(.609)	(.965)
Party Control			.854***	.625***	.854***	.617***	.814***	.569***	.717***	.551***
			(.039)	(.022)	(.039)	(.022)	(.039)	(.021)	(.047)	(.021)
Year Fixed Effects					X	X	X	X	X	X
Bill Fixed Effects							X	X	X	X
State Fixed Effects									X	X
R^2	.188	.172	.666	.437	.666	.450	.686	.512	.752	.565
Observations	347	1751	347	1751	347	1751	347	1751	347	1751

Notes: The dependent variable is an indicator for the legislator voting "Aye," on, or in favor of, a bill. The first two independent variables are continuous measurements of the proportion of either gender that supports a bill, and the third independent variable is an indicator for whether or not the majority of a legislator's own party supported a bill. Year, bill and state fixed effects (of which there were 3, 20 and 50, respectively) are included as additional controls. Standard errors are in parentheses, except for in the "Difference" row, in which parentheses contain between the p-value from the chi2 equality test.
*** Significant at the 1 percent level
** Significant at the 5 percent level
* Significant at the 10 percent level
Table 11: Continuous Legislative Decision Model by Gender in the House of Representatives with Legislator's Party, 2008-2013 – Contentious Bills

Discussion

On average, female legislators demonstrate significantly greater congruence with their female constituents than with their male constituents, meaning they reflect the preferences of their own gender more so than those of the opposite sex (Table 4). As predicted, male legislators vote significantly more frequently in accordance with the men in their district than with the women (Table 4). Interestingly, women in the House of Representatives reflect the views of *both* men and women in their district more often than do male representatives, but this difference is only significant regarding the representation of female constituents. When the analysis is restricted exclusively to contentious bills, those over the 75th percentile of disagreement between men and women, most of the gender congruence values grow (Table 5). The greater congruence both women and men enjoy with their female representatives, as opposed to with their male representatives, regarding contentious bills is statistically significant.

Regarding the regression results, the influence of women's opinion on their female legislators' voting behavior diminishes as more controls are added to the model, with the female representatives switching patterns, such that they appear more influence by their male constituents than by their female constituents. This turnaround occurs in Model 3 of Table 6 and Model 4 of Table 7, when controls for year and bill are included. This suggests support for my argument above, that political climate change from year to year affects the gender-representation relationship between constituents and their legislators, as certain issues become more salient than others due to current events, changing demographics, and media coverage.

Taking the results from Model 5 (Table 6), which contains party controls and fixed effects for year, bill and state, as the most valid, an unexpected pattern emerges. Both female and male legislators in in the House of Representatives appear to be more influenced by the majority

preferences of their male constituents over those of their female constituents. This is obviously contrary to my hypothesis, that women in office will better respond to the desires of their female constituents.

Yet, it is important to note that in Tables 6 and 7, female representatives' bias only emerges after including controls for year and bill, and then persists. The same progression is not observed for male representatives: regardless of the model, congressmen echo the sentiments of their male constituents over those of their female constituents. This change in pattern in Models 3-5 (from Models 1 and 2) in both tables suggests that the time period, brand of legislation and region of the country all serve to significantly moderate the gender-representation relationship for female representatives, but not for male representatives. Although the logic behind this moderation is somewhat intuitive, the absence of such an effect on the gender-representation relationship for male representatives is a mystery.

Women in office may be more influenced by the preferences of their female constituents in one year over another because of a multitude of factors. A single news story can thrust women to the forefront of political pandering one year, while women's groups may better mobilize to lobby their priorities during another. Female representatives remain more strongly swayed by the opinions of their male constituents than by those of the women in their district after controlling for bill. This pattern also makes sense from a gender and political standpoint: variation in the content of a bill would indeed affect the extent to which gender matters in representation. Congresswomen may greatly value the position of their female constituents on some bills, such as "women's issue" bills, and prioritize other stakeholders when voting on different legislation. Therefore, the results in the latter models of the initial tables do not necessarily invalidate any role of shared gender in our democratic system. Rather, the fact that the topic and composition of

a law appears to change exactly to whom our representatives are beholden is probably a victory for democracy. The weight of female constituents on their congresswoman's voting choice on a given bill in a given year is further reduced upon controlling for state, which supports the notion that unobserved factors in certain regions of the country weaken or strengthen the extent to which shared gender has an effect on the legislation process. Men in certain states may comprise the louder gender, more effectively communicating their judgments on a variety of issues. Or, there could exist a gender-disparity in terms of political donations that varies from state to state, in which female representatives find themselves beholden to the political preferences of the men who funded their campaign for office.

