

A cross-national investigation of gender-based differences in political knowledge

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ABSTRACT

While the majority of studies on political knowledge document lingering gender-based differences in advanced industrial democracies, most contributors have drawn such conclusions from a single or a handful of countries, using limited batteries of political information items. The proposed paper investigates the hypothesis of a gender-gap in political knowledge by exploiting a pooled dataset containing the three modules of the Comparative Study of Electoral Systems (CSES). Considering the three modules of the CSES allows drawing on a large variety of political information items, hence making it possible to verify whether certain types of items systematically underestimate women's political knowledge. In addition, this research design allows testing whether the differences between men and women in levels of political knowledge observed by previous studies remain stable across different types of political information items, as well as different political and socioeconomic contexts.

Introduction

Political knowledge is a central indicator of “cognitive engagement” which underpins attitude formation and connectedness to political processes (Zaller, 1992). In short, political knowledge is a crucial resource linked to the ability of citizens to participate effectively in politics, for instance by connecting preferences to candidates, and helping them select their preferred option (Gelman and King, 1993, Lau and Redlawsk, 2006, Basinger and Lavine, 2005, Sniderman et al., 1991). While many consider this indicator of cognitive engagement as crucial for democratic citizenship, a related set of contributions have also established that political knowledge is unequally distributed in populations: the overwhelming majority of studies document a sizable and consistent gap between the performance of men and women on batteries of items measuring political knowledge (Burns et al., 2001, Delli Carpini and Keeter, 1996, Delli Carpini and Keeter, 2000, Dow, 2009, Fraile, 2014, Frazer and Macdonald, 2003, Garand et al., 2005, Kenski and Jamieson, 2000, Lizotte and Sidman, 2009, Mondak and Anderson, 2004, Sanbonmatsu, 2003, Verba et al., 1997, Wolak and McDevitt, 2011). As a response to these persistent disparities in political knowledge, contributors have put forward two types of hypotheses mostly tested in the context of advanced industrial democracies such as the United States, Canada and the United Kingdom: one set of explanations focuses on the survey questions employed to measure the target concept of political knowledge, while the second type of explanations targets the role of women in society and the resources at their disposal.

While the majority of studies on political knowledge document lingering gender-based differences in advanced industrial democracies, most contributors have drawn such conclusions from a single or a handful of countries, and have focused on individual level predictors.¹ We have had, so far, little opportunity to evaluate the relative impact of country-wide settings —differences in opportunity structures for women—vs. individual level circumstances on gendered differences in political knowledge. Using a pooled dataset containing the three modules of the Comparative Study of Electoral Systems (CSES) data project, this paper investigates whether cross-national differences contain a part of the explanation for the gender gaps outlined in previous research. Considering the three modules of the CSES datasets allows drawing on a large variety of political information items, hence

¹ A forthcoming study by Marta Fraile (2014) has looked at differences in political knowledge in European countries, however, the study does not look into macro level covariates that could influence gender differences in political knowledge.

making it possible to verify whether certain types of items systematically underestimate women's political knowledge. In addition, this research design allows testing whether the differences between men and women in levels of political knowledge observed by previous studies remain stable across different types of political information items, as well as different political and socioeconomic contexts: also, if patterns mostly observed in the United States transcend political contexts, we should find evidence of this in a cross-national setting.

This paper therefore sets to make two contributions: We know from previous research that cross national contexts explain differences in overall levels of political knowledge (Gordon and Segura, 1997, Grönlund and Milner, 2006). Most theories of political knowledge operate at the individual level, yet most would at least implicitly posit that the context in which individuals are embedded shape their incentives. To date, however no comparative study has sought to identify the important contextual variables that significantly affect the difference in political knowledge between men and women across several countries. Although the findings of this paper are mainly exploratory, there is evidence of generalized gaps in political knowledge cross-nationally. However, the size of these gaps is differs pronouncedly across cases, but also relatively large differences can be observed within single countries over time, which hints at the possibility that gender gap measurement is somehow sample specific. In this paper I find some evidence of macro factors shaping the size of these gaps: question structure and content, overall difficulty of the questions, as well as differences in opportunity structures for women. Yet even after controlling for these circumstances, significant gender differences in knowledge remain. The remainder of the paper proceeds as follows. The first part outlines its theoretical underpinning and the hypotheses developed. The second section presents the methodology employed and details the variables and measurements. The third part presents the empirical findings. It concludes with a discussion of the results and implications for further research.

Gendered differences in political knowledge

The overwhelming majority of studies exploring the differences in political knowledge across genders document a sizable and consistent gap between the performance of men and women on batteries of items measuring political knowledge, indicating that women are less knowledgeable about politics than men (Burns et al., 2001, Delli Carpini and Keeter, 1996, Delli Carpini and Keeter, 2000, Dow, 2009, Fraile, 2014, Frazer and Macdonald, 2003, Garand et al., 2005, Kenski and Jamieson, 2000, Lizotte and Sidman, 2009, Mondak and

Anderson, 2004, Sanbonmatsu, 2003, Verba et al., 1997, Wolak and McDevitt, 2011). Figure 1 presents the additive distribution of correct responses to three political information items by gender from 47 countries during the years 1996-2012. Figure 1 replicates the gender gap highlighted in the existing literature, by showing that women have higher densities towards the left side of the graph, indicating a lower amount of correct responses, while the data for men displays a higher density towards the right-hand side, which indicates higher amounts of correct answers: slightly less than 20 percent of women obtained three correct answers, while this proportion approached close to 30 percent for men. The aggregate size of the gender gap thus appears to be considerable.

