Gendered Political Contexts: The Gender Gap in Political Knowledge

Frederico Batista Pereira, University of North Carolina at Charlotte

What explains the gender gap in political knowledge found by surveys across different contexts? This article proposes that female political representation affects the levels of knowledge expressed by men and women and, ultimately, the gender gap. The underrepresentation of women makes gender stereotypes salient, and these in turn affect how much cognitive effort individuals put into thinking about politics. Moreover, I argue that surveys are often responsible for enhancing the effect of those considerations. I analyze cross-national survey data from 120 countries to test whether the gap in knowledge decreases as female representation increases across countries. Then, I manipulate the gender composition of feeling thermometer batteries in a survey experiment with American subjects to test whether priming considerations about female representation affects respondents' performance on knowledge questions. The findings suggest an explanation for why surveys often reveal gender differences in knowledge and a mechanism connecting women's representation and public opinion.

Why is there a pervasive gap in political knowledge between men and women according to survey research around the world? Over time and across contexts, different studies find that even after controlling for the main determinants of knowledge (e.g., education and political interest), men tend to score higher on survey knowledge batteries than women (Delli Carpini and Keeter 1996; Dow 2009; McGlone, Aronson, and Kobrynowicz 2006). The main conclusion is that women tend to be less politically knowledgeable than men not because they display lower levels of education and interest but because of something else. What explains the gap if it is not entirely accounted for by conventional factors from the mainstream explanatory model of political knowledge?

This article argues that the level of women's political representation affects the extent to which individuals are able to express the knowledge that they have and, consequently, affects the gender gap. Building on studies of women's representation and political psychology, the article proposes that the underrepresentation of women in politics makes negative stereotypes about women salient and, in turn, affects how much effort individuals put into thinking about politics and answering knowledge questions. Moreover, the survey in and of itself is responsible for making those considerations salient. Public opinion surveys not only bring up topics that might remind respondents of the extent to which their contexts are unequal with regard to gender representation but also ask questions that prime respondents to see politics in gendered terms.

I use cross-national survey data from 120 countries and a survey experiment with American respondents to test whether the underrepresentation of women primes such considerations and affects the gender gap in political knowledge. The results from the cross-national analyses show that increasing the level of female representation across countries decreases the gender gap in political knowledge, even after controlling for individual-level variables such as education and political interest. The results from the survey experiment suggest that manipulating the gender composition of feeling thermometers toward prominent politicians can decrease the gender gap when respondents are primed to think of higher levels of female representation. The

Frederico Batista Pereira (fbatist1@uncc.edu) is assistant professor in the Department of Political Science and Public Administration, University of North Carolina at Charlotte, 9201 University City Blvd., Charlotte, NC 28223-0001.

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findings shed light on how female representation affects the ways men and women engage in thinking about politics more broadly and how the survey context can also have a role in that process.

UNPACKING THE GENDER GAP IN POLITICAL KNOWLEDGE

This article argues that part of the unexplained gender gap in performance on knowledge questions is affected by the extent to which political contexts are gendered and how that affects the way individuals engage in the task of thinking about politics. The core hypothesis is that gendered contexts, especially where the underrepresentation of women in politics is a salient problem, constitute reminders of existing stereotypes that affect the way women and men think about politics and consequently affect how they answer political knowledge questions. Moreover, the survey context might often mimic the broader political environment in priming those considerations. When surveys ask respondents questions about public affairs and political actors, they bring up topics that, in some contexts, might convey negative stereotypes about women in politics. Those considerations in turn affect how much effort respondents are willing to put into thinking about the topics. Hence, the explanation for a substantive part of the gender gap in knowledge is not related to gender differences in learning but relates instead to the fact that being reminded of gender stereotypes in politics affects people's propensity to use and display the information that they have.

The mainstream literature on the determinants of political knowledge points to three broad sets of individual-level factors that can explain why some individuals are more knowledgeable than others: opportunity, motivation, and ability (Delli Carpini and Keeter 1996; Luskin 1990; Neuman 1986). This line of inquiry is based on the assumption that knowledge tests measure how much information people have learned and stored. From this perspective, once the required information is learned, it is necessarily going to be used by individuals. Moreover, some of those studies show that even after taking those factors into account, one still observes a gender gap in performance on political knowledge questions. Therefore, the observed difference in knowledge between men and women does not seem to be fully accounted for by factors related to learning.

A different set of studies focuses on situational rather than individual-level factors as determinants of political knowledge. Studies show that environmental cues and features of survey questions—such as monetary incentives, extra time, visual cues, content, and format of questions—affect people's performance on political knowledge batteries (Barabas et al. 2014; Boudreau and Lupia 2011; Prior 2014; Prior and Lupia 2008). Even though those works do not directly approach the problem of the gender gap, they challenge the assumption that all knowledge that has been previously learned is necessarily expressed in answers to political knowledge questions. Instead, they provide strong evidence that situational factors can make individuals more willing to engage in effortful thinking in order to recall and use the information they already have.

Accompanying this emphasis on situational influences, the literature on public opinion suggests that a possible source of differences in performance on knowledge questions is related to how they affect individuals' propensity to guess (Lizotte and Sidman 2009; Mondak and Anderson 2004; Mondak and Canache 2004). This line of inquiry proposes that "don't knows" also reflect traits such as shyness and risk aversion and that women would be more likely to use the "don't know" option as a way out of knowledge questions (but see Luskin and Bullock [2011]). One important question in this debate on gender differences in propensity to guess is whether those arise from gender differences in relevant psychological traits or from situational/environmental factors that might make women less likely to guess than men.

This article argues that situational factors can help us to unpack a substantive part of the gender gap in political knowledge. While most of the literature focuses on gender gaps in learning (motivation, opportunity, and ability) to explain the performance of men and women on knowledge questions, the theory developed here focuses on how situational factors affect individuals' propensity to use and display the knowledge they already have. This position sees batteries of political knowledge questions as not just quizzes of politics in which individuals recall information they have learned before. Most notably, political knowledge questions can indicate how men and women engage in using the information they have across different situations. Therefore, uncovering the effects of situational factors, especially gender-related institutions, on the gender gap in performance on knowledge questions can help us understand how politics affects the way individuals think and use information.

STEREOTYPES AND POLITICAL KNOWLEDGE

How do situational factors affect how men and women use political information when they are required to do so? How can different environmental stimuli make men and women more or less likely to use information that they have? According to the theory proposed in the article, the contexts

in which individuals are embedded when they think about politics provide the answer to such questions.

