

## ***The Cultural Sources of the Gender Gap in Voter Turnout***

Recent publications argue that the traditional gender gap in voting has decreased or reversed in many democracies. However, this decrease in the gender gap may apply only to some types of elections. Building on the existing literature, we hypothesise that although women participate at the same or higher rates as men in national elections, they participate less in supranational elections. We investigate this possibility empirically by analyzing the evolution of gender gap in voter turnout in elections to the European parliament (EP). We make three important contributions. First, we show the presence and stability of the traditional gender gap in EP elections. Second, we find that gender differences in political interest are the main source of this gender gap. Third, these gender differences in political interest are, in turn, context-dependent. They are strongly associated with cultural gender differences, which we capture through differences in boys' and girls' maths scores.

*Keywords:* gender gap, voter turnout, European Parliament elections, descriptive representation, cultural gender differences

### INTRODUCTION

Classic studies on electoral participation reported that women were less likely to turn out to vote compared to men.<sup>1</sup> Lower turnout rates among women were interpreted as a logical consequence of late female enfranchisement and inequalities in resources.<sup>2</sup> However, gender patterns in voter turnout in established democracies seem to have changed in recent decades. More recent studies<sup>3</sup> argue either that there are no observable differences in men's and women's likelihood to turn out or that women are slightly *more* likely to vote than men.<sup>4</sup> Having performed a meta-analysis of published papers on the individual-level determinants of turnout, Smets and van Ham<sup>5</sup> conclude that the effect of gender on the vote is mostly not significant and close to zero. In addition, they find that 'when gender is found to be significant it is usually women that turn out at higher rates, not men'.<sup>6</sup> The current scientific consensus thus holds that men and women turn out to about the same extent.

In this paper, we refine these findings and show that it is too early to conclude that the traditional gender gap in voter turnout has vanished. Employing hierarchical regression models and an original dataset integrating individual-level data from the European Election Studies project, which covers all elections to the European Parliament (EP) that have been held to date, we make three important contributions to the literature.

First, we show the presence of a traditional gender gap in EP elections. This gap has passed largely unnoticed in the scientific literature, even though we show that it has been systematically present and fairly stable since the first direct elections to the European Parliament in 1979.

Second, to explain the presence of this gender gap, we draw on classic political science theories that underline the importance of psychological engagement in politics for participation in

<sup>1</sup>Almond and Verba 1963; Tingsten 1937; Verba and Nie 1972.

<sup>2</sup>Verba and Nie 1972; Schlozman, Burns, and Verba 1994; Norris 2002; Mayer 2010.

<sup>3</sup>Childs 2004; Inglehart and Norris 2003; Mayer 2010; Beauregard 2017.

<sup>4</sup>A traditional gender gap in voter turnout is still observed in new democracies (Desposato and Norrander 2009; Córdova and Rangel 2017) and also in Switzerland (Engeli, Ballmer-Cao, and Giugni 2006; Stadelmann-Steffen and Koller 2014) where women were enfranchised at the federal level as late as in 1971.

<sup>5</sup>Smets and van Ham 2013.

<sup>6</sup>p. 348.

less mobilizing contexts.<sup>7</sup> EP elections, are typical low-turnout second-order contests<sup>8</sup>, hence the importance of political interest. We find that when we control for the well-established finding that women are less interested in politics<sup>9</sup>, the gender gap in EP turnout even reverses.

Third, having identified political interest as the main culprit, we focus on variation in this – causally proximate – factor to investigate the deep causes of the persistent gender gap in participation in EP elections. Exploring country-level variation in the gender gap in political interest, we find that women’s political representation may somewhat reduce the differences between men and women. However, a more powerful predictor of gender differences in political interest is the gender culture of a country, which we demonstrate using evidence from two distinct and independent sources. These results have important implications for a better understanding of gender inequalities in political participation.