[Figure 1 about here]

To account for these persistent disparities in political knowledge, existing research has advanced two types of hypotheses: the first set of explanations focuses on the survey questions used to measure the target concept of political knowledge, more precisely, their content and format. The second type of explanation focuses on the role of women in society and the resources at their disposal. The first set of contributions focusing on the form of the survey instruments employed posits that the type of questions asked in surveys measuring political knowledge could be part of the explanation for the differences between men and women.² The first of these differences is that at the individual level. Men and women are considered to exhibit different psychological tendencies when answering questions: men are hypothesized to display a higher “propensity to guess” than women, who in turn, are more likely to select “don’t know” when they are unsure (Mondak and Anderson, 2004, Frazer and Macdonald, 2003, Kenski and Jamieson, 2000, Lizotte and Sidman, 2009, Atkeson and Rapoport, 2003, Mondak and Canache, 2004). This pattern is also visible across the three modules of the CSES data, as displayed in Figure 2 plotting additive distributions of the number of “don’t know” to three political information items by gender: 70 percent of men provided a substantive answer (either correct or incorrect) to the questions without recourse to the “don’t know” category. In turn, only 57 percent of women answered the questions without have recourse to the “don’t know” category. Because of these different propensities of men and women to guess, close-ended questions are understood to elicit more “guessing” than open-ended questions: results from different question formats are therefore subject to different

² The person asking the questions can also have an impact (see McGlone et al., 2006).

biases and can affect the size of the gender gap (Luskin and Bullock, 2011, Sturgis et al., 2008).

[Figure 2 about here]

A second branch of research concerned with survey instruments posits that part of the puzzle lies in the types of questions contained in surveys. In other words, survey items are gendered in such a way that women are structurally disadvantaged (Dolan, 2011). Typical knowledge questions ask for information about politicians in specific positions (name of foreign affairs ministers, previous prime minister), political parties (ideological position, coalition partners), technical rules concerning the functioning of certain institutions (term limits, electoral thresholds, number of chambers forming the legislature, number of parliamentarians), or about international organizations (members of the EU, recent accessions to NATO). Historically, lower levels of education and labor force participation, virtual exclusion from political representation, and more time spent in domestic activities explained a large amount of the political knowledge gap between genders. Hence, women acquire knowledge that is relevant to them, whereas men also seek knowledge in an area that seems more relevant to them, that is national politics (Smiley, 1999, Norris, 2000, Stolle and Gidengil, 2010, Verba et al., 1997, Shaker, 2012, Dolan, 2011). Stolle and Gidengil (2010), for example, demonstrate that women's practical knowledge of government, more focused on public services and welfare state policies is at disadvantage when compared to "conventional" forms of political knowledge generally contained in surveys.

Underpinning this research are the accounts of gendered differences in political knowledge based on different patterns of socialization, and hence, levels of attention men and women devote to politics. The standard explanations have been centered on differential socioeconomic and cognitive resources available to men and women: the usual suspects are political interest, media attentiveness, education, socialization and other equivalent indicators underlying political motivation (Price and Zaller, 1993, Bennett and Bennet, 1989, Gidengil and Thomas, 2008, Jennings, 1983, Wolak and McDevitt, 2011, Banwart, 2007, Flora and Lynn, 1974, Frazer and Macdonald, 2003, Delli Carpini and Keeter, 1996, Dow, 2009).

Given the scarcity of comparative studies on gendered differences in political knowledge, we have had few opportunities to establish whether gender gaps exist in all countries, and

whether the size of the gender gap varies across countries. According to the different theories, we should expect a difference in the size of the gap: type of question on hand, but also differences in the roles of women in different societies. No study to date has focused on contextual factors across countries. The present paper covers some of these blind spots by proposing explorative analyses to test both hypotheses in a single research design to establish cross-national differences in political knowledge. If patterns mostly observed in the United States, United Kingdom and Canada transcend political contexts we should also find evidence corroborating previous research in a cross-national setting. The following investigates these propositions.

Data and Methodology

The paper draws from the countries included in the three modules of the Comparative Study of Electoral Systems (CSES) data, between 1996 and 2011 (The Comparative Study of Electoral Systems (www.cses.org), 2003, 2007, 2013). Although mainly centered on advanced industrial democracies, this research design also includes a number of newer democracies in which competitive elections are held and thus displays a broad geographic coverage including countries in Asia and Latin America. The individual-level data used to test the hypotheses are drawn from all three modules of the Comparative Study of Electoral Systems (CSES). Taken together, the modules include pooled data from 106 post-election surveys conducted in 47 countries between 1996 and 2011 (see Appendix, Table I, for details). Given the strategic timing of CSES interviews, fielded on average within three months after an election has taken place, using this study provides an optimal analytical context in which the most recent elections are roughly equally salient to respondents when answering questions about political information mostly focused on politicians. The unit of analysis considered is elections, including both legislative (lower house) and presidential elections (when presidents are directly elected).

