# When Do Men Represent Women's Interests in Parliament? How the Presence of Women in Parliament Affects the Legislative Behavior of Male Politicians 

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#### Abstract

This paper analyzes the conditions affecting male Members of Parliaments' (MPs) proclivity for representing women's interests. It particularly explores whether the presence of female MPs has an effect on men's parliamentary behavior. Three contrasting effects are discussed in the literature: (1) A spillover effect which postulates that men will become more likely to act on behalf of women if the number of female MPs increases, (2) a group-threat effect which creates a hostile backlash among male MPs, or (3) a specialization effect which makes male MPs less likely to represent women because this is typically seen as a function that should be fulfilled by female MPs. Empirically, this paper analyzes the representation of women's issues in parliamentary questions tabled in the German Bundestag (1998-2013) by using automated content analysis. The results support the specialization hypothesis and show that male MPs reduce their intensity of women's representation if the proportion of female MPs is high.


Keywords: Representation, gender, women's interests, male MPs, parliamentary questions

## Introduction

What role do male legislators play in the substantive representation of women's interests? So far, this question has largely been ignored even though men make up the majority in almost every parliament in the world. Previous research in this field primarily stresses gender as a personal source of responsiveness and has therefore been focused on the behavior of female members of parliament (MPs) and the extent to which they are responsive to the interests of women. Theoretical studies on women's representation typically suggests that female MPs represent women-specific issues more strongly and more credibly since they share a social identity and gender-specific experiences with women in the population (Mansbridge 1999; Phillips 1995). Male MPs merely serve as the neutral base against which the behavior of female legislators is compared. The empirical evidence for this link between descriptive and substantive representation, however, is anything but conclusive, revealing that even if the share of female MPs increases beyond a critical mass of $30 \%$ (Kanter 1977), parliaments might not become more responsive to women's demands (Crowley 2004; Towns 2003; Wängnerud 2009). Based on these findings, this article challenges the underlying assumption of the politics of presence literature and postulates that female MPs not only directly influence the substantive representation of
women, but that they also indirectly affect the level of responsiveness of parliaments via the reactions of their male counterparts (c.f. Childs and Krook 2008; Yoder 1991). This article, therefore, addresses the question to what extent the presence of female MPs affects men's parliamentary behavior and whether male MPs become more or less likely to act in women's interests if the proportion of female MPs is high. In doing so, it seeks to contribute to a broader understanding of the potential actors in the substantive representation of women and presents one of the first studies to analyze whether and under what conditions, male MPs become "critical actors" (Childs and Krook 2009) representing the interests and preferences of women.

On a theoretical level, I propose three contrasting hypotheses: On the one hand, one could expect a positive spillover effect. According to this argument, once female MPs put women's issues on the parliamentary agenda, men will take them up and start to act more strongly on behalf of women. On the other hand, a group-threat effect could occur which creates a negative backlash among male MPs (Blalock 1967; Yoder 1991). This effect implies that male MPs become hostile towards female MPs and their legislative agenda if they fear losing their majority status in parliament. The third hypothesis postulates a specialization effect between male and female MPs. Drawing on the theories of sociological and feminist institutionalism (Chappell and Waylen 2013), it expects that according to appropriate gendered behavior, the representation of women's interests is typically seen as a function that should be fulfilled by female MPs. Thus, if more women enter parliament, male MPs will not show any kind of hostile resentments against female MPs, but they will no longer feel responsible for the representation of women's issues and decrease the intensity with which they represent women's interests in parliament.

The empirical part of the paper analyzes the substantive representation of women by male MPs in the German Bundestag between 1998 and 2013. Since the proportion of female MPs in the Bundestag is constantly above a critical mass of $30 \%$, Germany provides a useful case from which to study the effect of a large group of women on male MPs' parliamentary behavior. Male MPs' responsiveness towards women's interests is measured with an automated content analysis of written and oral parliamentary questions (70438 questions in total) tabled by individual MPs in the Bundestag. The analysis identified all Parliamentary Questions (PQs) on topics that affect women disproportionally more than men, or that address a social condition in which women are disadvantaged compared to men (Carroll 1994; Celis 2008). Subsequently, all women-specific PQs were coded for direction and classified as feminist, neutral or anti-feminist.

The results of a hurdle regression model show that a pronounced presence of female MPs has a negative effect on the substantive representation of women by male MPs. Supporting the idea of a specialization-mechanism, male MPs do not completely refuse to represent women in parliament if the proportion of female MPs is high, but they significantly reduce the intensity with which they speak on behalf of women. Moreover, male legislators issue significantly less feminist PQs than female MPs and rather concentrate on the representation of neutral women-specific issues (e.g. women's health). Thus, female MPs represent women's interests in a more specialized way and more often push for an expansion of women's opportunities and rights.

These findings explicitly broaden our understanding of the potential actors and the multiple possibilities for representing women in parliament and provide an important contribution to the analysis of the conditions influencing the willingness of individual male MPs to represent women's interest. The article also helps to clarify the relationship
between the descriptive and substantive representation of women and highlights that if we want to capture the whole dynamic of the women's representation, we have to explicitly consider the role of male MPs and the effects that female MPs can have on their individual responsiveness towards women.

## Substantive Representation of Women: The Importance of Critical Actors

Traditionally, research on women's representation has mainly been focused on the question of whether women "make a difference" once they have been elected to parliament. Returning to Pitkin's (1967) seminal conceptualization of representation, researchers postulated a direct link between the descriptive and substantive representation of women, suggesting that female MPs would represent women-specific issues more strongly and credibly in the legislative arena than their male colleagues because they share gender-specific experiences and problems with women in the population (Mansbridge 1999; Phillips 1995).