Most societies hold negative stereotypes about women in politics. Norris and Inglehart (2001) report and describe substantial cross-national variation in attitudes toward female leadership, as well as how that variation is associated with broader cultural values held cross-nationally. The World Values Survey (between 2005 and 2009) asked respondents from 56 different countries whether they agreed or disagreed with a statement saying that men make better political leaders than women. The average percentage of respondents agreeing with this statement varied from 8% in Sweden and 10% in Afghanistan to 90% in Iraq and 92% in Egypt. The same question was asked in the 2012 round of the AmericasBarometer survey, and the percentages ranged from 16% in Uruguay to 53% in Guyana. Also, since some survey respondents are aware that those views are widely seen as uncivil and as going against the basic principles of equality and democracy that most countries currently value, they might publicly falsify their views about women in politics in order to avoid the attribution of sexist behavior. In the American case, for instance, it is estimated that around 10%–20% of survey respondents hid their views on these matters when asked using direct conventional survey questions (Streb et al. 2008). Individuals might also hold those attitudes at an unconscious level (Greenwald and Banaji 1995; Mo 2015; Rudman and Kilianski 2000).

Moreover, even though not all citizens endorse negative stereotypes about female leadership, most of them seem to be aware of them. The literature on stereotype threat provides extensive evidence that reminding individuals of stereotypes affects their behaviors. Stereotype threat is defined as a type of stigma that is based on negative stereotypes about a group's ability to perform a task (Steele, Spencer, and Aronson 2002, 380). According to this perspective, environmental cues prime individuals of specific groups by suggesting that they would be less capable of succeeding in the task than other groups. Steele et al. (2002) argue that, in the case of math tests, women's underperformance relative to men can be explained by the fact that women feel the pressure of being in a stigmatized group with regard to that specific task. They find that women's performance tends to decrease when they receive a prior statement saying that female test takers tend to perform worse than males. These findings suggest that the test not only measures the underlying ability that it is supposed to tap but also the effect of those situational pressures on some test takers. More importantly, those situational pressures triggered by the exposure to stereotypes affect male and female respondents in different ways. While the exposure to stereotypes is found to harm the test performance of females, other studies also find what is called stereotype lift—that is, when negative stereotypes about females with respect to test performance boost the performance of male respondents (Walton and Cohen 2003). Finally, public opinion studies show that stereotype threat can be observed with political knowledge questions. McGlone et al. (2006) use a similar preface statement from the social psychological studies of stereotype threat in math tests and find very similar results for political knowledge questions. In the same line, Davis and Silver (2003) also manipulate the preface to political knowledge questions in order to observe the effect of stereotype threat among African American respondents in a survey.

However, it is unclear in the literature what are the sources of stereotype threat in contexts where the threat is not explicitly presented to individuals. Conventional surveys tend to use neutral prefaces to introduce batteries of knowledge questions and therefore do not explicitly "threaten" respondents as the social psychology studies do. Yet many of those surveys still display the gender gap even after controlling for factors related to learning. This suggests that, in order for stereotypes to play a role in the explanation of the gender gap in political knowledge, respondents to public opinion surveys might either be primed by gender stereotypes before beginning the survey or the survey might unintentionally prime those considerations. The question then refers to the source of those considerations that respondents already have in mind when asked about what they know about politics.

GENDERED POLITICAL CONTEXTS, STEREOTYPES, AND POLITICAL KNOWLEDGE

Findings from research on women's representation provide valuable insights on the question above. Overall, they suggest that the political behavior of ordinary citizens is affected by the degree to which women take on leadership roles in politics at the elite level. The first studies to explore this relationship show evidence that the presence of female candidates running for state-level positions increases women's levels of political knowledge, interest, and self-efficacy (Atkeson 2003; Burns, Schlozman, and Verba 2001). With respect to comparative studies, the study by Fraile and Gomez (2017) shows evidence that the level of female representation in parliaments decreases the gender gap in political knowledge in Latin America. In a similar vein, Kittilson and Schwindt-Bayer (2012) use both cross-national and country-specific analyses to show how female representation affects the gender gap on different indicators of political engagement, while Desposato and Norrander's (2009) article also shows that the larger the number

of women officeholders across countries, the smaller the gender gap in political participation. Campbell and Wolbrecht (2006) show evidence that female role models affect young girls' interest in political activism in the United States. In another work (Wolbrecht and Campbell 2007), the authors look at Europe and find that the percentage of women in the country's legislature decreases the gender gap in engagement in political discussions and in the extent to which men and women perceive themselves as politically active. Barnes and Burchard (2012) find similar results for African countries. Such patterns are also reinforced by findings that women appear to be as knowledgeable as men in questions about women in politics (Dolan 2011), suggesting that women are at least as aware as men about the extent to which women are represented in their country.

These findings are relevant since underrepresentation of women in politics is still widespread cross-nationally. According to data from the Inter-Parliamentary Union, as of January 2015, only Rwanda, Bolivia, and Andorra had parliaments composed of more than 50% women. A group of about 40 countries had parliaments with more than 30% women. This means that at least 120 countries had less than a third of the seats in their parliaments held by women at that point. The numbers reveal even more underrepresentation when one considers the proportion of women as heads of state.

By combining the studies on stereotype threat with studies on the effects of women's representation on civic engagement, the theory developed here presents a new argument about the mechanism that produces the gender gap in political knowledge. On the one hand, while the studies on stereotype threat show how it can affect the gender gap in knowledge, they do not theorize about the actual sources that prime the stereotypes affecting individuals' cognitive engagement in politics. On the other hand, the studies on the effects of women's representation on public opinion focus mostly on the extent to which female representation affects women's motivations to engage in politics and actively seek political information, which refer to factors that are usually already controlled for in individual-level models of political knowledge. This article proposes that, while female representation affects women's motivations and opportunities to learn about politics, it also has a direct effect on people's cognitive engagement, precisely via stereotype threat and lift. According to Smith (2004, 192), although studies on the mechanism of stereotype threat point to some factors related to self-reported motivation and confidence (such as anxiety, evaluation apprehension, and self-doubt), it seems likely that stereotype threat operates at an unconscious level through factors such as working memory capacity, increased blood pressure, and cognitive effort. Therefore, individuals' cognitive engagement when answering knowledge questions and thinking about politics more broadly is affected by the extent to which they must cope with gender stereotyping reproduced on a regular basis by the unequal representation of women in politics. Consequently, women's representation affects the gender gap in political knowledge not just by affecting individuals' motivations to learn about politics, as already demonstrated by the literature, but also by affecting their cognitive engagement with the task of thinking about politics.

Additionally, the survey instruments used to assess levels of political knowledge in the general public might constitute gendered political contexts. Research on survey methodology shows evidence that prior items asked in a survey can prime beliefs that in turn affect the response to subsequent items (Tourangeau, Rips, and Rasinski 2000). As stated above, surveys of political opinions and behaviors do not explicitly prime gender stereotypes in politics (unless that is the research goal) but, by revolving around a sphere of activity that in most contexts is largely seen as male-dominated, can increase the accessibility of considerations about gender in politics in respondents' memories. As a consequence, those beliefs become particularly likely to come to mind when respondents believe they are being evaluated—that is, when it is possible that their actions do or do not confirm those stereotypes. Hence, the survey, as a simulated conversation about politics, operates as a "self-fulfilling prophecy" for political knowledge questions. Moreover, the broader political context of which the survey is part matters, since surveys will prime gender stereotypes if those stereotypes are salient in the broader political context in which the surveys are embedded.