The individual-level data from surveys were supplemented by aggregate level data drawn from a variety of sources, detailed below. The analysis proceeds in two steps. First, I present macro level analyses estimating the size of the gender gap in political knowledge, aggregated for each election study considered. In a second step, I use a series of multivariate, multilevel ordered logistic regressions to estimate the effects of both individual level and macro level variables on political knowledge. This research design therefore harnesses the strength of both

macro-level and multilevel empirical cross-national verifications to account for gendered differences in political knowledge

A) Measuring political knowledge

Valid measurements of political information, or political knowledge, still elude researchers. The issue of finding valid measurement for this target concept is made even more complex when looking at several countries over time. The CSES contains three questions per election study measuring political knowledge and are not standardized across countries, as each election study national team is left free to ask these questions according to their national standards. The following will make use of additive scales of political information to reduce the presence of random components in answer patterns. I make use of one of three alternative ways to code the questions as proposed by Frazer and Macdonald (2003) and what they call a positive knowledge scale. The *positive knowledge scale* codes only correct answers to a question as '1'; the remainder categories, incorrect and "don't know"-answers are coded 0.³

Although the lack of standardization makes direct comparison across countries more difficult, most items are similar enough in content to allow some valuable assessments.⁴ The items included in the survey are mainly tapping into the traditional understanding of political information such as identifying political officeholders or officials, verifying the extent of knowledge on key institutions, such as the size of assemblies, details concerning electoral rules such as the presence of thresholds, or identifying political parties' positions on certain issues. A handful of items regarding female politicians were included in certain countries, however their rarity will make analyses using these items more problematic. While items sometimes refer to international or EU politics, the majority of questions focus on local/federal politics in each of the countries.⁵ The question format varies from study to study: we find multiple choice items, open-ended questions, and questions in the true/false format. These variations will allow controlling for question format since the role of "don't know"-answers can be different in these situations (Luskin and Bullock, 2011, Sturgis et al., 2008).

³ The other scales were not tested in this paper, they consist of two alternative codings of the items. The *political expression* scale scores definite answers, either correct or incorrect, 1, and DKs are given the score 0. Last, the *political accuracy scale* compiles the proportion of the expressed opinions that are correct.

⁴ Besides, it remains to be demonstrated whether full standardization of political knowledge items will make them comparable in practice, e.g. equivalent.

⁵ Although we know that practical questions about benefits and services that are directly relevant to citizens' daily lives are types of question where women tend to perform better, this kind of item is not available in the CSES data.

B) Control variables, alternative hypotheses

Individual factors. From previous research, the standard predictors of political knowledge based on resources have been age, education, income, media attentiveness, political interest, socialization and other equivalent indicators underlying political motivation such as mobilization in social groups (e.g., religious groups and political parties) (Price and Zaller, 1993, Bennett and Bennet, 1989, Gidengil and Thomas, 2008, Jennings, 1983, Wolak and McDevitt, 2011, Banwart, 2007, Flora and Lynn, 1974, Baxter and Lansing, 1983). The following analyses will therefore include gender, age, education, income, whether the respondent has voted, as a proxy for political interest since no variable tapping into political interest was available in all three modules of the CSES). To test for the effects of adherence to groups, the following indicators will be included: religiosity, two items measuring the concept of political efficacy ('the feeling that individual political action does have, or can have, an impact on the political process, i.e., that it is worthwhile to perform one's civic duties' (Campbell et al., 1954, p.187)) and whether respondents consider themselves close to one political party.

Macro controls: Although contributions integrating contextual predictors are fewer, recent research shows that the importance of individual-level motivational factors varies across media contexts (Iyengar et al., 2010). Some of the macro-level factors that underpin the level of women's political representation, such as the presence of women in the workforce (Iversen and Rosenbluth, 2008, Rosenbluth and Salmond, 2006, Siaroff, 2000), timing of enfranchisement, the importance of religion and types of religious affiliations (Inglehart and Norris, 2003, Welch and Studlar, 1986), stereotypes and widely shared ideas about gender roles (Dahlerup, 2006), could also be influential in explaining differing patterns of interests in politics. Thus the following analyses will include the Gender Inequality Index (GII) (UNDP, 2013) which measures gender disparities in reproductive health, empowerment, and labor-market participation. Although a broad construct, the index encapsulates the degree to which countries adhere to traditional gender roles: previous studies have shown that women's entry in the labor force, one of the indicators included in the GII) is associated with a decline in support for traditional gender roles (Andersen, 1975, Andersen and Cook, 1985).

Moreover, if the presence of women in parliaments can be hypothesized to influence the level of political engagement (Karp and Banducci, 2008), which is one of the main determinants of political knowledge at the individual level, we should expect differences in levels of political

knowledge to differ across countries depending on how active/represented women are in politics. Therefore, the ensuing analyses will also contain the level of representation of women in each lower house included in the study (IPU, 2014). A set of previous research has demonstrated that differences in cross-national contexts —i.e. differences in electoral systems and level of income inequality—explains differences in overall levels of political knowledge in countries (Gordon and Segura, 1997, Grönlund and Milner, 2006). Although there are few reasons to hypothesize that such factors would affect men and women differently, the following analyses will comprise a control for overall level of political knowledge in each country, by including the average total score of correct responses, to account for the possibility that overall levels of knowledge, or question battery level of difficulty, affect men and women differently.

Analyses

Macro analyses

Figure 3 illustrates the distribution of the size of the gender gap in political information in 107 election studies between 1996 and 2011 (positive knowledge scale). What is most striking about Figure 3 is that all elections studies— with the exception of Chile in 2005⁶—display a gap in political knowledge between men and women in the favor of men: this seems to substantiate the evidence positing such a gap in the handful of countries where analyses were conducted in previous research. However, when comparing means of scores by men and women, the differences displayed in Figure 3 are not statistically significant in all cases. For instance, in addition to Chile (2005), Japan (2004), Romania (1996), Australia (1996), and Sweden (2006) do not show significant differences between the political knowledge scores obtained by men and women (see Appendix, Table II, for detailed difference of means tests). Perhaps most interesting is the large variance in the size of these gap across countries. Given that scores can only technically range from 0 to 3 (since there are only three questions measuring political information) some of the gaps between the genders are very large in a group of countries. The largest difference between women and men is 0.8 in Greece (2009). Moreover, Switzerland (1999, 2003, and 2007) and Taiwan (1996, 2004, and 2008) consistently register some of the largest gaps, with on average 0.45 points difference between men and women. The fact that these cases consistently score similar differences between

⁶ Although the difference of means between men and women is not statistically significant at the 10% level in this group of observations.

genders provides evidence of substantive differences in levels of political information that are robust across different samples and survey questions.