Whereas some studies confirm that female MPs represent women's issues in parliament disproportionately (e.g. Bäck et al. 2014; Campbell et al. 2009; Childs and Withey 2004; Swers 2002; Thomas 1991; Wängnerud 2000), others find that female MPs do not always show strong commitments to the representation of women-specific interests and that the differences between men and women are often very small or even totally absent (Childs and Krook 2009; Höhmann 2019). Since the linkage between descriptive and substantive representation appears to be rather probabilistic than deterministic (Dodson 2006), several authors have suggested that we should rethink the substantive representation of women and that we should move beyond analyzing only female MPs' behavior and the questions of how and when women represent the interests and preferences of their female constituents (Celis and Erzeel 2015; Celis et al. 2008; Childs and Krook 2008; 2009; Grey 2006; Höhmann 2019; Mackay 2008). If we want to paint a complete picture of the substantive representation of women as such, Childs and Krook (2008, 2009) recommend moving the "analytical focus from the macro to the micro level, replacing attempts to discern 'what women do' to study 'what specific actors do"" (Childs and Krook 2008: 734). This idea deviates from the notion that female MPs are the only actors in the substantive representation of women and emphasizes that men can also be critical actors who "act individually or collectively to bring about women-friendly policy change" (Childs and Krook 2009: 127). Some initial studies of male MPs' behavior buttress the importance of a broader research scope and an explicit analysis of the role of male MPs in the representation of women's interests: In an analysis of the 2008-11 PartiRep survey data, Celis and Erzeel (2015) revealed that almost equal proportions of male and female MPs spoke on behalf of women in their respective parliamentary party group (PPG) meetings. In a study of British MPs' voting behavior and debate contributions, Evans (2012) showed that a few male MPs represented women's concerns in their debate contributions. However, they were in the minority and spoke less if women's interests had already been expressed by many female MPs in these debates. More recently, Dingler et al. (2019) studied the preference congruence between MPs and mass publics in 21 European countries by gender. They found that women's preferences are more accurately represented in parliament than those of men, even though the proportion of female MPs is much lower than that of male MPs, suggesting that male MPs are equally competent to represent the interests of women.

Celis and Erzeel (2015: 60) pointed out that beyond the sole description of the extent to which male MPs act as critical actors in the substantive representation of women, it is even more important to "examine under what institutional, political and discursive conditions they can both participate and contribute to a responsive process in representing women's interests". One important factor in this regard is the question whether male MPs' legislative behavior is affected by the presence of an increasing number of women in the parliament: Contrary to the expectations of critical mass theory (Dahlerup 1988; Kanter 1977), an increasing number of female MPs does not always result in a more intense substantive representation of women's issues (e.g. Crowley 2004; Dingler et al. 2019; Karpowitz et al. 2015; Mendelberg et al. 2014; Mendelberg and Karpowitz 2016; Towns 2003). This suggests that a greater proportion of women in the parliament not only affects the possibilities of female MPs working together on issues related to women, but will also affect the behavior of male MPs (Childs and Krook 2008; Yoder 1991). More than 20 years ago, Kathlene (1994) had already identified a backlash among male MPs in the US Congress who acted in a more verbally aggressive and controlling manner during committee hearings if the proportion of women increased.

Since then, the effect of women on male MPs' behavior has not been analyzed empirically. The only exception is a recent study from Kokkonen and Wängnerud (2017) who conducted a survey of locally elected politicians in 290 municipalities in Sweden to analyze the effect of female councilors on male MPs' attitudes towards the representation of women's interests. They found that the proportion of women has a significant negative effect on male MPs' willingness to act for women in the council. The more women are present in the council, the less likely it is that male MPs feel responsible for representing women's issues. Nevertheless, the analysis leaves two questions unanswered, which call for a further and more detailed analysis of the influence of women on male MPs' behavior: Firstly, it must be questioned whether the findings from Swedish local councils are also generalizable to national parliaments. Secondly, because Kokkonen and Wängnerud used survey data, they only analyzed male MPs' subjective attitudes. It is questionable, however, whether these self-reported claims are translated into actual behavior. The present study intends to fill these research gaps.

## Spillover, Backlash or Specialization? Theoretical Expectations About the Effect of an Increasing Proportion of Women on Male MPs' Behavior

## Spillover Effect: How the Presence of Female MPs Can Turn Men into Critical Actors

In an early study on the impact of women on US state legislation, Thomas (1991: 962) speculated that if the proportion of women in parliament increases, "the more likely it will be that women's attitudes permeate the wider legislative atmosphere. As women become more numerous and, as they address these [women-specific] issues, men are expected to be educated about the importance of governmental action in what have heretofore been under-addressed areas".

This statement mirrors the assumption of exposure-based explanations of attitudes, i.e. that people generally do not develop their attitudes and interests in isolation (Festinger 1954; Visser and Mirable 2004). People are embedded in a social network of individuals (e.g. family members, friends, co-workers) with whom they interact and exchange information on a regular basis and opinions and attitudes are influenced to a large degree
by the social environment and by the attitudes of other members in these networks (Visser and Mirable 2004). Bolzendahl and Myers (2004: 761f.) applied this approach to feminists' attitudes and pointed out that "individuals develop or change their understanding of women's place in society and their attitudes toward feminists' issues when they encounter ideas and situations that resonate with feminist ideals". In particular, the authors hypothesized that the exposure to feminist ideals would create an awareness of gender equality and reduce their acceptance of typical gender stereotypes (Bolzendahl and Myers 2004: 762).

When applied to politics and the substantive representation of women, these theoretical considerations imply that male MPs develop an awareness of women's interests if they come into contact with an increasing number of female MPs and their gender-specific experiences. Exposure to women's specific interests and problems might either occur in discussions with female MPs or through direct observation if female MPs are able to introduce women's issues to the parliamentary agenda (e.g. speeches, bill proposals). ${ }^{1}$ If these experiences cause a positive spillover effect, then male MPs will not only change their attitudes towards gender equality, but also express these issues in their actual parliamentary behavior and become more responsive to women's interests. Concerning the types and directionality of women issues that get represented, male MPs should become more likely to represent women's issues in a feminist direction rather than stressing traditional or anti-feminist gender roles.