All in all, this argument provides a rationale for understanding the pervasive gender gap in political knowledge found by previous scholarship. Even though female representation can affect factors related to learning, it can also affect how ordinary citizens use political information they have already learned. In other words, the different levels of female political representation across contexts might or might not remind individuals of the negative stereotypes about women in politics when they think and talk about the subject. Although it is also theoretically possible that a smaller gender gap in political knowledge can lead to higher levels of female representation, the theory and research design carried out in this article focus on the effect of the latter on the former. Hence, the overarching hypothesis of this article is that the gender gap in political knowledge will be lower as female political representation increases across contexts, either through the increased presence of women in leadership roles or through survey cues that convey politics as a less gendered domain.

A CROSS-NATIONAL ANALYSIS OF GENDERED POLITICAL CONTEXTS AND KNOWLEDGE

This section analyzes the relationship between female representation and the gender gap in political knowledge in 120 countries using surveys that asked political knowledge questions between 2001 and 2011.[1] The data come from eight different comparative survey projects and comprise approximately 88% of the world population as of 2012. Most of the surveys are nationally representative samples of each country and are conducted on the basis of face-to-face interviews. Given the availability of surveys from different countries and the worldwide variation in women's descriptive representation, examining such a broad range of countries maximizes the variations in the main quantities of interest in the analysis.

In order to assess the relationship between women's representation and the gender gap in knowledge, the analysis below uses a two-step model with an appropriate weighting scheme to better account for the structure of the data (Borjas and Sueyoshi 1994; Lewis and Linzer 2005).[2] Running separated hierarchical models for each survey project in which individual-level data are most comparable would harm the estimation at the country level because of the small number of observations (with an average of about 25 countries per survey).[3] Moreover, as Steenbergen and Jones (2002, 234) point out, conventional multilevel models tend to "increase the number of assumptions about data," such as assuming that the coefficients for certain individual-level variables in the model are fixed across groups. However, using a pooled data set for all countries would likely yield biased estimates of the gender gap (not related to learning skills) at the individual level, since only education and age are available for all countries (but still often measured using different scales). For those reasons, the best strategy is one that would be able to combine the best of both worlds, by maximizing variation and degrees of freedom at both levels of analysis while preserving the comparability of the data.

Moreover, because surveys often ask different questions (with different content and format) in different countries, and given that even the same question can potentially have problems of comparability across countries, the best strategy to overcome this problem is to focus the analysis at the item level and take into account features of items that are expected to be related to the gender gap in performance across countries. In this sense, we can rely on the literature about the gender gap in political knowledge in order to identify features of items that might be associated with the different performances of men and women (Barabas et al. 2014; Dolan 2011) and include information about those items in the estimation. The equation below displays the estimation of the gender gap for each item h at the individual level (i) in each country-year j available. The subscripts indicate that an individual-level model on the probability of answering the question correctly is run for each item h in each country-year j. In each of these models, the main independent variable of interest is gender (Gender_i). A set of potentially relevant individual-level covariates (Controls_i) is also included—such as education, age, and political interest, among others—depending on their availability in each survey.

$$\text{Knowledge}_{hij} = \beta_{0hj} + \beta_{1hj}\text{Gender}_i + \beta_{2hj}\text{Controls}_i + \varepsilon_{hij}. \quad (1)$$

Using public opinion surveys from the survey projects mentioned above results in the analysis of 1,171 political knowledge items, asked across 120 countries between 2001 and 2011 (comprising a total of 234 country-years). The 1,171 first-level models (eq. [1]) consist of binary probit models in which the dependent variable was coded as zero for incorrect and "don't know" answers and one for correct answers. These models include varying numbers of theoretically relevant independent variables according to their availability in each country, ranging from 6 to 12, with an average of 9.69. Since the goal of the analysis at that level is to properly estimate the gender coefficient while considering as many potential confounders as possible, the second step of the analysis also takes into account the variation in the number of control variables included in each first-level model. The estimates of the predicted gender gap or gender coefficient (β_1) and their standard errors are then used in a country-year data matrix with the independent variables for that level of analysis. The average value for the estimate of the gender gap in first-level models without control variables is 0.31 (0.29, 0.32), while the average for the gender gap with control variables is 0.22 (0.21, 0.23), indicating that the individual-level

1. Data come from the AmericasBarometer (2008, 2010), Afrobarometer (2005, 2008), Arab Barometer (2006–7), Asian Barometer (2008), Chicago Council Survey of 2006, Comparative Study of Electoral Systems (CSES; waves 2 and 3), European Election Study (2009), and the Voice of the People survey (2011). For the full list of countries, see the appendix.

2. Borjas and Sueyoshi (1994) propose a weighting scheme that weights the coefficients used as the dependent variable in the second-level model on the basis of their precision. Since the precision of the first-level coefficient is also composed of second-level error, this weighting scheme parses out the individual-level component of the error at the second-stage model and combines the "pure" second-level error with the precision from the first-level estimates.

3. Maas and Hox (2005) show that estimates from multilevel models with fewer than 50 groups at the second-level tend to be biased.

covariates across countries account for an average of less than a third of the gender gap on political knowledge questions. Moreover, while 67% of the items have statistically significant (at 0.05) baseline gender differences, 47% of those differences remain statistically significant after controlling for individual-level covariates, indicating that there is a statistically significant gender gap in at least one item in 107 out of 120 countries. Equation (2) below shows the structure of the second-step model. This model has the first-step estimate of the gender gap (the probit coefficient β_{1hj}) for each item as the dependent variable and includes characteristics of the country-year and the items as independent variables.

$$\begin{aligned}\beta_{1hj} = \quad & \gamma_{10} + \gamma_{11}\text{Women'sRep}_j + \gamma_{12}\text{Gendered}_h \\ & + \gamma_{13}\text{Controls}_j + \gamma_{14}\text{Controls}_h + \upsilon_{hj}.\end{aligned} \tag{2}$$

The first block of independent variables, Women'sRep_j, refers to features of the country in each year that indicate the level of female representation in that specific context. It includes three indicators of the level of female representation in the country for the corresponding year: the proportion of women in the parliament, the proportion of women in cabinets, and an indicator of whether the country had a woman as head of the government within the 50-year period before the survey.[4]

Next, the block Gendered_h indicates if the item itself presents politics as gendered and includes two variables on whether the item mentions male or female politicians (no personal reference as baseline). No item in the sample approached issue or policy questions directly related to gender issues. These two blocks of variables provide the estimates of interest in the model, since they represent the influence of gendered political contexts (in either institutions or the survey itself) on the gender gap in knowledge.