With the handful of countries where the size of the gender gap is too trivial to reach conventional statistical significance levels, we find a non-negligible group of countries where the gender gap is minor— with differences between 0.11 and 0.15 points—for instance Czech Republic (1996, 2002, 2010) and Romania (2004). Of importance, we notice that not all countries who appear more than one in the study achieve consistent scores over different elections: while the gender gap in Finland in 2011 is negligible, at 0.08, the registered gaps between men and women in political knowledge were 0.17 and 0.43 in 2007 and 2003 respectively, which indicate high fluctuations over different elections. One possible reason is that the battery of questions was entirely different in content and format in each election study. A similar scenario materializes in Mexico, where scores range from 0.19 to 0.43 over the four elections contained in the three CSES Modules despite using an almost identical battery of questions —in both content and format— over the years. Such fluctuations cast doubt that the standard instruments measuring political knowledge contained in surveys always produce reliable measurement of the target concept. Only few studies interested in mapping the knowledge gap between genders have looked at trends over time to ascertain the robustness of their findings: variations in questions lead to large fluctuations in scores.

[Figure 3 about here]

[Table 1 about here]

Although research on the determinants of gender gaps in political knowledge hitherto focused on individual level factors, large variations between countries hint to the potential presence of macro factors explaining aggregate levels of knowledge differentials between men and women. For instance, stereotypes and widely shared ideas about gender roles which could have led to different socialization of men and women which would result in different levels of political involvement and political knowledge. Table 1 presents a series of OLS regressions estimating the aggregate size of the gender gap in each country included in the study. Model 1 integrates structural factors such as the GII, and the percent women in parliament, none of which has a statistically significant impact on the dependent variable. Once other controls are included in Model 4, the GII achieves a significant impact in the expected direction: only once question structure and content are controlled for, the environments in which women are less

empowered are also those in which they achieve the weakest scores in political knowledge compared to men. Model 2 looks at the structure and content of questions. Here, closed-ended question formats, compared to True/False and open-ended questions appear to reduce the gap between men and women. Batteries of questions containing items regarding international organizations, office holders of other countries, and other phenomena outside the national context, seem to lead to larger differences between men and women, in comparison with batteries of items entirely focused on domestic issues. Last, and perhaps due to the small amounts of questions focused on female politicians, batteries containing at least one item measuring more gender-specific knowledge do not exercise significant influence on overall differences in scores between men and women. The item measuring question difficulty, in Model 3, reveals that overall performance on item batteries affects the size of the gender gap.

[Figure 4 about here]

Batteries of questions that are easier are also those in which both genders perform most similarly. By contrast, where overall scores are lower, the gap between men and women is larger, as illustrated in Figure 4, which displays the bivariate relationship between both variables. The large variations in political knowledge scores between countries should not be interpreted as differences in the target concept, especially given the changes within single countries over time, but rather as measures of the difficulty of questions. Overall, as Model 4 (which contains all variables) shows, an important proportion of variance in gender gaps in political knowledge can be accounted for by the level of inequality between genders in countries, the type of questions employed, their content and level of difficulty.

Multilevel analyses

In the following section, I estimate three different multilevel ordered logistic models on the 4-point positive political knowledge scale to address the hierarchical structure of the data. Table 2 summarizes the predictions of the number of correct responses by different specifications. Model 5 is a baseline model only including gender as a covariate of overall political knowledge to estimate the raw effects of this variable, Model 6 integrates individual level covariates, and Model 7 adds the macro level covariates.

The results from Model 5 highlight the significant differences in the levels of political knowledge between men and women observed in the previous sections of the paper. The

addition of the individual covariates in Model 6 demonstrate significant resource differences in political knowledge across the citizens contained in CSES surveys, which is in line with the bulk of literature on the topic (Price and Zaller, 1993, Bennett and Bennet, 1989, Gidengil and Thomas, 2008, Jennings, 1983, Wolak and McDevitt, 2011, Banwart, 2007, Flora and Lynn, 1974, Frazer and Macdonald, 2003, Delli Carpini and Keeter, 1996, Dow, 2009). In sync with these findings, the results demonstrate that the likelihood of individuals reaching higher numbers of correct responses increases with age, education, and income. Respondents displaying higher levels of political efficacy, having voted, and or identifying themselves as close to a political party, i.e. all indicators of some degree of political involvement, also displayed significant likelihoods of achieving higher numbers of correct responses. However, levels of religiosity, which could be interpreted as an indicator of the degree of mobilization in social groups, is negatively associated with the likelihood of high scores of political knowledge.⁷ But more importantly for the purposes of this paper, the gap between men and women in the number of correct answers to the three-question index is slightly reduced when these conventional explanations of political knowledge are added to the analyses. Yet, despite a slight reduction in the size of the parameter estimate for gender from Model 5 to Model 6, the coefficient remains statistically significant indicating that gender differences remain, and that macro level predictors might have an impact.

