Young and gapped? Differences in political knowledge between girls and boys in Europe

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1. INTRODUCTION

Political knowledge is considered by a large body of scholarly work as a vital ingredient of the health and functioning of the democratic systems around the world. Nevertheless a recurrent result in the literature is that there are significant differences in the level of political knowledge between men and women. Women tend to provide fewer correct answers than men to a wide variety of political knowledge questions (Burns, Schlozman, and Verba, 2001; Delli Carpini and Keeter, 1996, 2000). Additionally, women present a higher propensity to respond with “don’t know” to political knowledge questions than men (Lizotee and Sidman, 2009; Mondak and Anderson, 2004; Frazer and Macdonald, 2003; Kenski and Jamieson, 2000). Although many gaps in political knowledge can be explained as a function of ability, opportunity, and motivation, these factors are unable to fully explain sex differences in what people appear to know about politics (Delli Carpini and Keeter, 1996).

This paper aims to explore the extent to which there is a significant gap in levels of civic knowledge between girls and boys in Europe. We want to pay particular attention to girls and boys since the majority of the explanations of the gender gap in knowledge are connected with social, economic, and psychological processes taking place during the transition to the adult life. Data analyzed here come from students of lower secondary school, a stage in which these processes have not definitely taken place. In addition, because this population has fulfilled exactly the same years of education, we keep constant one of the main determinants of knowledge for adult citizens. Therefore our expectation is to find similar levels of civic knowledge for boys and girls.

Finding an unexpected (although slight) gender gap in civic knowledge and of a different sign depending on the type of knowledge considered (that is, in favor of women for reasoning and analyzing, and in favor of men for factual knowledge), we explore the individual and
contextual factors that contribute to explain such gap. We find that even after controlling by
the different access of girls and boys to resources, opportunities, and motivations (both at the
family and at the school levels) the gender differences in civic knowledge remain. These
findings suggest that the gender gap in political knowledge is deeply rooted and these gender
differences might perpetuate during the adolescence and the adult life. It also suggests that
there might be fundamental differences in how each gender approaches the domain of politics
(Wolak and McDevitt, 2011)

The present study makes a significant contribution to the vivid debate over gender differences
in political knowledge in two ways. First, it tests the gender gap hypothesis with comparative
European data. The scarce previous work on the topic has largely been within-country-
research, with a focus on the US case. Second, it tests the gender gap with data containing
extremely rich information about children’s civic knowledge. As we will immediately see,
previous studies have used indicators of political knowledge that are very limited not only in
the number of items considered but also in the topics covered. To the best of our knowledge
there are no previous studies arguing that the distinction between factual and reasoning
knowledge can be a relevant way to explain part of the persisting gender gap in knowledge.
Therefore this distinction represents an innovation in the study of the determinants of
political knowledge.

2. THE GENDER GAP IN KNOWLEDGE

A growing body of literature has concluded that the distribution of political knowledge
among citizens is by no means uniform. One of the most perplexing knowledge gaps,
however, is that found between men and women. Despite attempts to account for the gender
differences in political knowledge, this result continues to puzzle scholars (Burns, Schlozman,
and Verba 2001; Delli Carpini and Keeter, 1996, 2000; Kenski and Jamieson, 2001; Lizotte
and Sidman, 2009; Mondak and Anderson 2004). Two main lines of research have provided different explanations about the gender gap in knowledge.

First, the most typical explanation of the gender bias in knowledge is based on socialization theory, which states that the traditional social norms define men as those citizens who are in charge of public life; whereas women are more in charge of the domestic or private domain, since they are more committed to childrearing and family life. A direct consequence of the socialization process is that women might be less motivated and attracted to the political world than men (Delli Carpini and Keeter 1996).

The knowledge gap between men and women has also been interpreted as a product of the traditional socioeconomic disadvantages that women in general have suffered. Women are less likely than men to possess the precursors of knowledge (such as cognitive and economic resources). Higher levels of socioeconomic and cognitive resources for men than for women explain their knowledge differences. All these studies however fail to provide a complete accounting of the reasons for the gap and the evidence they find is inconclusive. It appears then that the gap in knowledge between men and women is particularly complex, and that scholars need to consider it from multiple angles to understand its complexity (Dolan, 2011). To sum up, existing scholarship explaining the gender gap on the grounds of socialization or economic disadvantages leads as to the expectation that boys and girls will present no significant differences in their civic knowledge.

Another set of explanations of the gender gap in knowledge focuses on measurement questions and the way in which the survey instrument can influence the responses of the interviewed. According to this line of research, women answer survey questions differently, depending on various factors: such as the environment in which they are interviewed, the sex of the interviewer, (McGlone, Aronson and Kobrynowicz 2006), or the format of the
questions (Mondak and Anderson 2004). Moreover Mondak and Anderson (2004) have demonstrated that at least in the US case an important part of the gender gap in knowledge is a consequence of a response set effect. The special format of factual political knowledge questionnaires (which is normally a quiz with various options, where the respondent chooses the statement that they think is correct) means that there is room to guess to a great extent. Several studies have found that the gender differences in knowledge are a function of the different propensity of men and women to guess (Lizotee and Sidman, 2009; Mondak and Anderson, 2004; Frazer and Macdonald, 2003; Kenski and Jamieson, 2000).