## GENDER, TURNOUT, AND SECOND-ORDER ELECTIONS

The earliest publications on gender differences in voter turnout have pointed out that women are less likely to vote than men.<sup>10</sup> This finding has been referred to as ‘the traditional gender gap’. The traditional gender gap, however, is by no means conventional wisdom among scholars of turnout and gender. For multiple decades already, it is argued that the gender gap in turnout should not be exaggerated,<sup>11</sup> that the gender gap has diminished or is absent<sup>12</sup> or that women vote more than men.<sup>13</sup> Summarizing the state of the art on the individual-level determinants of voter turnout, Smets and van Ham<sup>14</sup> conclude that gender differences are essentially zero.

The absence of a gender gap in turnout – or a reversal of the traditional gap (i.e., women voting more) – is surprising, because it contrasts with patterns of persistent gender differences for other variables. First, when studying political interest, political knowledge, or other precursors of voter turnout, scholars find that the gender gap in these motivational factors for participation has persisted.<sup>15</sup> Second, there is substantial evidence of a gender gap in other institutionalised forms of political participation, such as campaign activities, working for a party, or being member of a party.<sup>16</sup> In summary, while women’s position in society has improved – as evident from the growth in women’s employment<sup>17</sup> and a reversal of the gender gap in higher education<sup>18</sup> – women are still and consistently found to be less politically engaged and to participate less in non-institutionalised ways.

We argue here that the gender gap in voter turnout is still present, even in established European democracies where gender equality is fairly high. However, the size of the gender gap in voter turnout will depend on the level of turnout – and the election type (i.e., the importance of the election). In particular, building on the work of Kostelka et al.<sup>19</sup>, we expect to find that women

<sup>7</sup>Campbell et al. 1960; Campbell 1960; Kostelka, Blais, and Gidengil, forthcoming.

<sup>8</sup>Reif and Schmitt 1980.

<sup>9</sup>Thomas 2012.

<sup>10</sup>Almond and Verba 1963; Duverger 1955; Verba and Nie 1972.

<sup>11</sup>Norris 1991.

<sup>12</sup>Childs 2004; Bennett and Bennett 1991.

<sup>13</sup>Inglehart and Norris 2003.

<sup>14</sup>Smets and van Ham 2013.

<sup>15</sup>Dassonneville and McAllister 2018; Fraile and Gomez 2015; Thomas 2012.

<sup>16</sup>Beauregard 2014; Carreras 2017; Marien, Hooghe, and Quintelier 2010.

<sup>17</sup>Fagan, Rubery, and Smith 2003.

<sup>18</sup>Schwartz and Han 2014.

<sup>19</sup>Kostelka, Blais, and Gidengil, forthcoming.

participate less than men in the context of second-order elections, such as EP elections. Elections for the European Parliament are a prototypical example of elections of second order, there is 'less at stake'<sup>20</sup> in these elections and turnout is generally rather low. When turnout is low, psychological involvement in politics matters more for participation<sup>21</sup> and inequalities in voter turnout are stronger. Several studies have reported that social inequalities in participation are larger under low turnout,<sup>22</sup> which is in line with Tingsten's law of dispersion.<sup>23</sup>

Focusing on EP elections, we therefore expect to find indications of a traditional gender gap, with women voting less than men.

**Hypothesis 1** *In the context of EP elections, women vote significantly less than men.*

Further, we expect that the gender gap in EP turnout will be driven by differential degrees of psychological involvement in politics, which can be captured by citizens' level of interest in politics.