In order to take into account potential confounders, the blocks Controls_j and Controls_h refer to features of the countries and the items that should be controlled for in the estimates of the main coefficients of the model. The block Controls_j includes country-level control variables that help isolate the empirical relationship between women's representation and the gender gap. The block includes the gross domestic product (GDP) per capita, the Inverted Freedom House Index of Civil Liberties and Political Rights (level of democracy), a binary variable for proportional systems (having nonclassified and majoritarian cases as the baseline), an indicator of whether the country had gender quotas, and a variable measuring the number of years up to the survey since the country instituted the right of women to vote.[5] The block Controls_h includes variables that measure different features of the items that might be related to the gender gap. The first type comprises the content of the question, such as whether it refers to foreign affairs, international organizations, or domestic politics. Also, another variable indicates whether the question refers to a task involving numbers (quantitative).[6] The second type refers to item format, with binary variables indicating whether the item is multiple choice, true or false, or opinionation (whether an answer was given on a hard opinion question), having open-ended as the base category. The third type comprises binary variables indicating the mode of interview (online, mail back, and telephone), having face-to-face as the baseline. Finally, the last variable in that block is a model quality index.[7] This index measures the extent to which the individual-level model was able to explain the variation in the item. Even though the second-level model corrects the errors based on the amount of error in the coefficients that constitute the dependent variable, a quantity that is associated with the quality of the first-level model, it might also be the case that the magnitude of those estimates depends on the extent to which those models omit or mismeasure relevant control variables.[8] The model at the second level also includes year and survey fixed effects, clustered standard errors at the country-year level, and uses a weighting scheme proposed by Borjas and Sueyoshi (1994) to properly account for the error in the dependent variable.[9]

4. Data come from the World Economic Forum's Gender Gap Reports, available at https://www.weforum.org/reports/the-global-gender-gap-report-2017 (Hausmann, Tyson, and Zahidi 2011). For survey years not covered by those data, information from different available sources (e.g., the country's government website) were used.

5. Data on GDP per capita come from the World Bank DataBank. Data on electoral systems come from the 2012 update of the data by Beck et al. (2001). Information on the presence of gender quotas comes from the Global Database of Quotas for Women (http://www.quotaproject.org/aboutquotas.cfm). Finally, the information about women's suffrage adoption comes from Pippa Norris's Democracy Cross-National Data (http://www.hks.harvard.edu/fs/pnorris/Data/Data.htm).

6. Quantitative items ask respondents to deal with numerical quantities, such as the number of countries in the European Parliament or the length of the presidential/prime ministerial term, for example.

7. The model quality index is based on scores from a factor analysis model of three indicators of how well each individual-level model was able to explain the response to the knowledge question. It comprises the model pseudo-R^2, the proportion of independent variables in the model that had statistically significant coefficients (at 0.05), and the inverted p-value of the coefficient for education.

8. Another potentially relevant control is whether the survey was postelectoral. Since only two CSES survey waves are postelectoral, the model includes survey fixed effects to account for that.

9. I use the "edvreg" command (Lewis and Linzer 2005) in Stata for the analyses. See the appendix for results from alternative estimation methods (for both the "purged" and the baseline gender gap).

Column 1 of table 1 shows the coefficients for country- and item-level variables on the predicted gender coefficient captured by the individual-level models.[10] Columns 2 and 3 look at the gender gap in surveys where clear coding of incorrect and "don't know" responses as different options is available, totaling 584 cases.[11] The two dependent variables are coefficients for the effect of gender on "don't know" and incorrect responses in multinomial logit models having correct responses as the base category.[12]

Table 1 shows support for the hypothesis that gendered political contexts, either manifested as the unequal participation of women in elected bodies or by the depiction of men and women as protagonists of politics in the survey itself, are related to the gender gap in political knowledge, even after individual, country, and item-level characteristics are controlled for.[13] The proportion of women in parliament has a substantive negative relationship, while the other two measures of female representation (women in cabinets or as heads of government) are not associated with the gender gap. The model in table 1 also shows that items with mentions of male politicians have larger gender gaps in knowledge, while items with female mentions tend to have smaller gaps relative to nongendered items.[14] Moreover, the results in columns 2 and 3 show that most of the gender variation in the propensity of respondents to give correct answers is related to fewer "don't know" answers rather than fewer incorrect responses. These results corroborate the idea that the gender gap in knowledge is largely related to the fact that "don't knows" do not necessarily convey lack of knowledge but rather reflect situational pressures that affect men and women differently. The results show that both the proportion of women in parliaments and items mentioning female politicians are related to the gender gap in differences between correct and "don't know" responses. Additionally, items mentioning female politicians are also related to the gender gap in the propensity to give incorrect relative to correct responses, which suggests that respondents' propensity to guess or give "don't know" answers could explain only part of the gender gap in political knowledge. The findings also suggest that survey items tend to be more powerful than the broader political context in affecting gender differences in performance.[15]

The results also show that countries with gender quotas tend to have higher gender gaps in political knowledge. Thus, for countries with similar levels of women's representation in parliament, those with gender quota provisions seem to produce backlash against women in politics that is reflected in the gender gap in political knowledge. As suggested by Franceschet and Piscopo (2008), quotas can often produce mandates for female legislators in which they are expected to exclusively represent women's interests, which might reinforce stereotypes about women as politicians and help increase the gender gap in knowledge. Items on foreign affairs and international organizations tend to have larger gender gaps than items on domestic politics. Quantitative items also tend to have larger gender gaps than items that do not have numerical references. The results suggest that gender stereotypes of competence are also area and task specific. Moreover, items asked in online and telephone interviews tend to have larger gender gaps than items asked in face-to-face interviews. Although the result might seem counterintuitive in the face of evidence that interviewers can also convey stereotype threat (Davis and Silver 2003), it is consistent with studies that find that online and telephone modes increase respondents' satisficing behavior, such as nonresponse (Duffy et al. 2005; Holbrook, Green, and Krosnick 2003). Therefore, the findings in table 1 suggest that online and telephone surveys make it easier for respondents to opt out of answering questions on topics that they see as threatening. Finally, the model quality index also has the expected positive relationship with the overall gap, since items that are generally better at measuring knowledge should be better at capturing larger and more precise coefficients for independent variables. Regarding "don't know" and incorrect answers, the index has a positive and significant coefficient on

10. All variables in the model except the proportion of women in parliaments and cabinets are rescaled from zero to one. The model has a smaller number of observations (1,050 against 1,171 in the full data set) because of the impossibility of coding whether a few items from the Afrobarometer referred to male or female local politicians. See the appendix for descriptive statistics.

11. Countries in the AmericasBarometer 2010 ("don't knows" were not distinguished from incorrect) and in the Voice of the People 2011 (questions on whether respondents gave an opinion) are not included.

12. Even though the first-step models are nonlinear (probit), the dependent variables in the second step are continuous, since they refer to the coefficients from the individual-level models. Therefore, the R^2 in table 1 has the same interpretation as in an ordinary least squares (OLS) model.

13. When using the simple baseline gap as dependent variable—that is, the gender gap without any control variables (similar to a model with complete pooling)—this relationship is smaller and not statistically significant. See the appendix for results.

14. The main estimates in the models are conservative in precision because of the use of corrected standard errors with clustering and because most observations display low levels of female representation, which produces a positively skewed distribution.

15. Overall, the coefficients for the measures of gendered contexts displayed in table 1 do not change depending on the countries' levels of democracy. In parallel models, only the interaction between female head of state and level of democracy shows significant differences, with the effect being negative for less democratic countries and null for more democratic countries. See the appendix for results.