An alternative explanation of the gender gap in knowledge that also focuses on measurement questions appears particularly fruitful and argues that the way in which surveys used by the quoted studies measure political knowledge is gender-biased. Therefore the gender gap can be interpreted, at least in part, as a function of what is defined as knowledge (Dolan 2011). Various studies have found that there are different dimensions of political knowledge, and that there seem to be specific domains of knowledge that are more relevant to one group than the other (Delli Carpini and Keeter, 1996). Two other recent studies show that there are policy areas and practical political information (such as government benefits and services) that is more directly relevant to women than to men. It is precisely when measuring knowledge about such areas when differences between men and women vanish (Dolan 2011; Fraile, 2012; Stolle and Gidengil 2010).

In line with this more recent studies, we argue here that at least part of the gender gap in knowledge can be a product not only of what is defined as knowledge (that is, the topics included in the items intended to measure citizens’ political knowledge) but also of the kind of cognitive abilities required from respondents to answers the questions, which are unequally distributed among boys and girls. Relying on previous psychological studies, we defend that from an early age, children are able to identify their own gender and adopt gender
roles accordingly in their daily behavior (Martin and Ruble, 2004; McIntyre and Edwards, 2009). This propensity of children to model the behavior and values of the adults in their own lives also affect the development of their cognitive capacities. Accordingly, girls and boys present a different approach to politics that influence the propensity to correctly answer questions related to politics. Boys then learn to be independent, aggressive and assertive and therefore become more comfortable than girls within the competitive and controversial political arena. In fact boys are more likely than girls to declare that government is their favorite subject in school (Niemi and Junn 1998). A recent study of adolescents in the US has found that these differences between girls and boys crystallize in adolescents. Moreover there seems to be fundamental differences in how each gender approaches the domain of politics. While young men are drawn into the partisan conflicts of politics, young women prefer the communal dimension of politics (Wolak and McDevitt, 2011).

This other brunch of research leads us to an alternative (competing expectation), which is that gender differences in civic knowledge appear early, and that these differences might perpetuate (and potentially enlarge) in the process of transition to the adult life (which according to the socialization theory disadvantages women as far as they have a shorter amount of time to dedicate to get informed about politics)

We defend that previous studies have used indicators of political knowledge that are very limited not only in the number of items considered but also in the topics covered. In contrast, the added value of this paper is that we use a very rich data set containing enough information to distinguish analytical and factual knowledge. Whereas the majority of previous studies have used conventional survey data, we use here comparative data that allows us to distinguish between the two main dimensions of civic knowledge. Not only are we able with this dataset to investigate whether the gender gap is persistent across all stages
in life, but also whether the gender gap is consistent, independently of the type of items which is asked to the students.

3. RESEARCH DESIGN

3.1. Data description

The International Civic and Citizenship Education Study 2009 (ICCS) is particularly useful to test and understand whether levels of political knowledge are different by sex already at such an early stage in the socialization process, as the average age of the sample was 13.5 years old (a description of the dataset can be found in the Annex).

The index of civic knowledge designed by the ICCS team, is meant to cover four different content domains: Civic society and systems; Civic principles; Civic participation; and Civic identities. In addition, and what makes these data ideal for our purposes, the ICCS framework specifies two types of cognitive domains: knowing, and reasoning and analysing.

“The first cognitive domain, knowing, outlines the types of civic and citizenship information that students are required to demonstrate knowledge of. The second domain, reasoning and analyzing, details the cognitive processes that students require to reach conclusions.” (Schulz et al. 2008: 27). Table 1 provides examples of the two types of cognitive domains. Even if not examined in detail in this paper, the ICCS study presents also more variation with regard to the format, than conventional measures of political knowledge tend to present.

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1 Civic society and systems: “formal and informal mechanisms and organizations that underpin both the civic contracts that citizens have with their societies and the functioning of the societies themselves.”; civic principles: “the shared ethical foundations of civic societies. The framework regards support, protection, and promotion of these principles as civic responsibilities and as frequently occurring motivations for civic participation by individuals and groups.”; civic participation: “the manifestations of individuals’ actions in their communities. Civic participation can operate at any level of community and in any community context. The level of participation can range from awareness through engagement to influence.”; and civic identities: “the individual’s civic roles and perceptions of these roles. As was the case with the CIVED model, ICCS assumes that individuals both influence and are influenced by the relationships they have with family, peers, and civic communities. Thus, an individual’s civic identity explicitly links to a range of personal and civic interrelationships. This framework asserts and assumes that individuals have multiple articulated identities rather than a single-faceted civic identity.”.
Table 1. The two cognitive domains of knowledge: An example

<table>
<thead>
<tr>
<th>Cognitive domain: Knowing</th>
<th>Cognitive domain: Reasoning and Analysing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q What is the flag of the European Union?</td>
<td>In many countries, media such as newspapers, radio stations and television stations are privately owned by media companies. In some countries, there are laws which limit the number of media companies that any one person or business group can own.</td>
</tr>
<tr>
<td></td>
<td>Q Why do countries have these laws?</td>
</tr>
<tr>
<td></td>
<td>□ to increase the profits of media companies</td>
</tr>
<tr>
<td></td>
<td>□ to enable the government to control information presented by the media</td>
</tr>
<tr>
<td></td>
<td>□ to make sure there are enough journalists to report about the government</td>
</tr>
<tr>
<td></td>
<td>□ to make it likely that a range of views is presented by the media</td>
</tr>
</tbody>
</table>