Contrary to Kokkonen and Wängnerud (2017), who postulate that the proportion of women in parliament as a whole is the decisive factor affecting male MPs' behavior, I hypothesize that a potential spillover effect is caused by the proportion of women in the PPG. Empirical tests of exposure-based theories of interest formation show that our preference formations are mainly affected by people with whom we have contact on a regular basis and with whom we share similar norms, values, and ideologies (Festinger 1954; Visser and Mirable 2004). The literature on legislative organization and parliamentary behavior shows that PPGs are the most relevant actors in the parliamentary process and that the parliamentary work of individual MPs is mainly organized by and around the PPG (e.g. Sieberer 2006). Due to this central role in the internal organization of the parliament, MPs are in more frequent contact with colleagues from their own PPG (e.g. in the weekly meetings of the PPG's working groups), they usually vote together (Sieberer 2006), and - most importantly - also share similar political norms and ideologies with their party colleagues. Thus, the influence of female MPs on male MPs in the same PPG is much stronger than that of the overall proportion of women in the parliament (see Greene and O'Brien 2016).
$H_{l}$ : The higher the proportion of female MPs in the PPG, the more strongly will male MPs represent women's interests in parliament (spillover effect).

## Group Threat Effect: How the Presence of Female MPs Can Provoke a Hostile Backlash Effect Among Male MPs

A potential negative backlash effect among male MPs can be explained by group-threat theories (Blalock 1967; Yoder 1991). Research on the representation of racial minorities in

[^0]parliaments indicates that members of the majority feel threatened if formerly excluded groups (e.g. people of immigrant origin) gain increasing access to parliament. Since growing proportions of formerly excluded groups imply a change in the balance of power and influence in parliament, majority members fear losing their dominant and powerful positions and, thus, react with hostility to limit the minority's growing influence (Blalock 1967; Kanthak and Krause 2010; Kroeber 2018). Similar group-threat mechanisms also occur if women gain access to previously male-dominated workplaces. Yoder (1991) has shown that whenever men believe that the prestige of their own occupation and their privileged position in society is threatened by the growing presence of women, they are more likely to engage in discriminatory behavior towards their new female colleagues. Applied to the legislative arena, which has always been dominated by men, this means that male MPs perceive women as intruders and therefore become more hostile towards female MPs' interests. Because men fear losing their dominant and powerful position in parliament, group-threat theories hypothesize that male MPs will try to limit women's influence on the legislative agenda and will try to prevent their interests from being heard in the legislative process (Grey 2006; Kanthak and Krause 2010).

Hence, group-threat theories lead to the expectations that an increasing proportion of women creates a hostile resistance among male MPs and that men will completely refuse to represent women's issues in parliament. Additionally, male MPs will get less supportive of gender equality and become more likely to (if at all) concentrate on anti-feminist interventions that stress traditional gender roles and the prerogatives of men in the public and private sphere.

As explained in the previous section, I again hypothesize that it is not the proportion of women in the parliament as a whole, but rather the proportion of women in the respective PPG, which has the strongest influence on male MPs' behavior. Therefore, the following hypothesis can be formulated:
$H_{2}$ : If the proportion of female MPs in the PPG is high, men will refuse to represent women's interests in parliament (group-threat effect).

## Specialization Effect: How the Presence of Female MPs Can Make Men Less Likely to Represent Women's Issues

Contrary to the extreme expectation that men will become hostile towards women and the representation of their interests, the specialization hypothesis stresses a horizontal division of labor between male and female MPs based on traditional gender-roles. Building on sociological institutionalism and its "logic of appropriateness", gender scholars have developed a feminist variant of institutionalism and a corresponding "gendered logic of appropriateness" within institutional arenas (Chappell and Waylen 2013; Krook and Mackay 2011). Drawing on these theoretical studies, one can expect that informal rules about appropriate and acceptable gendered behavior, produce distinct roles for male and female MPs (Chappell and Waylen 2013; Towns 2003). Since female MPs share genderspecific experiences with women in the population (Phillips 1995), one of these "appropriate" roles for female legislators is to be a representative of women's interests (Bäck et al. 2014; Towns 2003). Even though male MPs are not hostile towards women's interests, gender norms prescribe that female MPs are mainly responsible for the representation of women's issues. If there are enough women in parliament, male MPs feel that they no longer have to be responsive to women's interests because female MPs can
represent these issues more credibly (Evans 2012; Wängnerud 2000). Similar patterns of gendered division of labor can be found in portfolio allocations, committee assignments, and speech-making (e.g. Bäck et al. 2014; Towns 2003), where female MPs deal disproportionally with "soft" or "feminine" topics such as education, family affairs or welfare.

If we observe a specialization-mechanism, this does not necessarily mean that men completely refuse to represent women's issues since we do not expect any hostile or discriminatory reactions towards women. Male MPs would rather reduce the intensity of their efforts to represent the female population's concerns and rely on their female colleagues to cover these issues. Concerning the directionality of women's representation, Campbell (2006) has shown that women are generally more likely than men to hold feminist attitudes. Thus, if a high number of female MPs results in a specialization effect within PPGs, I expect that male MPs represent women's interest in a neutral rather than feminist way since they are not directly affected by gender inequalities in the society. Female MPs on the other hand should be more inclined to advance a feminist agenda and strive for more gender equality.

Given that cross-party cooperation between MPs from different parties is extremely rare in the German Bundestag, I hypothesize that a potential division of labor only occurs within party factions. Therefore, it is again the proportion of women in the respective PPG that would have the strongest effect on male MPs' behavior:
$H_{3}$ : If the proportion of female MPs in the PPG is high, male MPs will decrease the intensity with which they represent women's interests, but they will not entirely cease to speak on behalf of women (specialization effect).