The addition of macro-level variables in Model 7 also reduces the size of the gender coefficient, without eliminating the differences completely. Overall scores of political knowledge are higher in environments where women are empowered, however curiously, slightly lower where women have achieved higher representation, a finding that will deserve further empirical verifications, which are beyond the scope of this paper. Turning to question structure, the results indicate that multiple choice questions lead to overall lower scores than true or false formats, while open-ended questions lead to higher overall scores than true or false question formats. While lucky guessing has often been deemed an explanation driving higher political information scores, open-ended batteries of questions are here linked with the likelihood of achieving higher scores in political knowledge. Batteries of question containing at least one gender-specific item, despite being rare, also achieve statistical significance: countries in which the political knowledge battery of questions contained at least one gender specific item are associated with lower overall political knowledge scores, although we cannot

⁷ Since this indicator does not make differences of types of religious affiliation, it is not possible to give a substantive interpretation to this result without performing further analyses.

differentiate if the gender specific item is itself causing this result or if something else is being picked up by this rather crude indicator. Question content also makes an impact on overall scores: mixed-focus question batteries are linked to higher total scores, although the batteries were also linked to larger gaps between men and women in the macro models discussed in the previous section. Last, even controlling for average scores in political knowledge, to even out the differences in types of questions used in the election studies included, is not enough to remove the lingering differences between men and women in Model 7.

Discussion and conclusions

Cognitive engagement is crucial for democratic citizenship, however, this resource tends to be unequally distributed between men and women in all the countries surveyed in the literature— notwithstanding the few exceptions uncovered in this paper—which suggests negative consequences for how well women can hope to be represented in institutions (Burns et al., 2001, Delli Carpini and Keeter, 1996, Delli Carpini and Keeter, 2000, Dow, 2009, Fraile, 2014, Frazer and Macdonald, 2003, Garand et al., 2005, Kenski and Jamieson, 2000, Lizotte and Sidman, 2009, Mondak and Anderson, 2004, Sanbonmatsu, 2003, Verba et al., 1997, Wolak and McDevitt, 2011). This paper sought to explore if these findings hold in a cross-country perspective, but also to verify if macro level explanations could account for some of these gaps.

First, although the findings of this paper are mainly exploratory, the results reveal that gaps in political knowledge in almost all countries under study are, indeed, significant. However, the size of these gaps varies across the different election studies, ranging from not statistically significant to sizeable. In addition, the analyses reveal large differences in the size of the gender gap within individual countries over time, which hints at the possibility that gender gap measurement has a sample-specific component. Second, to date, no comparative study had sought to identify the important contextual variables that could systematically affect the difference in political knowledge between men and women across a different set of countries. In both the macro and multilevel analyses conducted in this paper, I find powerful evidence of macro factors shaping the size of gender gaps: question structure and content, overall difficulty of the questions, as well as differences in opportunity structures for women hold an important part of the explanation.

Despite confirming the results of previous studies on the relevance of micro-level factors, the addition of macro level variables was not sufficient to remove the remaining differences between men and women in political knowledge: a large part of variance remains unexplained which raises important implication for further testing. First, the issue of comparability of survey items remains problematic: are questions too different to allow for meaningful cross-national comparisons (Elff, 2009)? What would be the implication of having two batteries of questions, one for women and one for men as proposed by Dolan (2011)? While this paper did not intend to model absolute knowledge levels, but rather differences between groups inside single countries at single points in time, the issue of measurement equivalence was somewhat less problematic. Yet eliminating some of these differences with uniformed batteries of questions would serve to make the results of these inquiries more reliable and reliable cross-nationally and cross-temporally.

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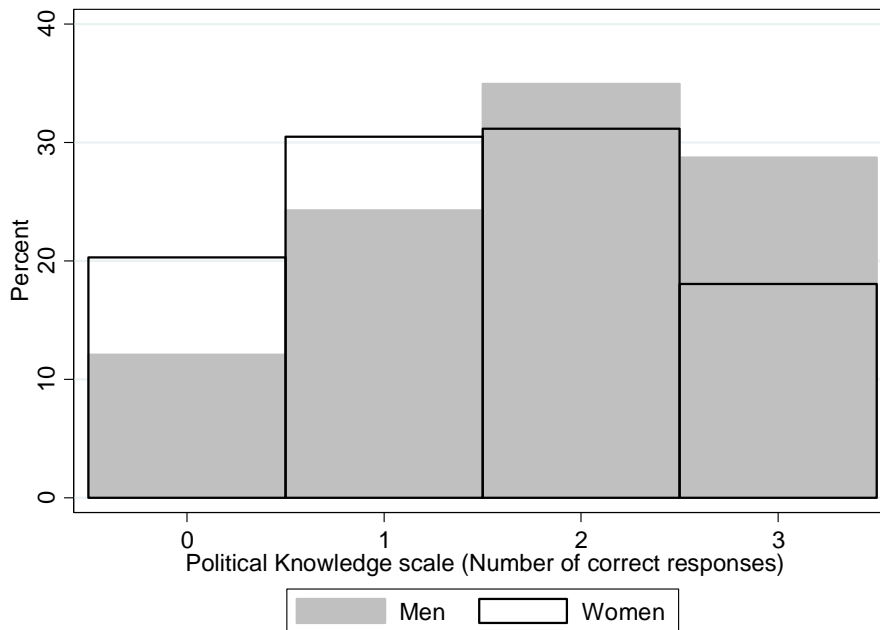
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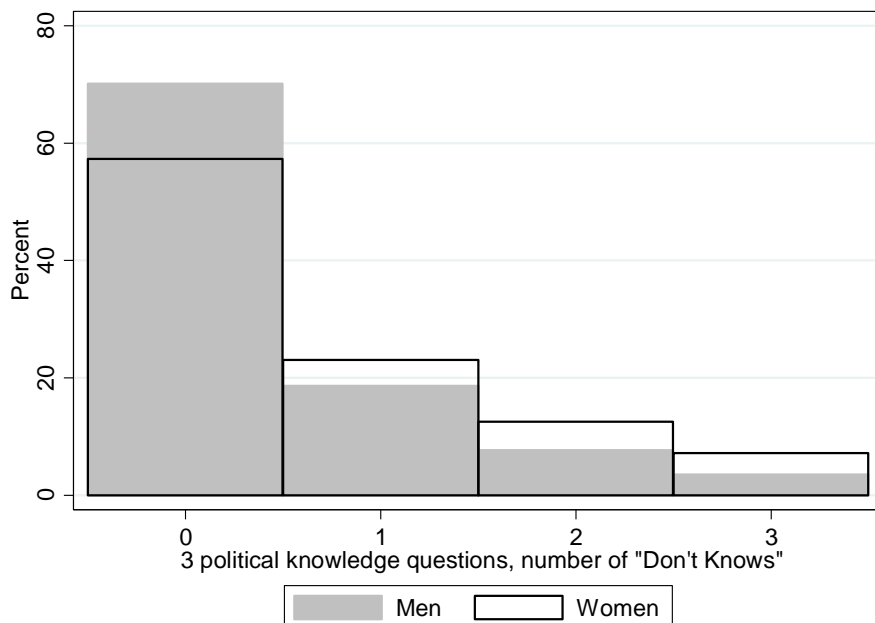
Tables and Graphs