Source: ICCS 2009, European Questionnaire

These data are perfectly suited to explore the gender gap in knowledge for the following reasons. First, by comparing children of the same level of education we keep constant one of the main determinants of knowledge: education. Second, it allows controlling simultaneously for various potential causes of the gender gap. Particularly interesting is that we are able to control for the effect of resources and motivations both at the family and school levels. Third, as the questionnaire has been self-administered, we expect that some of the effects of conventional surveys are prevented, such as the interviewee effect, or the tendency to risk aversion among the women (and therefore to choose the “Don not know” option). Fourth and last, the ICCS provides with a rich battery of indicators on civic knowledge, which make possible the distinction between factual and analytical knowledge.
In order to have more homogeneity in the sample, and also to be able to use the European questionnaire, in this paper we have only taken the European countries\(^2\). In total, twenty four countries of the European Union (plus Switzerland, and Norway) have been surveyed.

3.2. Empirical strategy

The International Civic and Citizenship Education Study provides with an index of civic knowledge for each of the students in the sample. Yet in this paper, we do not use this index of civic knowledge, as the items asked in the ICCS questionnaire allow for a more nuanced investigation of the differences between girls and boys. In our paper we have two dependent variables: the first is equivalent to the conventional measures of political knowledge developed in surveys; and the second comprises a set of items intended to measure the cognitive domain of reasoning and analysing. This is explained more in detail in the following lines.

Each of the items on civic knowledge included in the ICCS questionnaire (see Annex) have been classified either as measuring the cognitive domain of *knowing*, or the cognitive domain of *reasoning and analysing* (each single item is defined as to measure only one of these domains; none of them is defined as measuring both knowing and reasoning and analysing) (see the Framework assessment, by Schulz et al. 2008). As already mentioned, most surveys which have included indicators on political knowledge (in which women know always significantly less than men) have only designed questions about the *knowing* cognitive domain. It is of extreme interest, therefore, to observe (1) whether there are differences

\(^2\) Austria; Belgium; Bulgaria; Cyprus; Czech Republic; Denmark; Estonia; Finland; Greece; Ireland; Italy; Latvia; Lithuania; Luxembourg; Malta; Netherlands; Norway; Poland; Slovakia; Slovenia; Spain; Sweden; Switzerland; United Kingdom.
between girls and boys in levels of civic knowledge; and (2) whether these differences are stable across the two types of indicators.

Regarding our first dependent variable that we call here factual knowledge, we used the twenty items included in the European questionnaire. These 20 items are asked to the students and are about the functioning of the European Union, its institutions, etc. (see Annex). Of these, all of them belong to the cognitive domain of knowing, according to the ICCS classification. Even if other items of the general questionnaire have also been classified as knowing, we have decided to select only these 20 items to construct our dependent variable of factual knowledge. There are two main reasons for this. The first is that these items are the most similar to the ones which are normally used to measure levels of political knowledge among the adults. In a way, we can affirm that the index build up from these twenty items is equivalent (and therefore comparable) to the conventional measures of political knowledge. The second is that the questionnaire focuses on the European Union, which makes the items easily comparable across countries. The first dependent variable – factual knowledge – hence, is a composite index of the correct answers to the twenty items included in the European questionnaire (see Annex). A correct answer equals 1, whereas ‘don’t know’ and incorrect answers equal 0 (on different interpretations of ‘don’t know’ and incorrect answers see Mondak, 1999).

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3 For example, one of the items is: ‘How many countries are member states of the European Union? 1-10; 11-20; 21-30; or 31-40. A very similar item has been included, for example, in the EES 2009: “Now some questions about the European Union and [country]. For these questions, I am going to read out some statements. For each one, could you please tell me whether you believe they are true or false? If you don’t know, just say so and we will skip to the next one. The European Union has 25 member states.”

4 Conventional additive measures of the number of correct answers equally treat the options of incorrect and DK. There is a debate in the literature about the appropriateness of this empirical strategy. A strong line of argument is that an incorrect answer implies a certain degree of misinformation, or at least partial information, whereas providing a DK answer implies a lack of information from respondents (Mondak 1999). The implication of this argument is that an incorrect answer might potentially represent a higher state of knowledge than the DK answer. Here we tested alternative measures political knowledge, for example, by counting the number of ‘incorrect’ and ‘DK’ answers. However these alternative indexes almost seem to work identically to the conventional index that simply counts the number of correct answers. As a result, we have preferred to use
With regards to the second dependent variable, that referring to reasoning and analysing (or analytical knowledge), it is intended to gauge students’ capacity to think critically on civic matters. For this variable, we have selected all items included in the general questionnaire which have been classified as reasoning and analysing, with regard to the cognitive domain (see Annex). This second dependent variable is a composite index of the correct answer to 13 items of the general questionnaire. Because this type of items is generally not used to measure political knowledge among the adults, it is particularly interesting to undertake its study from a gender point of view. Information about the two dependent variables can be found in table 2.