## Methods and Data

To put the three competing hypotheses to an empirical test, I analyze the representation of women's interests in the German Bundestag between 1998 and 2013. ${ }^{2}$ The German Bundestag represents a very useful case for several reasons. After the election in 1998, the percentage of women in the German Bundestag had risen above $30 \%$ for the first time and since then, it has never fallen below this critical mass. Thus, there is a sufficiently large group of female MPs which theoretically has the potential to affect male MPs' decisions to become active in the substantive representation of women. Moreover, there is significant variation in the proportion of women between and within the five different parties represented in the Bundestag between 1998 and 2013. Table A1 in the Online Appendix gives information on the proportion of female MPs across parties and shows that the presence of female MPs differs considerably between the PPGs $(s d=12.4)$. Whereas for example, during the $14^{\text {th }}$ Bundestag (1998), only $18 \%$ of the conservative CDU/CSU legislators were women, the proportion of women for the Green Party amounted to nearly $60 \%$ during the same legislative period. Changes within PPGs are not as pronounced, but we can still observe substantial variation in the number and share of women. ${ }^{3}$ At the same time, analyzing a single country over time enables me to hold all time-invariant country-specific characteristics (e.g. culture, institutional setting) constant.

[^1]
## Dependent Variable: Definition and Coding of Women-Specific PQs

The analysis' central dependent variable is the substantive representation of women by male legislators. To reduce the impact of party discipline, I use written and oral parliamentary questions to measure how strongly MPs focus on the representation of women-specific interests (Bird 2005; Martin 2011). Since parliamentary questions are not officially controlled by the party leadership, they provide a direct measurement of the extent to which individual legislators substantively represent the interests of certain social groups (Bailer 2011; Martin 2011; Saalfeld and Bischof 2013). The more strongly a legislator is committed to the substantive representation of women, the more questions about women-specific issues he should submit.

The definition of women's interests is a controversial and widely debated topic. To acknowledge that women are a diverse group with different life experiences and attitudes, the analysis refrains from using a predefined list of women-specific interests and uses the often-cited definitions from Susan Carroll (1994) and Karen Celis (2008) instead. According to Carroll (1994: 15), women's issues are those "where policy consequences are likely to have a more immediate and direct impact on significantly larger numbers of women than of men". Accordingly, a question is classified as women-specific, if it refers to a topic that for either biological or social reasons, affects women disproportionally more than men, or if it addresses a social condition in which women are disadvantaged compared to men (Celis 2008). The majority of questions coded as women-specific address issues such as gender pay gaps, legal protection of working mothers or sexual violence against women, as well as legal provisions concerning prenatal examinations and abortion. Questions about professions that are more frequently pursued by women than men (e.g. midwives) are also coded as women-specific. PQs about topics that have traditionally been described as "soft" or "female", such as youth policies, education, or health, are only coded as women-specific if they explicitly refer to discrimination against women or girls.

For the empirical analysis, a data set was compiled of all the written and oral questions that were tabled by the MPs during the $14^{\text {th }}, 15^{\text {th }}, 16^{\text {th }}$, and $17^{\text {th }}$ Bundestag (1998-2013) (70438 questions in total). ${ }^{4}$ Due to the large amount of data, the analysis combines a supervised machine learning algorithm (Naïve Bayes classifier) and a dictionary-based approach to code each PQ as either referring to a women-specific issue or not (e.g. Grimmer and Stewart 2013; Lucas et al. 2015). ${ }^{5}$ For the supervised machine learning algorithm, all PQs from the $16^{\text {th }}$ and $17^{\text {th }}$ Bundestag (2005-2013) were hand-coded by the author to identify women-specific questions. ${ }^{6}$ After the required pre-processing of the data ${ }^{7}$, this set of hand-coded questions was used to train a Naïve Bayes classifier (Grimmer and Stewart 2013) which then automatically classified all PQs tabled during the

[^2]$14^{\text {th }}$ and $15^{\text {th }}$ Bundestag. ${ }^{8}$ To identify obviously women-specific questions that the Naïve Bayes classifier had missed, a dictionary-based approach was applied independently of the supervised machine learning algorithm. Based on the hand-coded questions from the $16^{\text {th }}$ and $17^{\text {th }}$ Bundestag, a dictionary of women-specific keywords was created and all the questions were then searched for these keywords and classified as women-specific if they contain at least one of them. ${ }^{9}$ The dependent variable for the statistical analysis is then expressed as the ratio of the number of women-specific questions to the total number of PQs submitted by an individual MP during a single legislative period. A detailed description of the coding procedure and its validation as well as a list of all dictionary keywords can be found in the Online Appendix (A3 and A4).

The main statistical analysis of the article relies on this rather broad classification of PQs and does not take into account whether the PQs advocate for equal rights and promote the status and well-being of women or whether they rather restrict gender equality and stress traditional perceptions of the role of women in the society. For a more meaningful interpretation of the results of the statistical model, all women-specific PQs were subsequently hand-coded for direction and classified according to whether they were feminist, anti-feminist or neutral. Following the example of Childs and Withey (2004) and Reingold (2000), PQs were coded as feminist if their aim was an expansion of women's opportunities or a mitigation of inequalities between men and women. If MPs stressed traditional gender roles or asked the government to restrict equal rights for women, those PQs are coded as anti-feminist. In most instances these were questions about the provision of contraceptive pills or women's access to abortion. Issues which could not be clearly identified as being either feminist or anti-feminist were coded as neutral. Most of these neutral PQs were about women's health (e.g. regulations concerning the treatment of breast cancer). The distribution of feminist, anti-feminist and neutral women-specific PQs is then used in combination with the results from the statistical model to more thoroughly differentiate between the three hypotheses (see below).

## Independent and Control Variables

The main explanatory variable is the respective proportion of women in the PPG in a single legislative period. Information on the number of female and male legislators in the factions of the Bundestag is taken from the Bundestag Roll Call Vote Data Set (BTVote, Sieberer et al. 2018, see Table A1 in the Online Appendix).