Figure 1. Additive distribution of correct responses to three political information items by gender



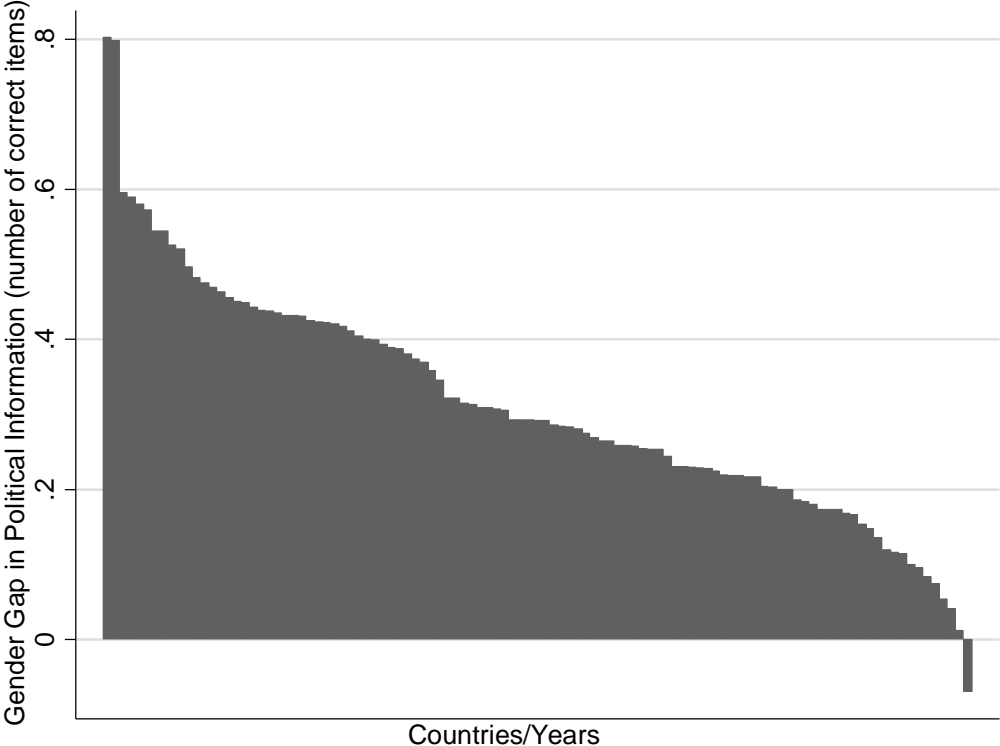
Source: The Comparative Study of Electoral Systems (CSES.org) based on 161432 valid observations (pooled Modules 1, 2, and 3). Number of correct answers to three questions were simply added, don't knows are coded as incorrect.

Figure 2. Additive distribution of the number of “don’t know” to three political information items, by gender



Source: The Comparative Study of Electoral Systems (CSES.org) based on 161432 valid observations (pooled Modules 1, 2, and 3). Number of uses of “don’t know” were added for each module from a potential of 3 questions.

Figure 3. Distribution of the size of the gender-gap on the positive knowledge scale, in 107 post-election surveys between 1996-2011.