To test empirically for the potential gender differences in the two dimensions of civic knowledge analysed here we perform a 3 level multilevel analysis. The same analysis is conducted for the two dependent variables, in which we have specified a range of variables that control for the standard antecedents of knowledge, i.e. individual differences in motivation and ability (Delli Carpini and Keeter 1996; Luskin 1990). In addition we control for resources and motivation at the family and school level following previous studies of the determinants of civic knowledge among students (see for instance Schulz et. al. 2011). 5

4. RESULTS

Table 2 shows the mean value for our two dependent variables across countries, distinguishing between boys and girls. To begin with, we find unexpected and relevant

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5 Whereas there is an uncontested agreement about the influence of these three factors on political knowledge in the existing literature, the debate is more open about the potential effects of the mass media on what citizens know about politics. In principle, a higher level of political knowledge is expected among citizens who declare to be intensively exposed to media news. Nevertheless the informative effects of media depend very much on the contents of the news programming and whether they offer a preponderance of soft or hard news programming (Curran et al. 2009). In this paper we include as independent variables self-reported exposure to print and broadcast news outlets as additional controls.
differences between girls and boys in both dependent variables. However, these differences differ depending on the dimension of political knowledge we take into account. Regarding factual knowledge, it is normally the boys who know more than the girls in almost all countries. In contrast, the girls present higher levels of analytical knowledge than the boys, a difference which is statistically significant in most countries. Interestingly, this suggests two things. First is that there are differences between girls and boys, in spite of their early age. Second is that the gender gap seems to be very much dependent on the type of item which is asked to the students, as previous literature has anticipated with regard to levels of political knowledge among the adults (Dolan 2011; Stolen and Gidengil 2010).

Also interestingly, the type of survey also seems to affect the way in which the students have answered the questionnaire. In fact, there is not a higher tendency to answer ‘don’t know’ among the girls than among the boys. To the contrary, it is the boys who report higher level of ‘don’t know’ when asked about factual knowledge (results not presented here, but available on request).

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6 Even if it also interesting that the differences in levels of political knowledge between girls and boys varies across countries, this is not the object of analysis here and will be studied in the future.
Table 2. Gender Differences in the mean value of the Number of Correct Answers for the two types of Knowledge

<table>
<thead>
<tr>
<th>Country</th>
<th>Factual knowledge</th>
<th>Analytical knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BOYS</td>
<td>GIRLS</td>
</tr>
<tr>
<td>Cyprus</td>
<td>12,353</td>
<td>12,775</td>
</tr>
<tr>
<td>Malta</td>
<td>12,616</td>
<td>12,561</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>13,148</td>
<td>13,158</td>
</tr>
<tr>
<td>Greece</td>
<td>12,198</td>
<td>12,298</td>
</tr>
<tr>
<td>Latvia</td>
<td>12,495</td>
<td>12,537</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>12,754</td>
<td>12,086</td>
</tr>
<tr>
<td>Lithuania</td>
<td>13,116</td>
<td>13,621</td>
</tr>
<tr>
<td>Norway</td>
<td>4,077</td>
<td></td>
</tr>
<tr>
<td>CzRep</td>
<td>13,683</td>
<td>13,424</td>
</tr>
<tr>
<td>Slovenia</td>
<td>12,920</td>
<td>12,824</td>
</tr>
<tr>
<td>Austria</td>
<td>13,057</td>
<td>12,695</td>
</tr>
<tr>
<td>Netherlands</td>
<td>13,004</td>
<td>12,245</td>
</tr>
<tr>
<td>England</td>
<td>11,596</td>
<td>11,080</td>
</tr>
<tr>
<td>Spain</td>
<td>11,798</td>
<td>11,597</td>
</tr>
<tr>
<td>Slovakia</td>
<td>13,870</td>
<td>13,821</td>
</tr>
<tr>
<td>Ireland</td>
<td>12,972</td>
<td>12,396</td>
</tr>
<tr>
<td>Estonia</td>
<td>13,082</td>
<td>13,341</td>
</tr>
<tr>
<td>Poland</td>
<td>14,390</td>
<td>14,341</td>
</tr>
<tr>
<td>Switzerland</td>
<td>11,812</td>
<td>11,566</td>
</tr>
<tr>
<td>Belgium</td>
<td>13,209</td>
<td>12,636</td>
</tr>
<tr>
<td>Sweden</td>
<td>13,246</td>
<td>12,602</td>
</tr>
<tr>
<td>Italy</td>
<td>13,010</td>
<td>12,885</td>
</tr>
<tr>
<td>Denmark</td>
<td>13,966</td>
<td>13,319</td>
</tr>
<tr>
<td>Finland</td>
<td>13,354</td>
<td>13,183</td>
</tr>
<tr>
<td>Mean</td>
<td>12.98</td>
<td>12.77</td>
</tr>
</tbody>
</table>

Note: **p<.01

Source: Our elaboration with ICCS 2009

Table 3 presents the results of the estimation of several random intercept multilevel models with students clustered in schools and schools clustered in countries. Intercepts are allowed to
vary both within schools and within countries\textsuperscript{7}. For each dependent variable we present four models, in which each of the levels is introduced gradually. No country level variable is presented here, however, as none of our tests proved to be relevant to explain the dependent variable\textsuperscript{8}.