Although many country-specific factors are controlled for by design, several control variables have been introduced. First, all models control for a membership in the Women's Committee since these MPs, irrespective of the proportion of female MPs, should be more inclined to submit women-specific questions. Previous research has shown that proportional electoral systems have a strong and positive effect on the number of women in parliament (Wängnerud 2009) as well as on the representation of broad interests (Carey 2007). In Germany's mixed electoral system, half of the MPs are elected in single member districts using first past the post and the other half is elected via proportional representation. Thus, the model contains a dummy variable that indicates whether MPs

[^3]have been elected in a district or via their respective party list (base category). ${ }^{10}$ I include an additional dummy variable that indicates if an MP holds an executive or parliamentary office because these legislators usually do not submit parliamentary questions at all. ${ }^{11}$ To control for potential intervening effects of parliamentary experience, I include the duration of parliament membership (measured in years) into the models. The MP's age (in years) is added to the model because older legislators tend to have more conservative attitudes towards gender equality (Kokkonen and Wängnerud 2017). Data for these variables stem from the BTVote dataset (Sieberer et al. 2018).

The likelihood of submitting a women-specific question also depends on the number of questions that a legislator submits. Previous studies show that MPs from opposition parties usually submit more PQs than government MPs (Russo and Wiberg 2010). One simple way to control for this would be the inclusion of a dummy variable for opposition status. However, since it is hard to argue that opposition status affects the share of female MPs, this study uses a more straightforward approach and directly controls for the total number of PQs tabled by an MP in the respective legislative term. ${ }^{12}$ An additional dummy variable indicates whether the MP was elected in East Germany.

Moreover, dummies for party membership are included in the model because it is conjectured that left parties (SPD, Greens, Left Party) are generally more in favor of gender equality and therefore facilitate the descriptive as well as the substantive representation of women (Caul 1999). Lastly, the postulated effect of the presence of women on the parliamentary behavior of male MPs could also be biased by potential time trends. If feminist values and positive attitudes towards gender equality become more prevalent in the population over time, this could have a positive effect on the proportion of women in parliament, while also making male MPs more attentive to gender-specific interests. Thus, all models include time dummy variables for the different legislative periods. Due to the inclusion of the party and time dummies, the effect estimations of the model are rather conservative because they are mainly based on changes of the share of women within parties and on the variation in time-variant factors between the PPGs. Table A5 in the Online Appendix contains descriptive statistics for all the variables.

## Statistical Model: Hurdle Regression Model

The unit of analysis for the empirical analysis is an individual MP in a single legislative period. The overwhelming majority of Bundestag MPs does not table any women-specific question and receive a score of 0 for the dependent variable. To model this extremely right-skewed distribution that is bounded on the $[0 ; 1]$ interval, I estimated a hurdle regression model consisting of two different equations which are estimated as separate processes.

In the first step, the hurdle-component models male MPs' general decision whether or not to become active in the substantive representation of women. If this hurdle is

[^4]overcome, the explanatory variable's effect on the strength or intensity of the dependent variable is estimated in the second step. More specifically, in the first equation the dependent variable is expressed as a dummy variable that receives a value of 1 if the proportion of women-specific questions is not equal to 0 . A logistic regression model is then fitted to determine the effect of the proportion of female MPs on male MPs' general decision whether or not to represent women's issues in parliament. In the second step, a beta regression estimates the independent variable's influence on the strength or intensity of the dependent variable. This equation uses only those observations which have submitted at least one question with a women-specific topic and estimates the effect of the presence of female MPs on the proportion of women-specific questions that an individual male MP submitted during a single legislative period. The beta regression model assumes that the data are distributed according to a beta distribution which is bounded between 0 and 1 ( 0 and 1 not included). It is very flexible and therefore very well suited to describing unimodal as well as bimodal distributions (Cook et al. 2008: 863; Smithson and Verkuilen 2006). ${ }^{13}$

In addition to the skewed distribution, the statistical model must also take into account that the dataset contains multiple observations for the same MP (in different legislative periods) which are not independent from each other. Therefore, all models are calculated with robust standard errors that are clustered at the level of MPs. This paper is solely interested in the behavior of male MPs and their decision whether to become critical actors in the substantive representation of women. In particular, female MPs are not taken as the reference category against which male MPs are compared. I have intentionally refrained from including an interaction effect of gender and the proportion of female MPs in the analysis and calculated the regression models exclusively with male legislators.

What are my expectations concerning the three different hypotheses? If female MPs create a positive spillover effect among male MPs $\left(H_{l}\right)$, I expect to find significant positive effects in both equations of the hurdle regression model. Men should generally become more likely to represent women's interests and they should also increase the intensity of their substantive representation of women. For a potential group-threat effect, I expect to find significant negative coefficients in both equations $\left(H_{2}\right)$. If male MPs react with hostility towards women in parliament, they become less likely to represent women's issues at all (negative effect in logit regression) and they also substantially reduce the intensity with which they act in the interest of women (negative effect in beta regression). If the specialization mechanism applies $\left(H_{3}\right)$, men only reduce the intensity of their responsiveness to women's demands because they expect that female MPs are better able to represent women's interests. Their general decision whether or not to represent women, however, should be unaffected by the proportion of female MPs since a specialization effect does not cause a complete withdrawal based on resentments against women among male MPs. Thus, I expect to find no effect in the logit regression but a significant negative effect in the beta regression model.