**Hypothesis 2** *The gender gap in EP elections turnout is driven by different levels of interest in politics.*

#### POLITICAL, SOCIETAL, AND CULTURAL GENDER INEQUALITIES

Psychological involvement in politics is, of course, a causally proximate factor to political behaviour. To provide a causally deeper explanation of the potential gender differences in electoral participation, it is necessary to look further in the chain of causality and investigate the sources of the gender differences in political interest. Building on the existing literature, we consider three possible competing explanations: women's representation in politics, the overall degree of gender equality in society, and cultural gender inequalities.<sup>24</sup>

First, a number of recent studies literature argue that an increased representation of women in elected offices has strong effects on women's political engagement, interest and knowledge.<sup>25</sup> The effects of women's descriptive representation on women's political attitudes and behavior appear to be especially strong among adolescents and young adults,<sup>26</sup> which has been argued to be a result of the fact that contextual effects are of most importance during the formative years, when political attitudes are formed.<sup>27</sup>

Several causal mechanisms have been proposed to explain a causal link between the presence of women in politics and women's political engagement. Women elected politicians or political leaders can serve as role models for other women. The presence of female politicians could thus be symbolic, weakening the stereotypical association of politics as a masculine domain<sup>28</sup>

<sup>20</sup>Reif and Schmitt 1980, p. 9.

<sup>21</sup>Campbell et al. 1960; Campbell 1960.

<sup>22</sup>Armingeon and Schädel 2015; Dassonneville and Hooghe 2017; Gallego 2009.

<sup>23</sup>Tingsten 1937.

<sup>24</sup>A fourth possible explanation pertains to gender inequality in resources such as education or workforce participation (Norris 1991; Verba and Nie 1972). However, a number of authors have recently noted that a reduction in these inequalities did not diminish the gender gap in political engagement (e.g., Kittilson 2016; Fraile and Gomez 2017). We thus include education and employment status only as control variables in all of our analyses.

<sup>25</sup>Campbell and Wolbrecht 2006; Carreras 2017; Dassonneville and McAllister 2018; Fraile and Gomez 2015.

<sup>26</sup>Campbell and Wolbrecht 2006; Dassonneville and McAllister 2018; Wolbrecht and Campbell 2007.

<sup>27</sup>Dassonneville and McAllister 2018.

<sup>28</sup>Karp and Banducci 2008.

and increasing the legitimacy of the political system for women.<sup>29</sup> A number of publications have offered suggestive evidence of the important role of symbolic representation for women. For instance, the political engagement of adolescent girls is positively affected by an increased representation of women in politics<sup>30</sup> and women are more likely to run for politics when more women are elected in high-profile offices.<sup>31</sup> In addition, women's political representation could be important for substantive reasons, if women elected politicians give greater attention to issues that improve women's equality in society.<sup>32</sup> For all these reasons, we expect that gender differences in political interest will be smaller in settings with a stronger political representation of women.

**Hypothesis 3** *The gender gap in political interest reflects how women are represented in elected offices.*

The second explanation posits that the gender differences in political engagement reflect broader (and not exclusively political) social patterns. From this perspective, gender inequality in the political sphere results from inequalities in other areas of human activity. The more women have to bear the burden of household and family life, the less likely they are to have time and energy for politics.<sup>33</sup> By contrast, the more traditional gender inequalities are attenuated or even eliminated through public policies, the smaller the gender gap in political engagement. In line with this interpretation, Fraile and Gomez<sup>34</sup> have recently found that an index measuring gender equality across a broad range of areas is positively associated with weaker gender differences in political interest.

**Hypothesis 4** *The gender gap in political interest reflects the effective overall level of gender equality.*

Finally, the third account is similar to the second in that it does not consider the gender gap in political engagement as a specifically political phenomenon. However, instead of public policies, it focuses on socialisation processes that reproduce traditional gender roles and stereotypes.<sup>35</sup> From this perspective, several studies found that cultural obstacles are the main causes of women's underrepresentation in elected offices.<sup>36</sup> Sartori, Tuorto and Ghigi<sup>37</sup> study a massive dataset of Italian households and find that the gender gap in political participation – in contrast to social and leisure activities – persists even when contributions to domestic work are controlled for. They attribute this result to cultural barriers. As regards political interest, Bennett and Bennett<sup>38</sup> found that general sex role socialisation explains better the gender gap than situational or structural accounts.