Table 1. Two-Step Estimation Results for Gender Gap in Knowledge Questions

	Probit Gender Coefficient (Don't Know/Incorrect Combined) (1)	Multinomial Logit Gender Coefficient on Don't Know (2)	Multinomial Logit Gender Coefficient on Incorrect (3)
Women'sRep$_j$:			
Proportion of women in parliament	−.29*	−.79*	−.33
	(.13)	(.36)	(.35)
Proportion of women in cabinets	.03	.10	.39
	(.11)	(.29)	(.25)
Female head of state last 50 years (yes = 1)	.01	−.02	−.01
	(.02)	(.05)	(.04)
Gendered$_h$:			
Item about female politician (yes = 1)	−.14*	−.38*	−.29*
	(.04)	(.08)	(.07)
Item about male politician (yes = 1)	.06*	−.00	.03
	(.02)	(.05)	(.06)
Controls$_j$:			
Gross domestic product per capita	.21	.18	.19
	(.13)	(.24)	(.18)
Level of democracy	−.03	.18	−.04
	(.06)	(.15)	(.14)
Proportional system (yes = 1)	.01	.08	.00
	(.02)	(.06)	(.05)
Gender quota (yes = 1)	.07*	.22*	.08
	(.02)	(.06)	(.04)
Years with women's suffrage	.03	−.11	.01
	(.06)	(.17)	(.13)
Controls$_h$:			
Content: Foreign affairs (domestic = 0)	.16*	.29*	.20*
	(.02)	(.05)	(.05)
Content: International organizations (domestic = 0)	.10*	.07	−.03
	(.03)	(.06)	(.06)
Content: Quantitative (yes = 1)	.05*	.05	.05
	(.02)	(.04)	(.04)
Format: Multiple choice (yes = 1)	−.03	.05	−.10
	(.04)	(.12)	(.08)
Format: True or false (yes = 1)	−.02	−.04	−.15
	(.05)	(.09)	(.09)
Format: Opinionation (yes = 1)	−.12*	. . .	. . .
	(.06)		
Questionnaire mode: Online (yes = 1)	.12*	.29*	.13
	(.05)	(.21)	(.07)
Questionnaire mode: Mail back (yes = 1)	.06	.15	.08
	(.04)	(.13)	(.09)

Table 1 (*Continued*)

	Probit Gender Coefficient (Don't Know/Incorrect Combined) (1)	Multinomial Logit Gender Coefficient on Don't Know (2)	Multinomial Logit Gender Coefficient on Incorrect (3)
Questionnaire mode: Telephone (yes = 1)	.08*	.24*	.13*
	(.03)	(.06)	(.06)
Model quality index	.32*	.24	.38*
	(.05)	(.13)	(.11)
Constant	.24*	.52*	.37
	(.10)	(.26)	(.22)
R^2	.30	.31	.20
N	1,050	584	584
Clusters (country-year)	237	151	151

Note. Women'sRep$_j$ refers to features of the country in each year that indicate the level of female representation in that specific context. Gendered$_h$ indicates if the item itself presents politics as gendered. Controls$_j$ include country-level control variables that help isolate the empirical relationship between women's representation and the gender gap. Controls$_h$ include variables that measure different features of the items that might be related to the gender gap. Survey and year fixed effects are included but not shown in the table. Standard errors in parentheses.

* $p < .05$, two-tailed tests.

the latter and a positive but (marginally) not significant association to the former. Those coefficients are similar and not statistically distinguishable from each other.

The analyses above rely on individual-level estimates of the gender gap in knowledge that are based on observational data. One limitation of the analyses is that, even though those individual-level models used to estimate the gender gap take into account other factors that might explain the gender gap in knowledge, such as education and political interest, they cannot systematically rule out the possibility that other relevant unmeasured individual-level factors could be driving the patterns. In other words, the analyses of the observational survey data do not remove the influence of potential confounding variables by design. Moreover, one could argue that survey items on female politicians are more likely to be asked in countries with higher female representation, which is not ideal for isolating the effect of either factor on the gender gap.[16] The following section turns to an experimental design that addresses such concerns.

SURVEY EXPERIMENT: PRIMING GENDER IN THE SURVEY CONTEXT

The experimental data were collected through Time-Sharing Experiments for the Social Sciences (TESS, funded by the National Science Foundation). In this study, a total of 1,038 American citizens over 18 years old (498 men and 540 women) were recruited during March 2014. Subjects were randomly assigned to three experimental conditions.[17] One treatment condition consisted of a battery of feeling thermometers toward eight prominent American male politicians (Barack Obama, Dick Cheney, George W. Bush, John Kerry, Mitt Romney, Bill Clinton, Al Gore, and Colin Powell). Another condition used a similar battery of feeling thermometers that differed in that four of the politicians were male (Barack Obama, George W. Bush, Mitt Romney, and Al Gore), while the other four were female (Sarah Palin, Nancy Pelosi, Hillary Clinton, and Condoleezza Rice).[18] A third group was sent directly to the knowledge battery and did not receive the feeling thermometers. This group is used here for baseline comparisons.[19]

The goal of the two main conditions is to prime subjects about the extent to which women have important leadership roles in politics. The first one intends to prime subjects to see politics as a man's game, while the second tries to present a more balanced idea of politics in which the game is played by both male and female prominent figures. Using feeling

16. The correlation between female representation and the presence of knowledge questions mentioning female politicians is low (0.07, $p < .05$), which minimizes this concern in the observational design.

17. A total of 60 respondents completed the survey in either less than a minute or more than an hour. They are excluded from the analyses below. This exclusion does affect randomization or produce additional sample imbalances.

18. The politicians in each experimental condition were selected and paired according to their reputation and likability, based on data from a pretest study.

19. The preface to the battery of feeling thermometers was as follows: "We'd like to get some of your feelings toward some of our political leaders. Below you'll see the names of eight prominent politicians and will be asked to rate each one of them using the feeling thermometer scale."