All individual level explanations have an impact on levels of political knowledge as we expected, and all are significant, with the exception of exposure to newspapers for analytical knowledge. Those resources provided by the parents increase the level of political knowledge of their child, both resources based on cognitive mobilization of parents (parental level of education and parental political interest) and material resources that may increase the access of students to political information (number of books at home). Besides, young students’ exposure to political information in television also increases their level of political knowledge, while exposure to newspapers news only significantly improve factual political knowledge.

\textsuperscript{7} Random slope models for countries were also estimated for these two dependent variables, but the variance of the random slope never reached statistical significance and the model does not improved random intercept estimations.

\textsuperscript{8} These are the country variables which have been considered as independent variables: type of vocational programs (source: OECD); number of vocational programs offered to the students; age of selection of the vocational program; percentage of students in vocational program; state expenditure in education (Source: Eurostat); education model with regard to civic education (Source: ICCS).
Table 3. Gender as determinant of Civic Knowledge. Multilevel Estimations

<table>
<thead>
<tr>
<th>Variables</th>
<th>Factual knowledge</th>
<th></th>
<th></th>
<th></th>
<th>Analytical knowledge</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1a</td>
<td>Model 1b</td>
<td>Model 1c</td>
<td>Model 2a</td>
<td></td>
<td>Model 2b</td>
<td>Model 2c</td>
<td>Model 2d</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.235***</td>
<td>-0.308***</td>
<td>-0.300***</td>
<td>0.231***</td>
<td></td>
<td>0.173***</td>
<td>0.163***</td>
<td></td>
</tr>
<tr>
<td>(female)</td>
<td>(0.019)</td>
<td>-0.019</td>
<td>-0.021</td>
<td>(0.026)</td>
<td></td>
<td>-0.026</td>
<td>-0.029</td>
<td></td>
</tr>
<tr>
<td>Expected education</td>
<td>0.493***</td>
<td>0.488***</td>
<td></td>
<td>0.352***</td>
<td></td>
<td>0.342***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 – 5)</td>
<td>-0.01</td>
<td>-0.011</td>
<td></td>
<td>-0.014</td>
<td></td>
<td>-0.015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same language</td>
<td>0.233***</td>
<td>0.216***</td>
<td></td>
<td>0.366***</td>
<td></td>
<td>0.359***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education parents</td>
<td>0.052***</td>
<td>0.050***</td>
<td></td>
<td>0.066***</td>
<td></td>
<td>0.065***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 – 12)</td>
<td>-0.005</td>
<td>-0.005</td>
<td></td>
<td>-0.007</td>
<td></td>
<td>-0.008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political interest parents</td>
<td>0.068***</td>
<td>0.062***</td>
<td></td>
<td>0.049***</td>
<td></td>
<td>0.049***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 – 8)</td>
<td>-0.007</td>
<td>-0.008</td>
<td></td>
<td>-0.01</td>
<td></td>
<td>-0.011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N books at home</td>
<td>0.200***</td>
<td>0.203***</td>
<td></td>
<td>0.172***</td>
<td></td>
<td>0.170***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 – 6)</td>
<td>-0.008</td>
<td>-0.008</td>
<td></td>
<td>-0.011</td>
<td></td>
<td>-0.012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure to TV news</td>
<td>0.203***</td>
<td>0.204***</td>
<td></td>
<td>0.109***</td>
<td></td>
<td>0.115***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 – 4)</td>
<td>-0.009</td>
<td>-0.01</td>
<td></td>
<td>-0.013</td>
<td></td>
<td>-0.015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure to newspapers news</td>
<td>0.074***</td>
<td>0.076***</td>
<td></td>
<td>0.018</td>
<td></td>
<td>0.009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 – 4)</td>
<td>-0.009</td>
<td>-0.01</td>
<td></td>
<td>-0.014</td>
<td></td>
<td>-0.015</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>School level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratio students/teachers</td>
<td>0.016**</td>
<td></td>
<td></td>
<td>0.008*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 – 67)</td>
<td>-0.006</td>
<td></td>
<td></td>
<td>-0.005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social conflicts in community</td>
<td>-0.014***</td>
<td></td>
<td></td>
<td>-0.007***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(22 – 67)</td>
<td>-0.002</td>
<td></td>
<td></td>
<td>-0.002</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resources in community</td>
<td>0.016</td>
<td></td>
<td></td>
<td>0.032***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0 – 9)</td>
<td>-0.011</td>
<td></td>
<td></td>
<td>-0.008</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Var. country</td>
<td>0.491</td>
<td>0.490</td>
<td>0.405</td>
<td>0.412</td>
<td>0.157</td>
<td>0.155</td>
<td>0.165</td>
<td>0.167</td>
</tr>
<tr>
<td>Var. school</td>
<td>1.218</td>
<td>1.218</td>
<td>0.807</td>
<td>0.778</td>
<td>0.145</td>
<td>0.137</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Var. residual</td>
<td>5.949</td>
<td>5.920</td>
<td>5.315</td>
<td>5.295</td>
<td>8.802</td>
<td>8.803</td>
<td>8.653</td>
<td>8.686</td>
</tr>
<tr>
<td>Constant</td>
<td>12.767***</td>
<td>12.888***</td>
<td>8.601***</td>
<td>9.148***</td>
<td>4.353***</td>
<td>4.245***</td>
<td>0.817***</td>
<td>0.999***</td>
</tr>
<tr>
<td></td>
<td>-0.148 (0.148)</td>
<td>-0.149</td>
<td>-0.202</td>
<td>-0.082</td>
<td>(0.083)</td>
<td>-0.121</td>
<td>-0.163</td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>75,342</td>
<td>74,725</td>
<td>69,168</td>
<td>56,898</td>
<td>55,991</td>
<td>55,375</td>
<td>51,246</td>
<td>42,074</td>
</tr>
<tr>
<td>Number of groups</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
</tbody>
</table>