However, there are a few potential objections to this interpretation: If in the absence of a large number of female MPs, male MPs mainly submit PQs promoting traditional gender roles or anti-feminist standpoints, but reduce this behavior when more women enter the parliamentary arena, negative effects in the analysis would speak for a positive

[^5]spill-over effect. On the contrary, if men increasingly table PQs with an anti-feminist direction if the more women enter parliament, this would rather support the group-threat hypothesis. Moreover, the group-threat and specialization hypothesis both expect a reduction in women's representation by male MPs. I therefore use the distribution of feminist, neutral, and anti-feminist PQs across male and female MPs to substantiate the findings of the hurdle regression model and to better differentiate between the three hypotheses. As explained above, we should see many feminist PQs tabled by male MPs if a positive spill-over effect occurs. If men are afraid to lose their dominant status in the parliament and react with hostility towards an influx of female MPs (group-threat effect), male MPs should stress anti-feminist viewpoints in their PQs and should try to push for traditional gender roles that confine women to the private sphere. In the case of a specialization effect between male and female MPs, I expect that male MPs rather focus on neutral women's interest and - contrary to the group-threat hypothesis - will not stress any anti-feminist ideas.

## Results

Of the 70438 written and oral PQs that were tabled by the members of the Bundestag between 1998 and 2013, only $2.9 \%$ (2012) tackled a topic which particularly concerns the interest of women. The descriptive statistics show that $1286(63 \%)$ of these women-specific questions were tabled by female MPs, showing that, in general, female legislators focus more strongly on the substantive representation of women's issues than their male colleagues. Nevertheless, male MPs tabled 726 (36\%) questions referring to women's interests, making it clear that men are by no means totally uninterested in women's issues and that, at least some of them, can be characterized as potential critical actors in the substantive representation of women. ${ }^{14}$ In the following, we will see whether this commitment is affected by the presence of women in the respective PPG.

After the data set was reduced to only male MPs, 1773 observations could be used to estimate the logit model and 253 observations were used for the calculation of the beta regression model. The results of the analysis are reported in Table 1. Estimates of the logit regression (effect on the decision whether or not to act on behalf of women) are shown on the left, and the results from the beta regression (effect on the intensity of substantive representation) are presented in the right part of the table. All coefficients are presented as $\log$ odds with robust standard errors clustered at the individual MP level. The beta regression standard errors are conditional on the results of the logit regression to account for the fact that although the two models are estimated in two separate steps, they are dependent on one another.

The results for the effect of the proportion of women on male MPs' general decision to promote women's interests in parliament show that the presence of female MPs neither sparks a spillover effect among male MPs nor provokes a hostile backlash. Even though the coefficient for the proportion of women has a positive sign, it is statistically insignificant and therefore indistinguishable from zero. Among the control variables, the total number of submitted questions, a membership in the women's committee, and being elected in Eastern Germany have positive effects on the male MPs' general decision to become active in the substantive representation of women. By contrast, older MPs and

[^6]Table 1: The Effect of Female MPs on the Substantive Representation of Women: Male MPs, 19982013 Log-Odds

| Variables | General decision (Logit-Regression) | Intensity of Substantive Representation (Beta Regression) |
| :---: | :---: | :---: |
| Share of women in PPG | 0.07 (0.050) | -0.06** (0.020) |
| Member women's committee | 1.04* (0.429) | 0.60* (0.279) |
| Leadership position | -0.05 (0.211) | 0.27 (0.180) |
| Duration MP | 0.01 (0.015) | -0.001 (0.009) |
| Age | -0.02* (0.010) | -0.002 (0.005) |
| District mandate | -0.42* (0.192) | -0.03 (0.106) |
| No. of submitted questions (in total) | 0.03*** (0.003) | $-0.01^{* * *}(0.002)$ |
| CDU/CSU | 1.87* (0.880) | $-1.57 * * *(0.447)$ |
| FDP | 1.68* (0.741) | $-1.19 * *(0.379)$ |
| Greens | -1.75 (1.079) | 0.75* (0.346) |
| Left | -0.72 (0.987) | 0.80* (0.329) |
| East Germany | 0.48* (0.200) | 0.12 (0.100) |
| Time fixed effects | $\checkmark$ | $\checkmark$ |
| Constant | -4.41* (1.904) | 0.39 (0.823) |
| N | 1773 | 253 |
| Log-Pseudolikelihood | -543.09 | 502.76 |
| Chi ${ }^{2}$ | 381.34*** | 124.41 *** |

Notes: Hurdle Regression Model. DV Model 1: Dummy variable coded 1 if share of women-specific questions $>0$. DV Model 2: Share of women-specific questions. Coefficients: Log-Odds. Standard errors (in parentheses) are clustered by MP. Reference category for parties: SPD. Significance Levels: * $\mathrm{p}<.05 ; * * \mathrm{p}<.01 ; * * * \mathrm{p}<.001$.
those that are directly elected in a district are less likely to submit at least one question with a women-specific topic. Quite surprisingly, male legislators from the conservative $\mathrm{CDU} / \mathrm{CSU}$ and from the FDP are more likely to promote women's interests in parliament than the SPD's male MPs (base category).

Since the male MPs' general decision to start or to stop being active in the promotion of women's interests is not affected by the presence of women, I will now turn to the results of the beta regression. This model only includes those male MPs who have tabled at least one women-specific question, that is, those who have generally decided to represent women's issues in the parliamentary arena. The calculation then estimates the effect of the proportion of women on the intensity with which male legislators promote the substantial representation of women (i.e. the share of submitted women-specific PQs).