Table 2. Ordinary Least Squares Models of Predictors of Political Knowledge in Experiment

	Without Controls			With Controls		
	Baseline (1)	"All-Male" (2)	"Mixed" (3)	Baseline (4)	"All-Male" (5)	"Mixed" (6)
Male	.18*	.09*	.05	.14*	.10*	.05
	(.04)	(.04)	(.04)	(.03)	(.04)	(.04)
Education				.49*	.50*	.53*
				(.11)	(.12)	(.14)
Income				.22*	.24*	.33*
				(.07)	(.08)	(.10)
White				.14*	.13*	.07
				(.04)	(.04)	(.04)
Religious activity				.00	−.11	−.05
				(.05)	(.06)	(.06)
Single				−.04	−.03	.05
				(.04)	(.05)	(.04)
Duration				−.12	.09	.72
				(.64)	(.48)	(.47)
Duration^2				.37	−.74	−1.09
				(1.22)	(.77)	(.56)
Constant	.42*	.43*	.50*	−.08	−.06	−.11
	(.03)	(.03)	(.03)	(.08)	(.10)	(.12)
R^2	.08	.02	.01	.29	.27	.23
N	349	344	345	329	324	318

Note. Standard errors in parentheses.
* $p < .05$, two-tailed tests.

thermometers rather than more explicit manipulations for priming considerations about female representation is crucial in order to understand why survey research around the world shows a consistent gender gap in knowledge, since those surveys do not include explicit statements telling respondents about the existence of the gap and given that feeling thermometers about politicians are widely used in survey research.[20]

After the manipulations, respondents answered six open-ended political knowledge questions. The questions asked about the length of the senatorial term, the name of the first 10 amendments to the US Constitution, the political office held by John Boehner, the name of the president of Russia, the party with the most seats in the House, and whose responsibility it is to determine if a law is constitutional. These items are standard knowledge questions in surveys of US respondents, with well-known reliability and moderate levels of difficulty. Therefore, the results from the manipulation apply to standard questions in the literature and are not attributable to a specific choice of items. Moreover, in order to minimize the extent to which subjects could look up the answers on the internet during the survey, they were given 40 seconds to answer each question. In the first analysis presented here, the responses were recoded as one for correct and zero for incorrect or "don't know" answers. I added the number of correct answers and rescaled the scores to range from zero to one, in order to show how the manipulations affect the standard measures from more conventional studies of the gender gap in political knowledge. The Cronbach's alpha of the battery equals 0.77 and indicates a moderate level of reliability.

Three OLS models assess the magnitude of the gender gap in political knowledge across the experimental conditions. The models regress the scale of political knowledge against gender (with one corresponding to male respondent). Table 2 shows the main results from the models. Columns 1–3 show the results without control variables, while columns 4–6 show the results for the models with control variables included

20. As a manipulation check, one question in the battery asked subjects how many of the nine members currently serving on the US Supreme Court are women. The average proportion of responses higher than three (correct answer) rises from about 7% in the baseline and "all-male" thermometers to about 12% in the "mixed" thermometers. Using a multinomial logit model with controls, the predicted proportion of overestimates rises from 7% to 14% ($p < .05$). See the appendix for results.

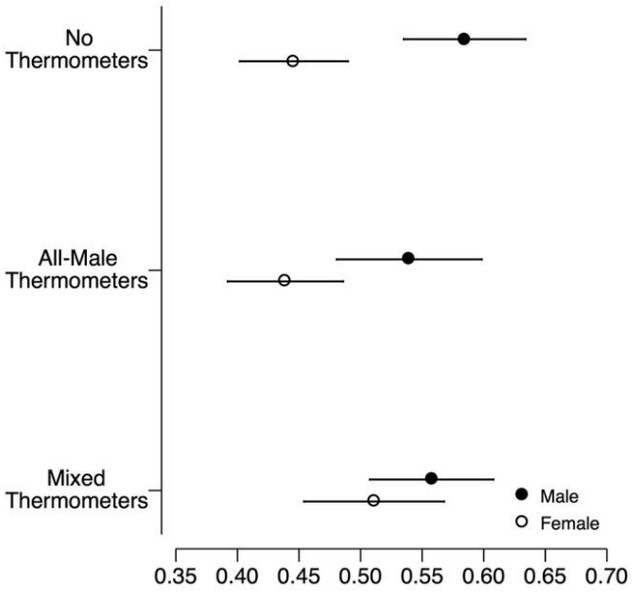

Figure 1. Predicted knowledge scores by treatment condition in experiment (with controls).

(education, income, race, religiosity, marital status, duration of the interview in minutes, and the squared duration of the interview).[21]

The gender gap for subjects in the control group (no feeling thermometers) equals approximately 0.14 points. For subjects who receive the thermometers with only male politicians, the gap decreases to 0.10 points. These gaps are statistically significant at the 0.05 level. For respondents who receive feeling thermometers about four male and four female politicians before answering the knowledge questions, the gap decreases to approximately 0.05 points, which is not statistically significant. However, even though the patterns are consistent with the expectations and provide cross-validation to the observational analyses, the differences between the gaps across conditions are not statistically significant, and the results discussed here should be taken with caution.[22] One surprising result from table 2 is the decrease in the gap between the first two conditions. In order to unpack that result, figure 1 shows the predicted values for male and female respondents across the three experimental conditions, on the basis of the estimates from table 2.

While women's performance remains the same between the first and second conditions, showing politicians of either sex to male respondents makes them more likely to disengage from the task of answering the questions, since their performance shows a slight decrease. Women's performance increases when they receive the mixed feeling thermometers, which provides evidence that stereotype threat might be the underlying cause of underperformance in the other two conditions. Among male respondents, the average score is higher for the baseline condition and very similar in the two remaining conditions. However, these differences for men and women are not strong enough to allow one to attribute the variation in gender gap across conditions to either stereotype threat or stereotype lift. Instead, it seems to be the combined reaction of females to threat and males to lift that produces the change in the gender gap.[23]

One relevant question is how the manipulations affect the specific responses given to the questions. Since the recoded knowledge items in the final additive scores combine incorrect and "don't know" answers, another way to examine the results is to check for possible differences in respondents' likelihood of using those two responses. It is possible to use the same experimental data described above to test if stereotype threat, made salient by considerations about female representation, is the underlying mechanism that explains the gender gap in the propensity to pick the "don't know" option. In order to test this claim, I stacked the data to create a data set of 6,228 respondent items, with each respondent appearing six times. I then generated one single indicator of whether the respondent gave a correct, incorrect, or "don't answer" to each of the knowledge questions. In this way, for each of the six times the same respondent appears in this new data set, the new variable takes on the value of the type of response he or she gave to each of the six knowledge questions. A multinomial logit model seeks to explain the likelihood of selection of each of the three possible responses: correct, incorrect, and "don't know." The model controls for the same variables used in the models from figure 1 and also

21. On the basis of balance checks across experimental conditions and between gender categories within each condition, the models include unbalanced variables. For descriptive statistics, see the appendix. The analyses use the poststratification weights provided by TESS. The weights adjust the sample for nonresponse, noncoverage, and under- or oversampling from the sample design implemented.

22. In models with the interaction between treatment condition and gender, the difference between "mixed" and "baseline" was borderline significant without controls and not significant with controls included. Further analyses indicate that the statistical power for that comparison is approximately 0.55. See the appendix for results.

23. A similar study conducted in September 2013 with respondents recruited using Amazon's Mechanical Turk (MTurk; with an average of 200 subjects per condition) also included an experimental condition with eight female politicians in the feeling thermometers (adding Elizabeth Dole, Madeleine Albright, Barbara Boxer, and Michelle Bachman to the list presented above) The resulting gender gap for this condition was 0.17 points. This result seems to indicate the manipulation primed gender stereotypes instead of counteracting them. It is possible that respondents saw that representation as unrealistic and as a type of tokenism.