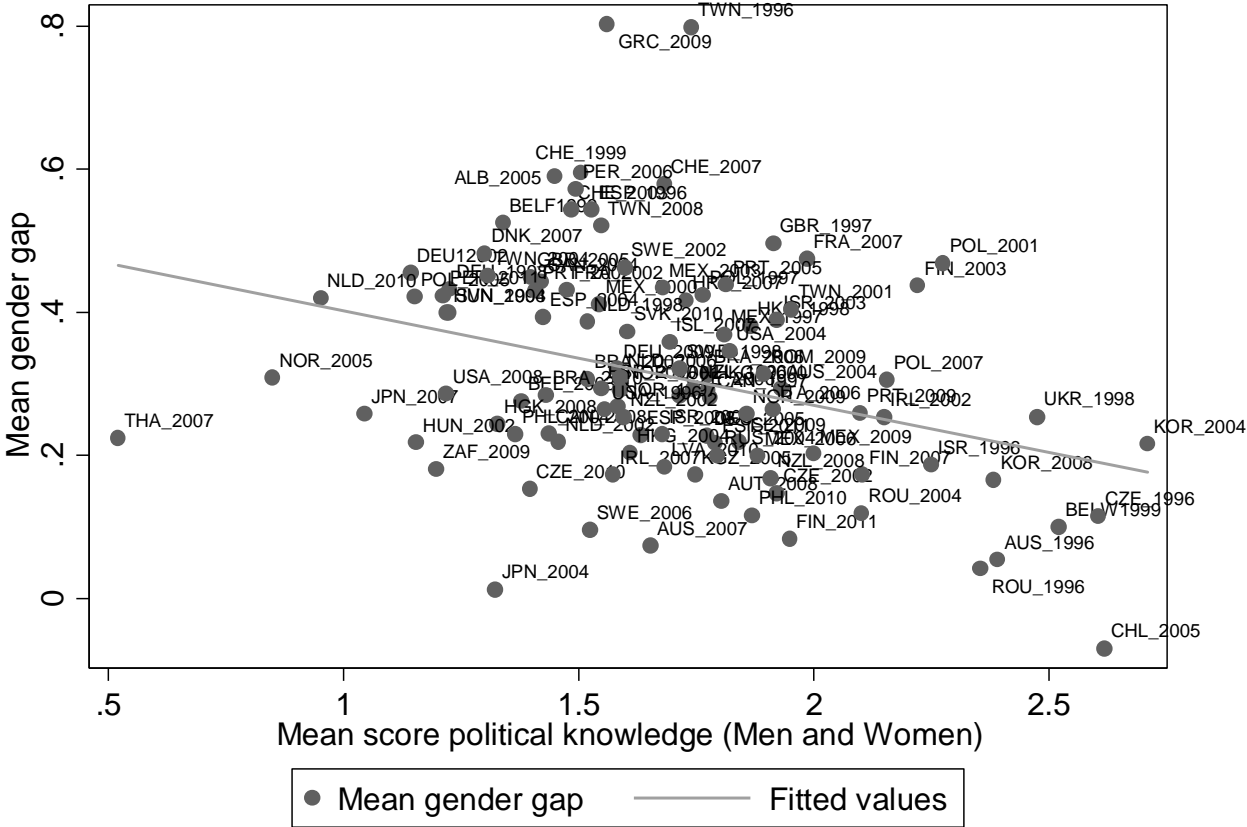
NOTE: Graph presents difference in mean score on political information between men and women in each 107 election study (CSES). Positive knowledge scale.

TABLE 1. OLS Regression Models Estimating the size of the gender gap in political knowledge

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>
	b/se	b/se	b/se	b/se
<i>Structural factors</i>				
Gender Inequality Index	-0.233 (0.14)			-0.276** (0.13)
% Women Parl.	-0.000 (0.00)			-0.001 (0.00)
<i>Question format</i>				
-True/False (reference category)		.		.
-Multiple Choice		-0.149* (0.08)		-0.177** (0.07)
-Open		0.030 (0.04)		0.003 (0.04)
-Mixture of formats		-0.000 (0.05)		-0.005 (0.05)
<i>Content of questions</i>				
-National Focus (reference category)		.		.
-National and International		0.067** (0.03)		0.063** (0.03)
One question containing Gender-specific knowledge		0.081 (0.07)		0.071 (0.06)
Mean of country score (question difficulty)			-0.132*** (0.04)	-0.138*** (0.04)
Constant	0.354*** (0.06)	0.282*** (0.04)	0.534*** (0.06)	0.607*** (0.09)
Observations	96	103	107	95
R^2	0.031	0.112	0.109	0.265

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

FIGURE 4. Relationship between overall question battery difficulty and size of gap between men and women in political knowledge



NOTE: Graph presents difference in mean score on political information between men and women in each 107 election study (CSES). Positive knowledge scale.

TABLE 2. Multilevel Ordered Logistics Regressions Estimating Political Knowledge

(DV: Political Knowledge: Scale 0-3)	Model 5	Model 6	Model 7
	b/se	b/se	b/se
<i>Micro Covariates</i>			
Gender	-0.641*** (0.01)	-0.598*** (0.01)	-0.575*** (0.01)
Age		0.012*** (0.00)	0.010*** (0.00)
Education		0.293*** (0.00)	0.234*** (0.00)
Income (Quintiles)		0.147*** (0.01)	0.158*** (0.01)
Religiosity		-0.030*** (0.01)	-0.054*** (0.01)
Efficacy			
-Who is in power can make a difference		-0.055*** (0.01)	-0.046*** (0.01)
-Who people vote for can make a difference		0.063*** (0.01)	0.056*** (0.01)
Closeness to a party (yes=1)		0.072*** (0.00)	0.070*** (0.00)
Vote in current election (yes=1)		0.128*** (0.01)	0.131*** (0.01)
<i>Macro Covariates</i>			
GII 2012			0.813*** (0.09)
% women in parliament			-0.005*** (0.00)
Question Format			
- True/False (reference category)			.
-Multiple choice			-0.109*** (0.03)
-Open			0.076*** (0.02)
-Mixture of formats			-0.019 (0.03)
Content of questions			
-National focus (reference category)			.
-National and International			0.211*** (0.02)
At least 1 item w. gender specific knowledge (yes=1)			-0.144*** (0.04)
Mean country score on battery (Question difficulty)			2.227*** (0.02)
Cut 1: Constant	-2.675*** (0.02)	-0.708*** (0.06)	2.547*** (0.08)
Cut 2: Constant	-1.151*** (0.02)	0.966*** (0.06)	4.237*** (0.08)
Cut 3: Constant	0.458*** (0.02)	2.716*** (0.06)	5.993*** (0.08)
Random component: Constant	0.225*** (0.00)	0.375*** (0.01)	
Observations	161285	75110	67598