Source: Our elaboration on ICCS - 2009, students from grade 8, ISCED Level 1.

Moving to the explanations of the differences among schools, compositional effects of individual level explanations reduce the variance at this level to the minimum, for analytical...
knowledge. That is, differences between schools for analytical knowledge are mostly due to characteristics of the students (their motivations or resources), which strongly vary within different schools. Although we also appreciate compositional effects for factual knowledge, its importance is less clear and some variance at the school level remained to be explained by characteristics of the schools or their local communities. Despite of this, some of these resources which are provided by the schools and the communities where these schools are situated affect young students’ cognitive skills. A higher ratio of students/teachers increases political knowledge among students. Similarly, students living in local communities that offer more resources to their inhabitants (libraries, cinema, theatre or music hall...see Annex for details), have a higher level of political knowledge, although the effect is only significant for analytical knowledge. The level of social conflicts in the community where the school is situated is also important and reduces the level of political knowledge among the students of these schools.

So far, the most important finding is that the gender gap varies for each of our two dependent variables. Confirming descriptive analysis, girls present higher level of analytical political knowledge, while boys present higher levels of factual political knowledge. There are two possible explanations for these results, on the light of previous findings coming from existing scholarship. A first one refers to the kind of abilities required to develop each type of political knowledge, but also to the different approach to politics between girls and boys (see Niemi and Junn 1998 and Wolak and McDewitt 2011).

A second explanation relates to the particular domains both types of questions refer to. Items of analytical knowledge cover very different content domains (human rights, democracy, political participation...), mostly of general civic awareness. Factual knowledge, instead, is about the European Union and its functioning. We have run separate models for each of the items (13 for reasoning and analyzing and 20 for European). In line with previous literature,
boys have a much better performance than girls on domains related to economic elements or business, while girls performed better in issues linked to human and social rights. The European domain itself could be more attractive for boys than for girls. These findings constitute preliminary evidence in favour of the hypothesis that part of the gender gap in knowledge can be a product of what is defined as knowledge (Dolan, 2011). What appears to be puzzling for us, however, is that gender differences in political attention and preferences surface at such an early moment in the socialization process.

5. CONCLUSIONS

This paper studies the extent to which there is a significant gap between boys and girls on their civic knowledge. The most common explanations on gender bias in knowledge link the persistent knowledge gap in favour of men in comparison to women on the grounds of women’s historically lower levels of education and occupation, their greater time commitment to childrearing and family life, and their lower levels of political interest and discussion (Burns, Schlozman, and Verba 2001; Delli Carpini and Keeter 1996; Kenski and Jamieson 2000). According to these theories boys and girls should not present differences in their levels of civic knowledge since the reasons for the existence of the gap are all connected with social process that culminate with the transition to the adult life.

This paper tests this expectation with data coming from students of lower secondary school, a stage in which these processes have not definitely taken place. In addition, because this population has fulfilled exactly the same years of education, we keep constant one of the main determinants of knowledge for adult citizens. Contrary to the mentioned expectation, we find evidence of a relevant gender gap in civic knowledge. This gap is of a different sign depending on the type of knowledge considered (that is, in favor of women for analytical knowledge, and in favor of men for factual knowledge). Moreover these gaps persist even
after controlling by the different access of girls and boys to resources, opportunities, and motivations (both at the family and at the school levels).

This evidence is in line with a few recent studies, which argue that at least part of the gender gap can be a product of what is defined as knowledge (Dolan 2011). For instance, Stolle and Gidengil (2010) have demonstrated that Canadian women know more about practical aspects of knowledge (such as government benefits and services) than men. Our findings go in the same direction and show that boys have a much better performance than girls on domains related to economic elements or business, while girls performed better in issues linked to human and social rights.

But there is more to this than that. What we argue here is that part of the gender gap in knowledge can be a product not only of what is defined as knowledge (that is, the topics included in the items intended to measure citizens’ political knowledge) but also of the kind of cognitive abilities required from respondents to answers the questions, which are unequally distributed among boys and girls. Our findings suggest that girls and boys present a different approach to politics that influence the propensity to correctly answer questions related to politics. Boys then learn to be independent, aggressive and assertive and therefore become more comfortable than girls within the competitive and controversial political arena. Overall these findings suggest that the gender gap in political knowledge is deeply rooted and that these gender differences might perpetuate (and perhaps increase) during the adolescence and the adult life. It also suggests that there might be fundamental differences in how each gender approaches the domain of politics (Wolak and McDevitt, 2011). Of course these conclusions are subject to an important constraint, since the focus of this study has been on individual and school level factors that seek to explain the gender gap in civic knowledge across European countries, but contextual factors at the country level have been ignored. The
extent to which gender differences in civic knowledge of children are further conditioned by contextual factors at the country level however is the subject of future research.