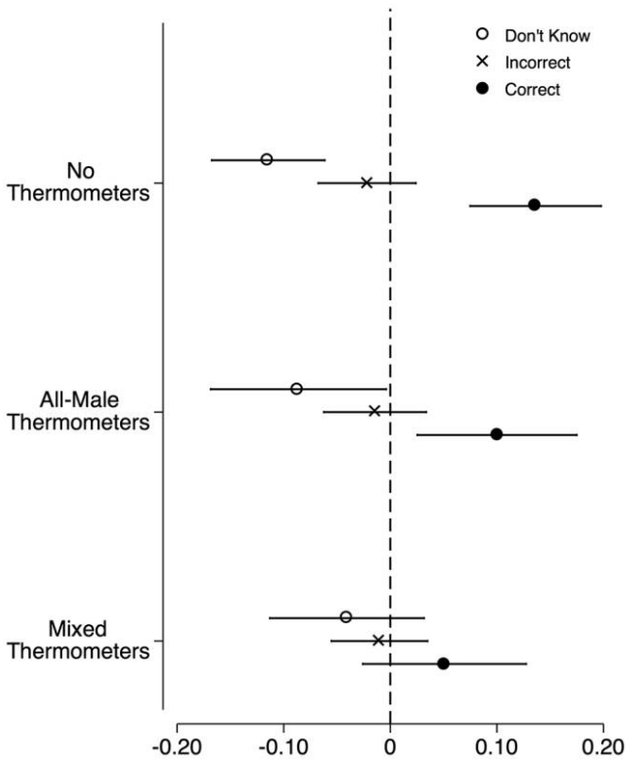

Figure 2. Predicted gender gap for each response option by treatment condition in experiment.

includes item fixed effects and clustered standard errors for respondents.[24]

The patterns in figure 2 show that the manipulations seem to affect mostly the way respondents move between saying "don't know" and giving a correct answer. The likelihood of an incorrect response for men and women is equal, irrespective of the experimental condition. In the baseline and in the condition with only male thermometers, women are more likely than men to give "don't know" responses. The opposite holds for correct answers. In the "mixed" thermometers condition, men and women are similar in their propensity to say "don't know" and to answer correctly. These differences must also be taken with caution, since they are not precise enough to be more than suggestive of a consistent pattern. In models with the interaction between treatment condition and gender, the difference between "mixed" and "baseline" is statistically significant without controls and borderline significant with controls. Nonetheless, the patterns suggest two important aspects of the meaning of "don't know" answers and the nature of the effect of stereotype threat. First, similarly to the cross-national analyses from the previous section, the findings also suggest that respondents' propensity to guess or give "don't know" answers might explain a substantial part of the gender gap in political knowledge (Mondak and Anderson 2004). Second, and most relevant for the present study, the extent to which subjects are primed by the idea that politics is a man's game is related to why female respondents are more likely than their male counterparts to disengage from trying to answer knowledge questions, even when they may have the correct answer.[25]

CONCLUSION

This article contributes to the literature that seeks to explain the gender gap in political knowledge. Building on studies about the symbolic effects of female representation (Barnes and Burchard 2012; Desposato and Norrander 2009; Wolbrecht and Campbell 2007), as well as the effects of survey questions on cognitive engagement (Barabas et al. 2014; Boudreau and Lupia 2011; Prior 2014), the article shows that contextual cues can prime individuals to think about gender stereotypes and, consequently, have differential effects on the performance of men and women on knowledge questions. Using cross-national surveys, I show that increasing the level of female representation decreases the gap in knowledge, even after controlling for individual-level variables such as education and political interest, among others. Moreover, I show that the gap is higher when questions mention male politicians and lower for questions about female politicians. I then use a survey experiment to examine the causal effect of priming gender considerations on performance on knowledge questions. By manipulating the gender composition of batteries of feeling thermometers, I find suggestive evidence that the gap decreases when respondents are primed to think of higher levels of female representation.

The results suggest that the level of women's political representation explains the variation in the gender gap in knowledge across countries. The underrepresentation of women in the political domain reminds respondents of negative gender stereotypes when they are invited to think about political affairs in their country. Consequently, female respondents must cope with considerations about negative stereotypes and might prefer to withdraw from engaging in political tasks, especially the ones that require high cognitive effort, such as the political knowledge quiz. Therefore, women may often have the underlying ability that is required for answering

24. See the appendix for full results.

25. With regard to whether the manipulations affected indicators of stereotype endorsement or subjects' confidence, two earlier MTurk studies were used to gauge some of those effects. The two studies found no effects on endorsement for "hard" or "soft" gender stereotypes in politics and no effects on whether respondents believed they were capable of understanding politics (internal efficacy). See the appendix for results. The results corroborate Smith (2004) in the claim that stereotype threat operates through unconscious or nonverbal psychological mechanisms.

knowledge questions and thinking about politics more broadly, but situational factors can make them withdraw or fail to use and display such ability. Meanwhile, men might experience a boost in propensity to guess when exposed to the stereotypes, which increases their performance on the knowledge test.

Another implication refers to the understanding of what knowledge questions convey to survey analysts. The first and more common of those understandings is that those questions are a quiz that is used to find out what people know about politics. The second is that those questions tap a latent trait that is important in explaining people's opinions and behaviors. These findings suggest a third way to see knowledge questions. The recall questions of knowledge can also indicate how people use information they have in the face of different environmental stimuli. They indicate how much effort respondents put in when they try to use information they have already been exposed to and how environmental factors can affect that process. For these reasons, political knowledge questions in surveys do not just reflect the knowledge respondents have but also the situational pressures that they must cope with when answering the survey. At the same time, this process sheds light on the more fundamental cognitive phenomena that might affect political engagement more broadly. Therefore, although the theory and findings presented here focus on the task of answering knowledge questions, they can refer more broadly to political opinions involving some degree of cognitive effort and use of information.

Finally, the findings have implications for democracy and political inclusion. Across different contexts, women and other minority groups are increasingly more engaged in politics, at both elite and mass levels. This process of political inclusion might have not only direct effects on policies and political outcomes but also effects on how ordinary citizens conceive political life. The results presented in this article suggest that increasing the political representation of minority groups might affect the way ordinary members of those groups think about and see themselves in politics.

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REFERENCES

Atkeson, Lonna Rae. 2003. "Not All Cues Are Created Equal: The Conditional Impact of Female Candidates on Political Engagement." *Journal of Politics* 65 (4): 1040–61.

Barabas, Jason, Jennifer Jerit, William Pollock, and Carlisle Rainey. 2014. "The Question(s) of Political Knowledge." *American Political Science Review* 108 (4): 840–55.

Barnes, Tiffany D., and Stephanie M. Burchard. 2012. "'Engendering' Politics: The Impact of Descriptive Representation on Women's Political Engagement in Sub-Saharan Africa." *Comparative Political Studies* 46 (7): 767–90.

Beck, Thorsten, George Clarke, Alberto Broff, Philip Keefer, and Patrick Walsh. 2001. "New Tools in Comparative Political Economy: The Database of Political Institutions." *World Bank Economic Review* 15 (1): 165–76.