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Appendix

Table I. countries/years included

Country	Years				Country	Years				
Albania	2005				Korea	2004				
Australia	1996	2004	2007		Kyrgyzstan	2005				
Austria	2008				Latvia	2010				
Belgium	2003				Mexico	1997	2000	2003	2006	2009
Belgium (Flanders)	1999				Netherlands	1998	2002	2006	2010	
Brazil	2002	2006	2010		New Zealand	1996	2002	2008		
Canada	1997	2004	2008		Norway	1997	2001	2005	2009	
Chile	2005	2009		Peru	2006	2011				
Croatia	2007				Philippines	2004	2010			
Czech Republic	1996	2002	2006	2010	Poland	1997	2001	2005	2007	
Denmark	2007				Portugal	2002	2005	2009		
Estonia	2011				Romania	1996	2004	2009		
Finland	2003	2007	2011		Russia	2004				
France	2002	2007			Slovakia	2010				
Germany	1998	2002	2005	2009	Slovenia	2004				
Great Britain	1997	2005			South Africa	2009				
Greece	2009				South Korea	2008				
Hong Kong	1998	2004	2008		Spain	1996	2000	2004	2008	
Hungary	1998	2002			Sweden	1998	2002	2006		
Iceland	2007	2009			Switzerland	1999	2003	2007		
Ireland	2002	2007			Taiwan	1996	2001	2004	2008	
Israel	1996	2003	2006		Thailand	2007				
Italy	2006				Ukraine	1998				
Japan	1996	2004	2007		USA	1996	2004	2008		

47 countries

Table II. Size of gender gap in each study on the positive knowledge scale, with levels of significance of difference of means test between men and women.

<i>Country year</i>	<i>Gender gap</i>	<i>Country year</i>	<i>Gender gap</i>	<i>Country year</i>	<i>Gender gap</i>
CHL_2005	-.0696	CAN_2008	.2303***	ESP_2004	.3932***
JPN_2004	.0122	HKG_2008	.2442***	SVN_2004	.3996***
ROU_1996	.0412	NZL_2002	.2535***	HUN_1998	.3998***
AUS_1996	.0537	IRL_2002	.2538***	TWN_2001	.4041***
AUS_2007	.0743*	UKR_1998	.2541***	MEX_2000	.4113***
FIN_2011	.0837*	NOR_2009	.2575***	HRV_2007	.4170***
SWE_2006	.0959	JPN_2007	.2582***	NLD_2010	.4202***
BELW1999	.1003	PRT_2009	.2586***	POL_2005	.4220***
CZE_1996	.1145**	ITA_2006	.2644***	PER_2011	.4233***
PHL_2010	.1162**	USA_1996	.2644***	POL_1997	.4245***
ROU_2004	.1191**	NOR_1997	.2687***	PRT_2002	.4307***
AUT_2008	.1356**	BEL_2003	.2751***	FRA_2002	.4316***
CZE_2002	.1474***	CAN_1997	.2809***	DEU_1998	.4321***
CZE_2010	.1535***	CZE_2006	.2830***	MEX_2003	.4347***
KOR_2008	.1661***	BRA_2010	.2844***	FIN_2003	.4378***
NZL_2008	.1683***	USA_2008	.2856***	PRT_2005	.4389***
IRL_2007	.1729***	NOR_2001	.2914***	CAN_2004	.4427***
KGZ_2005	.1732***	HKG_2000	.2917***	GBR_2005	.4489***
FIN_2007	.1734***	NZL_1996	.2926***	TWN_2004	.4508***
ZAF_2009	.1804***	AUS_2004	.2930***	DEU_2002	.4552***
LVA_2010	.1837***	ESP_2000	.2931***	SWE_2002	.4630***
ISR_1996	.1864***	POL_2007	.3055***	POL_2001	.4688***
MEX_2006	.1994***	BRA_2002	.3068***	FRA_2007	.4748***
RUS_2004	.1998***	NLD_2006	.3087***	DNK_2007	.4820***
MEX_2009	.2028***	NOR_2005	.3090***	GBR_1997	.4965***
HKG_2004	.2037***	BRA_2006	.3129***	TWN_2008	.5208***
KOR_2004	.2164***	ROM_2009	.3145***	BELF1999	.5255***
EST_2011	.2170***	SWE_1998	.3213***	CHE_2003	.5439***
HUN_2002	.2180***	DEU_2009	.3213***	ESP_1996	.5441***
NLD_2002	.2188***	USA_2004	.3454***	PER_2006	.5723***
ISL_2009	.2189***	ISL_2007	.3585***	CHE_2007	.5797***
THA_2007	.2245***	MEX_1997	.3691***	ALB_2005	.5897***
DEU_2005	.2277***	SVK_2010	.3732***	CHE_1999	.5953***
ESP_2008	.2288***	HKG_1998	.3807***	TWN_1996	.7988***
ISR_2006	.2293***	NLD_1998	.3871***	GRC_2009	.8027***
PHL_2004	.2300***	ISR_2003	.3892***		

NOTE: Table presents difference in mean score on political information between men and women in each election study.