The ultimate findings in Table 6, Model 5 are impossible to unequivocally explain. Even controlling for the year, bill and state, I did not expect that female representatives would mimic the gender bias of their male counterparts. Clearly, the time period, kind of legislation and state from which the congresswoman hails impacts the probability that she mirrors the viewpoints of most women in her district. This transition, from more strongly responding to the opinions of the majority of their female constituents to being relatively more guided by the preferences of their male constituents, by female representatives throughout the models in Table 6, and the complete lack of a parallel (equal and opposite) shift for male representatives, yields a new mystery, and is interesting enough to warrant further research. My conclusion therefore still begs the question: what *exactly* is it *within* the variation found in the year, bill and state variables that, when controlled for, switches the gender-representation relationship for female representatives and constituents such that congresswomen appear to favor men's political preferences? The cultural, political and financial explanations given just above serve as possible factors, but, as stated, it is impossible to know for sure.

Any doubt that the type of bill in question plays a strong role in the relationship between gender and representation is quelled upon reviewing the results in Table 7. When the analysis is restricted to contentious bills, a different pattern emerges for female representatives only. As for all bills, male representatives are consistently more heavily influenced by the opinions of their male constituents over those of their female constituents when voting on legislation over which men and women tend to disagree. Contrary to the results for all bills, regarding strictly controversial bills, congresswomen, too, appear to respond more intensely to the legislative desires of their own gender, and this pattern does not switch direction upon adding more controls (though women's influence on their female representatives does diminish greatly in the latter models).

A possible takeaway from these results is that women in office are generally more influenced by male opinions, but when "push comes to shove," they listen to the beliefs of their own gender – to the women in their districts. Legislation that creates sizeable disagreement between men and women is likely to be generally polarizing, and is therefore expected to engender extensive media coverage and national attention. With the whole nation watching, particularly their own constituents, congresswomen may deliberately act on the political desires of women in their district more so than the men's.

This gender-bias, in terms of which sex is more influential on voting behavior, is larger for male representatives than for female representatives. Perhaps noteworthy as well is that the difference in the coefficient on the binary variables indicating majority male support and majority female support, which represent the respective influence each gender's political beliefs have on their legislator's voting actions, is insignificant. While it is true that this means the two coefficients could be equal, translating into equal relative representation for each gender by

female representatives (as opposed to the clear partiality consistently and significantly demonstrated by male legislators), the smaller sample size in this equation (restricted to both female legislators and contentious bills) makes significance more difficult to achieve. I therefore am careful not to overstate the weight of this particular finding, from a statistical standpoint.

Also notable is the magnitude of the coefficients in Model 5 (Table 7), which I again take to be the most valid. Although the sway of majority support among women in a district on their female representative's voting decisions outweighs the impact of the majority opinion held by men, and the reverse is also true for male representatives, the magnitude of this influence is larger for both genders in relation to their male representatives. In other words, majority support for a bill among women in a district leads to a much greater probability that a male representative, rather than a female representative, will vote yes on that legislation, all else equal. So, although congressmen are more responsive to the inclinations of their male constituents over those of their female constituents, women appear to exert greater influence on their male representatives than on their female representatives. The fact that both gender indicator variables, representing each gender's political views, have larger coefficients in the male representative equation suggest that other factors, presumably represented in the controls, have a greater relative effect on congresswomen's voting behavior.

This paper supports current research in concluding that a legislator's political party has enormous consequences on voting behavior. In the last four tables (Tables 8-11), which account for the preferences of constituents belonging to a representative's own party, the apparent impact of shared gender falls. Thus, gender plays a small role in the political process compared to other institutions in our democracy.

So, are women in office more likely than their male counterparts to reflect the political

views of their female constituents? Do women "better" represent women? Does descriptive

representation, as Michele Swers insists it does, indeed translate into substantive representation

for women (1998)? As in most things, it turns out that circumstance matters a great deal. There is

not a clear answer, as "better" is obviously a subjective and vague term.

It is important to consider the results of the first analysis, demonstrating representation

"on average." Although these results are not produced from a regression, they nevertheless tell a

very direct, clear and important story. Female representatives have much greater congruence (i.e.,

agreement between roll call voting and legislative views) with both genders than do male

representatives, even for gender-polarizing legislation. On average, both women and men are

more likely to agree with the voting decisions of a female legislator than a male legislator. The

gender-bias still exists, though in a manner more consistent with the expectations of my

hypothesis: both men and women in the House of Representatives possess greater congruence,

that is, agreement, with their own genders. So, female legislators are more likely to vote in

accordance with the preferences of women in their districts than with those of the men, and male

legislators are more likely to reflect the views of the men in their districts than those of the

women. Representation "on the margin" presents (in the regression tables) results that are

somewhat consistent with those in this "average representation" analysis. Thus, the question

becomes, what matters more in attempting to discern the policy impact of women in office for

women in society, representation "on average," or "on the margin"?