Borjas, George J., and Glenn T. Sueyoshi. 1994. "A Two-Stage Estimator for Probit Models with Structural Group Effects." *Journal of Econometrics* 64:165–82.

Boudreau, Cheryl, and Arthur Lupia. 2011. "Political Knowledge." In James N. Druckman, Donald P. Green, James H. Kuklinski, and Arthur Lupia, eds., *Cambridge Handbook of Experimental Political Science*. Cambridge: Cambridge University Press, 171–83.

Burns, Nancy, Kay Lehman Schlozman, and Sidney Verba. 2001. *The Private Roots of Public Action: Gender, Equality, and Political Participation*. Cambridge, MA: Harvard University Press.

Campbell, David E., and Christina Wolbrecht. 2006. "See Jane Run: Women Politicians as Role Models for Adolescents." *Journal of Politics* 68 (2): 233–47.

Davis, Darren W., and Brian D. Silver. 2003. "Stereotype Threat and Race of Interviewer Effects in a Survey of Political Knowledge." *American Journal of Political Science* 47 (1): 33–45.

Delli Carpini, Michael X., and Scott Keeter. 1996. *What Americans Know about Politics and Why It Matters*. New Haven, CT: Yale University Press.

Desposato, Scott, and Barbara Norrander. 2009. "The Gender Gap in Latin America: Contextual and Individual Differences on Gender and Political Participation." *British Journal of Political Science* 39 (1): 141–62.

Dolan, Kathleen. 2011. "Do Women and Men Know Different Things? Measuring Gender Differences in Political Knowledge." *Journal of Politics* 73 (1): 97–107.

Dow, Jay K. 2009. "Gender Differences in Political Knowledge: Distinguishing Characteristics-Based and Returns-Based Differences." *Political Behavior* 31 (1): 117–36.

Duffy, Bobby, Kate Smith, George Terhanian, and John Bremer. 2005. "Comparing Data from Online and Face-to-Face Surveys." *International Journal of Market Research* 47 (6): 615–39.

Fraile, Marta, and Raul Gomez. 2017. "Why Does Alejandro Know More about Politics Than Catalina? Explaining the Latin American Gender Gap in Political Knowledge." *British Journal of Political Science* 47 (1): 91–112.

Franceschet, Susan, and Jennifer Piscopo. 2008. "Gender Quotas and Women's Substantive Representation: Lessons from Argentina." *Politics and Gender* 4:393–425.

Greenwald, Anthony G., and Mahzarin R. Banaji. 1995. "Implicit Social Cognition: Attitudes, Self-Esteem, and Stereotypes." *Psychological Review* 92 (1): 4–27.

Hausmann, Ricardo, Laura D. Tyson, and Saadia Zahidi. 2011. *The Global Gender Gap Report 2011*. Geneva: World Economic Forum.

Holbrook, Allyson L., Melanie C. Green, and Jon A. Krosnick. 2003. "Telephone versus Face-to-Face Interviewing of National Probability Samples with Long Questionnaires: Comparisons of Respondent Satisficing and Social Desirability Response Bias." *Public Opinion Quarterly* 67:79–125.

Kittilson, Miki Caul, and Leslie A. Schwindt-Bayer. 2012. *The Gendered Effects of Electoral Institutions*. Oxford: Oxford University Press.

Lewis, Jeffrey B., and Drew A. Linzer. 2005. "Estimating Regression Models in Which the Dependent Variable Is Based on Estimates." *Political Analysis* 13:345–64.

Lizotte, Mary Kate, and Andrew H. Sidman. 2009. "Explaining the Gender Gap in Political Knowledge." *Politics and Gender* 5:127–51.

Luskin, Robert C. 1990. "Explaining Political Sophistication." *Political Behavior* 12 (4): 331–61.

Luskin, Robert C., and John G. Bullock. 2011. "'Don't Know' Means 'Don't Know': DK Responses and the Public's Level of Political Knowledge." *Journal of Politics* 73 (1): 547–57.

Maas, Cora J. M., and Joop J. Hox. 2005. "Sufficient Sample Sizes for Multilevel Modeling." *Methodology* 1 (3): 86–92.

McGlone, Matthew S., Joshua Aronson, and Diane Kobrynowicz. 2006. "Stereotype Threat and the Gender Gap in Political Knowledge." *Psychology of Women Quarterly* 30:392–98.

Mo, Cecilia Hyunjung. 2015. "The Consequences of Explicit and Implicit Gender Attitudes and Candidate Quality in the Calculations of Voters." *Political Behavior* 37 (2): 357–95.

Mondak, Jeffery J., and Mary R. Anderson. 2004. "The Knowledge Gap: A Reexamination of Gender-Based Differences in Political Knowledge." *Journal of Politics* 66 (2): 492–512.

Mondak, Jeffery J., and Damarys Canache. 2004. "Knowledge Variables in Cross-National Social Inquiry." *Social Science Quarterly* 85 (3): 539–58.

Neuman, W. Russell. 1986. *The Paradox of Mass Politics: Knowledge and Opinion in the American Electorate*. Cambridge, MA: Harvard University Press.

Norris, Pippa, and Ronald Inglehart. 2001. "Women and Democracy: Cultural Obstacles to Equal Representation." *Journal of Democracy* 12 (3): 126–40.

Prior, Markus. 2014. "Visual Political Knowledge: A Different Road to Competence?" *Journal of Politics* 76 (1): 41–57.

Prior, Markus, and Arthur Lupia. 2008. "Money, Time, and Political Knowledge: Distinguishing Quick Recall and Political Learning Skills." *American Journal of Political Science* 52 (1): 169–83.

Rudman, Laurie A., and Stephen E. Kilianski. 2000. "Implicit and Explicit Attitudes toward Female Authority." *Personality and Social Psychology Bulletin* 26:1315–28.

Smith, Jessi L. 2004. "Understanding the Process of Stereotype Threat: A Review of Mediational Variables and New Performance Goal Directions." *Educational Psychological Review* 16 (3): 177–206.

Steele, Claude M., Steven J. Spencer, and Joshua Aronson. 2002. "Contending with Group Image: The Psychology of Stereotype and Social Identity Threat." *Advances in Experimental Social Psychology* 34:379–440.

Steenbergen, Marco R., and Bradford S. Jones. 2002. "Modeling Multilevel Data Structures." *American Journal of Political Science* 46 (1): 218–37.

Streb, Matthew J., Barbara Burrell, Brian Frederick, and Michael A. Genovese. 2008. "Social Desirability Effects and Support for a Female American President." *Public Opinion Quarterly* 72 (1): 76–89.

Tourangeau, Roger, Lance J. Rips, and Kenneth Rasinski. 2000. *The Psychology of Survey Response*. Cambridge: Cambridge University Press.

Walton, Gregory M., and Geoffrey L. Cohen. 2003. "Stereotype Lift." *Journal of Experimental Social Psychology* 39:456–67.

Wolbrecht, Christina, and David E. Campbell. 2007. "Leading by Example: Female Members of Parliament as Political Role Models." *American Journal of Political Science* 51 (4): 921–39.