The results in Table 1 show that the proportion of women has a significant negative effect on theproportion of women-specific questions submitted by male MPs. These results support the theoretical expectations that female MPs make men less likely to represent women's issues, meaning that male MPs table less PQs relating to women's interests if the proportion of women in the PPG is high. Since a substantial interpretation of the log-odds is not very intuitive, I estimated marginal effects and predicted probabilities to assess the actual effect size of the presence of women on the men's parliamentary behavior. ${ }^{15}$ The predictions in Figure 1a show that the proportion of women-specific questions submitted

[^7]Figure 1: The Effect of the Presence of Women on the Intensity of Substantive Representation of Women, Male MPs


Note: Beta Regression. All other variables enter the model with their empirically observed values.
by each male MP is roughly $13 \%$ at the lowest proportion of female MPs which we observed in the data set $(18 \%)$. If the proportion of female MPs increases, the proportion of PQs dealing with a women's issue decreases steadily: When women make up $30 \%$ of the PPG, male MPs represent women's issues in only $7.5 \%$ of their submitted PQs. When more than half of the members of the PPG are female, the proportion of women-specific questions falls below $3 \%$ and further decreases to $1.8 \%$ until the proportion of female MPs reaches its maximum ( $59 \%$ ). The marginal effects in Figure 1b indicate that the negative effect is particularly strong at low levels of women's presence in the PPG. If the proportion of female MPs is above $50 \%$, the effect on male MPs' behavior is almost zero. This indicates that a potential negative effect among male MPs is strongest if the additional female MPs are highly visible. The predicted probabilities demonstrate that despite only moderate variations in the share of women within PPGs the estimated effects on the behavior of male MPs are pretty robust and substantial. These effects might even be larger in other parliaments where changes in the share of female MPs within parties over time are more pronounced.

The results for the control variables show that male MPs ask significantly fewer womenspecific questions if their total number of submitted PQs increases, whereas members of the women's committee table significantly more questions referring to women's issues. The party fixed effects indicate that in comparison to the SPD, members of the CDU/CSU and FDP submitted less women-specific questions, whereas MPs from the Greens and the Left Party had a higher proportion of questions dealing with a women's issue. ${ }^{16}$

The results of the hurdle regression model allow two important conclusions to be drawn: First, a high number of women in parliament does not trigger any spillover effects among male MPs, meaning that men do not become more likely to be responsive to women's interests if more women are present in parliament. Contrary to the expectations

[^8]of $H_{l}$, this implies that male MPs do not become critical actors in the substantive representation of women once they come into contact with female MPs and their genderspecific experiences. Second, the results indicate that female legislators make male MPs less likely to speak on behalf of women and this rather happens in the form of a specialization than a group threat effect: The null-effect of the proportion of women on the male MPs' general decision to represent women's issues, demonstrates that men are not showing any form of hostile resentment against women and that they are not becoming more likely to refuse to represent women's interests at all if more women enter the parliamentary arena. In contrast, a high number of female MPs only affects the intensity with which male MPs act in the interest of women.

This interpretation is corroborated by the distribution of feminist, anti-feminist and neutral PQs, which is shown in Table 2. Of the 726 women-specific PQs submitted by male MPs, only $32(4.4 \%)$ were coded as anti-feminist. This clearly contradicts the expectations of the group-threat hypothesis which expect that male MPs should (if at all) advocate for traditional gender role models and anti-feminist opinions. By contrast, 374 ( $51.5 \%$ ) were classified as feminist and $320(44.1 \%)$ fell into the neutral category. The distribution for female MPs appears similar, however, they submitted significantly more feminist PQs ( $67.4 \%$ ). In situations where only a few women were present, male MPs did not represent traditional or anti-feminist standpoints, but rather represented women's interests in a more neutral way. When the proportion of women increases, male MPs ask fewer womenspecific PQs and female MPs take over the responsibility for representing women's interests. In doing so, they cover these issues from a more feminist perspective. Together with the results from the regression model, this pattern supports the specialization argument $\left(H_{3}\right)$ more than any alternative explanation. Although male MPs do not have an inherent personal source of responsiveness (i.e. they do not share gender-specific experiences with women), a certain number of male MPs is generally willing to represent women's issues in parliament. However, if women are highly represented in the PPG, it is expected that female MPs will cover the "gender angle" more competently (Evans 2012) and that they represent their gender-specific interest on their own. ${ }^{17}$

## Conclusion

So far, research on the substantive representation of women has been focused on female MPs' behavior; asking how and when women are responsive to their female constituents' interests and preferences. This paper goes beyond this notion of an automatic link between descriptive and substantive representation and investigates to what extent and under which conditions male MPs act on behalf of women. In particular, the study provides one of the first empirical tests of the extent to which the presence of female MPs affects the likelihood of male MPs articulating women's interests in the legislative arena. To measure the strength of substantive representation, the analysis compiled a data set of all the PQs tabled by members of the German Bundestag between 1998 and 2013 and employed automated content analyses to classify each question according to whether or not it

[^9]Table 2: Distribution of Feminist, Anti-Feminist and Neutral Women-Specific PQs by Sex

| Type | Feminist PQs | Neutral PQs | Anti-Feminist PQs | Total |
| :--- | ---: | :--- | :---: | ---: |
| Male MPs | $374(51.5 \%)$ | $320(44.1 \%)$ | $32(4.4 \%)$ | $726(100 \%)$ |
| Female MPs | $867(67.4 \%)$ | $405(31.5 \%)$ | $14(1.1 \%)$ | $1286(100 \%)$ |
| Total | $1241(61.7 \%)$ | $725(36.0 \%)$ | $46(2.3 \%)$ | $2012(100 \%)$ |

Note: Cell entries indicate absolute number of women-specific PQs. Row percentages in brackets. $X^{2}$ $=61.78^{* * *}$
referred to a women-specific issue. In line with a specialization-logic, the results show that male MPs are generally willing to act on behalf of women, however, if the proportion of women in their respective PPG is high, they leave this field to female MPs and reduce the intensity with which they represent women's issues.

The results of this study emphasize that by explicitly analyzing male MPs, we can develop a more thorough understanding of the multiple ways in which the substantive representation of women occurs. Men should not only be taken as a neutral reference category against which female MPs' behavior is compared, instead they should be understood as important actors who can play a significant role in the articulation of women's issues. The analysis of male MPs' behavior also highlights why having a critical mass of women is not always enough to produce more women-friendly outcomes (c.f. Karpowitz et al. 2015; Mendelberg and Karpowitz 2016; Mendelberg et al. 2014). Even if a greater proportion of women in parliament allows female MPs to work together effectively to push for the representation of women's interests, this influx of women simultaneously provokes a negative effect among male MPs, making them less willing to act on women's behalf. In this way female MPs do not only have a direct effect on the substantive representation of women, but they also indirectly affect the level of responsiveness of parliaments via the reactions of their male counterparts. If we were to ignore women's influence on men, we would paint an incomplete picture of female MPs' impact on the representation of women's interests in the parliamentary process. This is even more important since the analysis has also shown that female MPs speak about feminist issues more frequently, whereas men represent more neutral, women-specific topics instead.