6. REFERENCES


Fraile, Marta. 2012. Do women know less about politics than men? The gender gap in Political Knowledge in Europe. Manuscript under revision


1. Description of the International Civic Education Study

The sampling and structure of the study is complex and it is worth telling a bit more about it here. About the sample, over 140,000 students from 5,300 schools in 38 countries have been surveyed during 2008 and 2009, which provides us with one of the largest samples available for the study of civic knowledge. In each country, approximately 150 schools have been selected, and within each school a class has been selected in the grade that represents eight years of schooling counted from the International Standard Classification of Education (ISCED), level 1.

Regarding the structure of the study, different questionnaires have been designed, for each of the different strata. First, students have been asked two different questionnaires: one to measure the affective-behavioural characteristics of the student; and one to measure civic knowledge. In addition to this, specific questionnaire has been designed for each of the geographical regions (Europe, Latin America, and Asia), which contains questions on both attitudes and civic knowledge. Second, teachers of the selected grade in the schools have also been interviewed about the characteristics of the school, their motivations, etc. Third, we have information about the schools, its resources, the resources of the community, and the motivations of the personal in charge of teaching, among others. Fourth, national experts have been asked about the characteristics of the national education system, and more specifically about civic education.

2. List of the specific items included in each index of civic knowledge

2.1. Analytical and Reasoning (Analytical Knowledge)

Below is a sticker that people can buy on the internet.
The sticker is made up of symbols that represent different ways of thinking about the
world. The symbols have been put together to look like the English word „coexist” which
means „live together”.

Q What is the most likely purpose of this sticker?
- to show that different ways of thinking are all the same
- to show that people should think carefully about what they believe
- to show that people can accept others even if they have different beliefs
- to show that people with different ways of thinking about the world can never
  happily live together

In many countries, media such as newspapers, radio stations and television stations are
privately owned by media companies. In some countries, there are laws which limit the
number of media companies that any one person or business group can own.

Q Why do countries have these laws?
- to increase the profits of media companies
- to enable the government to control information presented by the media
- to make sure there are enough journalists to report about the government
- to make it likely that a range of views is presented by the media

In <Zedland>, there is a minority group of people whose main language is different from
the official language of the country. The group has its own schools where the children
are taught and learn only in their own traditional language.
The government of <Zedland> decides that all schools should teach all children only in
the official language of the country. The government makes this decision because it
believes it will help the children of the minority group.

Q Which of the following arguments best supports the government”s decision?
- It will stop the children from speaking their own traditional language at home.
- It will make school more interesting to the children.
- It will give the children a greater chance to participate fully in the wider
  community.
- It will help the children learn their traditional language at home more easily.

Q What is the best argument against the government”s decision?
The subjects schools teach should not be influenced by governments.
Governments should accept the need for more than one official language.
Governments have a responsibility to protect the cultures of minority groups.
The children of the minority group may complain about learning the official language.

Public debate is when people openly exchange their opinions. Public debate happens in letters to newspapers, TV shows, radio talkback, internet forums and public meetings. Public debate can be about local, state, national or international issues.

Q How can public debate benefit society?
Give two different ways.
1. 
2. 

Code 2: Refers to benefits from two different categories of the five categories listed below.

Benefit Categories
1. better knowledge or understanding of the substance of an issue or situation
2. provides solutions to problems OR a forum from which solutions can come
3. increase in social harmony, acceptance of difference, or reduction of frustration
4. increases people’s confidence or motivation to participate in their society
5. represents/enacts the principle of freedom of expression for people

[Note 1: two different benefits from the same category are to be scored only as one benefit].

Code 1: Refers only to benefits from one of the five listed categories (including responses in which different benefits from the same category are provided).

Code 0: Repeats the question (either explicitly or as a statement that people express their opinions WITHOUT the extension to the representation of the principle of freedom of expression), indicates that public debate will result in all people agreeing (incorrect) or provides an irrelevant OR incoherent response.

In most countries, one group of people makes laws in parliament. Another group of people applies the laws in the courts.

Q What is the best reason for having this system?

It allows many people to make changes to laws.
It makes the legal system easy to understand for ordinary citizens.
It means that laws can be kept secret until they are applied in the courts.
It means that no one group has all the power over laws.

<Male Name> buys new school shoes. <Male Name> then learns that his new shoes were made by a company that employs young children to make the shoes in a factory
and pays them very little money for their work. <Male Name> says he will not wear his new shoes again.

Q Why would <Male Name> refuse to wear his new shoes?
- He thinks that shoes made by children will not last very long.
- He does not want to show support for the company that made them.
- He does not want to support the children that made them.
- He is angry that he paid more for the shoes than they are actually worth.

<Male Name> wants other people to refuse to buy the shoes.

Q How can he best try to do this?
- buy all of the shoes himself so no one else can buy them
- return the shoes to the shop and ask for his money back
- block the entrance to the shop so people cannot enter it
- inform other people about how the shoes are made

Governments keep records of their activities, decisions, and the information they use to make their decisions. Some countries have laws that allow people to look at many of these government records.