Unfailingly, congressmen's votes are more positively manipulated by the men in their

districts when it comes to voting on legislation in the House of Representatives. Women in office

seemingly mimic this gender-representation bias, but only after the time period, type of

legislation, and region is taken into account, a critical shift, if only for the reason that it does not exist for male representatives. But when it comes to highly controversial bills, female House members are more heavily swayed by the views of women in their districts. Yet, the impact that majority support among women in a district has on the probability that the representative will vote for the bill is much larger for male representatives than it is for female representatives, no matter how contentious the bill is. So, the question becomes: what matters more in representation: bias, or magnitude?

The fact that the initial regression results do not perfectly mirror the congruence tables suggests that this concept of representation is a complex system, with dynamic components. Gender and representation may not have an easily discernible and interpretable relationship: while congressmen exhibit roughly the same pattern in every single model (put simply, favoring men), the gender-representation relationship exhibited by congresswomen varies greatly depending on the equation. Thus, there appear to be many more factors at play in female representatives' legislative decision models than in those of their male counterparts.

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Appendix

Model	1		2		3		4		5	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Women	.234***	.005	.165***	.101***	.081**	.089***	.131***	.16***	.11***	.157***
	(.027)	(.013)	(.035)	(.017)	(.038)	(.017)	(.038)	(.019)	(.037)	(.018)
Men	.108***	.207***	.16***	.211***	.173***	.212***	.232***	.273***	.241***	.271***
	(.029)	(.012)	(.03)	(.013)	(.029)	(.013)	(.032)	(.015)	(.031)	(.015)
Difference	.126**	-.204***	.005	-.11***	-.092*	-.123***	-.101**	-.113***	-.131**	-.114***
	(.011)	(.0)	(.93)	(.0)	(.081)	(.0)	(.013)	(.0)	(.013)	(.0)
Democrats			.042	-.155***	.012	-.143***	-.038	-.034	-.033	-.03
			(.036)	(.017)	(.037)	(.018)	(.046)	(.024)	(.045)	(.024)
Republicans			-.169***	-.01	-.114***	-.007	.01	.007	-.011	.0
			(.027)	(.014)	(.028)	(.015)	(.037)	(.019)	(.036)	(.019)
Year Fixed Effects					X	X	X	X	X	X
Bill Fixed Effects							X	X	X	X
State Fixed Effects									X	X
Observations	1381	7072	1381	7072	1381	7072	1381	7072	1381	7072

Notes: This table displays the marginal effects of a Probit regression akin to the linear probability models run in Tables 6 and 7. The dependent variable is an indicator for the legislator voting "Aye," on, or in favor of, a bill. The independent variables are indicators for the majority of a group supporting a bill. Year, bill and state fixed effects (of which there were 3, 20 and 50, respectively) are included as additional controls. Standard errors are in parentheses, except for in the "Difference" row, in which parentheses contain between the p-value from the chi2 equality test.
*** Significant at the 1 percent level
** Significant at the 5 percent level
* Significant at the 10 percent level
Table 12: Probit Legislative Decision Model by Gender in the House of Representatives, 2008-2013 – All Bills

Model	1		2		3		4		5	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Women	.241**	.154***	.231**	.164***	.234**	.194***	.258**	.241***	.184*	.177***
	(.101)	(.041)	(.1)	(.042)	(.1)	(.041)	(.101)	(.042)	(.112)	(.041)
Men	.208***	.279***	.174***	.286***	.177***	.307***	.208***	.353***	.04	.289***
	(.048)	(.021)	(.051)	(.024)	(.052)	(.023)	(.055)	(.025)	(.061)	(.026)
Difference	.033	-.125**	.057	-.022**	.057	-.113**	.05	-.112**	.144	-.112**
	(.794)	(.018)	(.649)	(.0)	(.65)	(.035)	(.695)	(.035)	(.284)	(.031)
Democrats			N/A	-.138	N/A	-.111	N/A	-.037	N/A	-.028
				(.131)		(.129)		(.125)		(.116)
Republicans			.099***	-.015	.1*	-.022	.136**	.04	-.076	.042
			(.056)	(.029)	(.056)	(.029)	(.062)	(.032)	(.07)	(.032)
Year Fixed Effects					X	X	X	X	X	X
Bill Fixed Effects							X	X	X	X
State Fixed Effects									X	X
Observations	347	1751	347	1751	347	1751	347	1751	347	1751

Notes: This table displays the marginal effects of a Probit regression akin to the linear probability models run in Tables 6 and 7. The dependent variable is an indicator for the legislator voting "Aye," on, or in favor of, a bill. The independent variables are indicators for the majority of a group supporting a bill. Year, bill and state fixed effects (of which there were 3, 20 and 50, respectively) are included as additional controls. Standard errors are in parentheses, except for in the "Difference" row, in which parentheses contain between the p-value from the chi2 equality test.
*** Significant at the 1 percent level
** Significant at the 5 percent level
* Significant at the 10 percent level
Table 13: Probit Legislative Decision Model by Gender in the House of Representatives, 2008-2013 – Contentious Bills