This paper is only a first step in analyzing the factors determining whether male MPs become active in the substantive representation of women. Further studies are necessary to gain a deeper understanding of male MPs' representational behavior. Future research should consider the impact of political parties and analyze whether the effect of the presence of female MPs varies according to the ideological spectrum of the parties in the German Bundestag. The party fixed effects in Table 1 indicate significant differences in the behavior of male MPs from right-wing and left-wing parties. Since the party dummies only serve as control variables, their effect should not be over-interpreted, however, the results from the beta regression suggest that backlash effects rather occur in right-wing parties that are less in favor of gender equality (CDU/CSU, FDP) and that spillover effects might be more likely to observe in more progressive left-wing parties. Further studies should explore this in more detail and analyze whether there are any structural differences between the PPGs that make the representation of women interests more or less likely (e.g. proportion of women in leadership positions). Qualitative case studies of single parties and interviews with male MPs about their preferences and underlying motivations would be a
useful complement to the present quantitative analysis. A more in-depth analysis of the direction of women's representation could also show whether some parties are more likely to represent traditional or anti-feminist opinions when they discuss women-specific issues. Drawing on the assumptions of sociological institutionalism, future studies should also examine whether the personal background and socialization of male MPs have an effect on their willingness to represent women-specific issues (c.f. Saalfeld and Bischof 2011). Their educational background, having their own children, as well as personal experiences with gender-based discrimination, abortions or breast cancer in the own family, could be significant factors which shape male MPs' representational behavior. From a rationalchoice perspective, it would be interesting to see whether the electoral situation of male MPs affects their decision to act on behalf of women. If we assume that re-election is the primary goal of all MPs, men should - besides a general increase in the salience of women's issues - only cater more strongly to female voters if they are electorally insecure, since this unexpected behavior could help them to win additional votes from women in their constituency.
The findings from this study suggest that the explicit analysis of male MPs as potential critical actors is an important and promising extension of previous research and a necessary next step for developing a comprehensive understanding of the substantive representation of women on parliament.

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## Supporting Information

Additional Supporting Information may be found in the online version of this article:

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[^0]:    ${ }^{1}$ This argument implies that female MPs have an underlying intrinsic motivation to represent women's issues in parliament (Swers 2002).

[^1]:    ${ }^{2}$ Data is available on the Harvard Dataverse at https://doi.org/10.7910/DVN/WIE8L4.
    ${ }^{3}$ The percentage of women in the Left Party for example fell from $59 \%$ in 1998 to $47 \%$ in 2005.

[^2]:    ${ }^{4}$ PQs can be downloaded from the Bundestag's online archive (PDok, DIP; http://pdok.bundestag.de and http:// dipbt.bundestag.de/dip21.web/bt).
    ${ }^{5}$ All quantitative text analyses are estimated using the quanteda-package in $R$.
    ${ }^{6}$ To test the validity of the classification, a student research assistant was familiarized with the definition of women's substantive representation and was then asked to classify a random sample of 2000 PQs (PQs that have been classified as women-specific by the author were oversampled and made up $14 \%$ of the sample). According to Krippendorff's $\alpha$, the intercoder reliability equals 0.94 . Among the women-specific PQs, the intercoder agreement is $95.2 \%$.
    ${ }^{7}$ This includes the tokenization of PQs, removal of stop words as well as of very rare and frequent words, the transformation of words to lowercase, and the reduction of words to their stem form (Grimmer and Stewart 2013; Lucas et al. 2015;).

[^3]:    ${ }^{8}$ Results of a V-fold cross-validation indicate an averaged balanced accuracy of 0.78 and a recall rate of 0.7 (see Online Appendix A3).
    ${ }^{9}$ All questions that had been identified as women-specific by either the Naïve Bayes classifier or the dictionaryapproach were reviewed manually to determine the validity of the classification.

[^4]:    ${ }^{10}$ Using re-election probabilities as an alternative measurement of electoral incentives (Stoffel and Sieberer 2018) has no effect on the results.
    ${ }^{11}$ The following offices are treated as leadership positions: Chancellor, president of the Bundestag, cabinet minister, junior minister, chair of a permanent committee, chair of PPG, party whip.
    ${ }^{12}$ The results do not change if I additionally control for opposition status. Robustness checks also show that the results remain stable if I control for the share of female population in the district. Since there is only very little variation between the districts $(s d=0.007)$, the variable is not included in the main model.

[^5]:    ${ }^{13}$ Standard errors of the beta regression are conditional on the results from the logit regression. This accounts for the fact that although the two models are estimated with two separate equations, they are dependent on one another.

[^6]:    ${ }^{14}$ Figure A1 in the Online Appendix shows the distribution of women-specific PQs tabled by male MPs over time and across parties.

[^7]:    ${ }^{15}$ All other variables enter the estimation with their empirically observed values.

[^8]:    ${ }^{16}$ The effect of the party fixed effects should not be over-interpreted because they are only included as control variables (see Conclusion).

[^9]:    ${ }^{17}$ Further robustness checks can be found in the Online Appendix. A test for a curvilinear relationship (spill-over effect at low-levels of women's representation, backlash-effect if the proportion of women is high), does not yield any significant results (Online Appendix A6). Online Appendix A7 includes the proportion of female MPs in the subsequent legislative term $(\mathrm{t}+1)$ as its main independent variable to test whether male MPs anticipate an increase in the number of female MPs after the next election. The results are statistically insignificant.