Q Why is it important in a democracy for people to be able to look at government records?
- It proves to people that the government’s decisions are right.
- It allows people to make informed judgments about the government’s decisions.
- It means that the government will only make decisions that everyone agrees with.
- It stops people from criticizing decisions made by the government.

Most countries have laws that allow their government to keep some records secret.

Q Which of the following records would a government most likely want to keep secret?
- statistics showing the amount of money spent on hospitals
- plans about how to defend the country from attack
- the number of people allowed to immigrate into the country
- the names of ambassadors from other countries

Q Which of the following is the clearest violation of civil liberties in a democratic political system?
- An armed policeman in uniform enters a religious shrine.
- A policeman breaks up a private meeting where people are criticizing political leaders.
- A policeman arrests members of a group who were plotting to blow up a
government building.

A person carrying an unregistered gun is fined.

The next question differs from those earlier in the test. The question contains three statements of fact and one statement of opinion. Read the question, and then choose the opinion.

Q Three of these statements are facts and one is an opinion. Which of the following is an opinion?

☐ Every country has its own flag and national anthem.
☐ The United Nations has its own flag even though it is not a country.
☐ Everyone should feel respect for his or her country's flag and anthem.
☐ Flags are often found on ships belonging to a nation.

Q A dictator agrees to restore democracy in his country. Which of the following actions would be the most convincing evidence to support the claim that he is promoting democracy?

☐ He makes statements supporting other leaders in his party.
☐ He holds a Parade for Democracy in the largest city.
☐ He agrees to a date for national elections including several parties' candidates.
☐ He speaks to a newspaper reporter about the need for democracy.

2. 2. Factual Knowledge

Q Are these statements true or false?

<Country of test> is a member of the European Union.

☐ True False

The European Union is an economic and political partnership between countries.

☐ True False

People get new political rights when their country joins the European Union.

☐ True False

Q What is the flag of the European Union?
Q How many countries are member states of the European Union?
- 1 to 10
- 11 to 20
- 21 to 30
- 31 to 40

Q What is one requirement for a country to be allowed to join the European Union?
- The EU considers it to be a republic.
- The EU considers it to be democratic.
- It must be a member of the United Nations (UN).
- It must have a written constitution.

Q Which of the following cities is a meeting place for the European Parliament?
- Rome
- Berlin
- Paris
- Brussels

Q Who votes to elect Members of the European Parliament (MEPs)?
- National governments of European Union countries
- Citizens in each European Union country
- Heads of State of European Union countries (presidents, kings, queens etc.)
- The European Commission (EC)

Q The European Union collects money from member countries to spend on projects. What determines how much each member country contributes to the European Union?
The five richest European Union countries contribute all the money.
All European Union countries contribute the same amount of money.
All European Union countries contribute, but the amount depends on how rich they are.
Each country chooses how much to contribute based on how well they think the European Union has been using the money.

Q Here are some statements about the possible enlargement of the European Union (i.e. the possibility of more countries joining the European Union). Which of the following statements is true?

- The European Union has decided not to accept any more countries as new members.
- The European Union may accept more member countries in the future but there are currently no countries being considered as candidates for membership.
- The European Union may accept more member countries in the future and is currently considering granting membership to some specific countries.
- The European Union has decided to only accept new member countries if any existing member countries decide to leave the European Union.

Are these statements true or false?

<table>
<thead>
<tr>
<th></th>
<th>The European Union decides what is taught in your school about the European Union.</th>
<th></th>
<th>True</th>
<th>False</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The European Union aims to promote peace, prosperity and freedom within its borders.</td>
<td></td>
<td>True</td>
<td>False</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All European Union countries have signed the European Convention on Human Rights.</td>
<td></td>
<td>True</td>
<td>False</td>
<td></td>
</tr>
</tbody>
</table>
Q Are these statements true or false?

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>d)</td>
<td>The European Union has made laws to reduce pollution.</td>
<td></td>
</tr>
<tr>
<td>e)</td>
<td>The European Union pays money to farmers in European Union countries to use environmentally friendly farming methods.</td>
<td></td>
</tr>
</tbody>
</table>

Q What can all citizens of the European Union do by law?
- Study in any European Union country without needing a special permit.
- Travel to any European Union country without needing to carry any identity documents with them.
- Work in any European Union country without needing a special permit.
- Vote in the national elections of any European Union country.

Q Are these statements true or false?

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>a)</td>
<td>The Euro is the official currency of all countries in Europe.</td>
<td></td>
</tr>
<tr>
<td>b)</td>
<td>The Euro is the official currency in all European Union countries.</td>
<td></td>
</tr>
<tr>
<td>c)</td>
<td>Euro banknotes have the same design in every country where it is the official currency.</td>
<td></td>
</tr>
</tbody>
</table>

Q Which of the following is an advantage for countries that have the Euro as their official currency?
- The prices of goods are the same in every country that uses the Euro.
- Buying and selling goods between countries which use the Euro is made easier.
- Wages paid to employees are the same in all countries that use the Euro.
- It is harder for criminals to produce fake coins and banknotes.