We build on these findings and suggest that, what matters for gender equality in political interest is the general cultural perception of men's and women's social roles. The more society adheres to the traditional norms and stereotypes, the more politics is considered as the domain of men. According to this interpretation, the elite level (e.g., women's political representation)

<sup>29</sup>Mansbridge 1999.

<sup>30</sup>Campbell and Wolbrecht 2006; Wolbrecht and Campbell 2007.

<sup>31</sup>Ladam, Harden, and Windett 2018.

<sup>32</sup>Greene and O'Brien 2016; Lovenduski and Norris 2003.

<sup>33</sup>Fraile and Gomez 2017.

<sup>34</sup>Fraile and Gomez 2017.

<sup>35</sup>Bennett and Bennett 1989; Norris and Inglehart 2001; Inglehart and Norris 2003; Paxton and Kunovich 2003.

<sup>36</sup>Bennett and Bennett 1989; Paxton and Kunovich 2003; Glatte and Vries 2015.

<sup>37</sup>Sartori, Tuorto, and Ghigi 2017.

<sup>38</sup>Bennett and Bennett 1989.

and public policies (e.g., availability of child care facilities) are only some of the factors that may gradually affect society's cultural norms. And it is, *in fine*, these general cultural norms that drive men's and women's everyday behaviour and attitudes. The less individuals' social role are predetermined by their sex, the weaker should be the traditional gender gap in political interest and, by the same token, in political participation.

**Hypothesis 5** *The gender gap in political interest reflect cultural norms and stereotypes.*

## DATA AND METHODS

To test our hypotheses, we compiled an original dataset by merging all post-election surveys from European elections studies conducted since 1979.<sup>39</sup> This dataset provides information on reported voter turnout<sup>40</sup> and sex for nearly 169,000 individual observations nested in 29 country-level units.<sup>41</sup>

We first explore variation in the gender gap over time and across countries via a series of regressions of individual voter turnout on a dummy variable *Female* and year and country control dummies. Subsequently, we analyse this variation by incorporating individual-level variables. These comprise classic predictors of voter turnout<sup>42</sup>: socio-demographic indicators of resources (continuous age and dummies for education, employment status, and perceived class status), correlates of political mobilization (dummies for closeness to a political party, trade union membership, and weekly attendance of religious services) and an indicator of psychological involvement in politics (4-point scale of political interest).<sup>43</sup> Given the specific nature of European elections,<sup>44</sup> we also include a measure of support for European integration (dummies for considering EU membership as a good, neither good nor bad, or bad thing).

To quantify the contributions to the gender gap in voter turnout more explicitly, we complement the regression analyses with a linear decomposition.<sup>45 46</sup> The decomposition technique is a standard method for the study of differences and inequalities in terms of gender or race.<sup>47</sup> It decomposes the effect of a binary variable in a regression analysis (i.e., the difference in an outcome variable between two groups) into two parts: explained and unexplained (see Equation 1). The explained part amounts to the group difference in endowments with the independent variables (e.g., education attainment) and the unexplained part to the group differences in the effects of these endowments (e.g., a different regression coefficient of education for each group) and, more generally, to

<sup>39</sup>Commission of the European Communities 2012a, 2012b; van der Eijk, Oppenheim, and Schmitt 1993; Schmitt et al. 1997; van der Eijk et al. 1999; Schmitt 2009; Egmond et al. 2017; Schmitt et al. 2016.

<sup>40</sup>Like in other post-electoral surveys, voter turnout is over-reported in EES. Nevertheless, this drawback is unlikely to affect the validity of our findings since studies comparing validated and reported voter turnout come to substantively similar findings (Swaddle and Heath 1989; Brady, Verba, and Schlozman 1995; Blais, Young, and Lapp 2000). Moreover, the existing research suggests that over-reporting is unrelated to sex Karp and Brockington 2005; Morin-Chassé et al. 2017. In fact, the estimation of the gender gap in EP elections that we present below is fairly conservative and the real-world magnitude is probably even a little stronger.

<sup>41</sup>There are currently 28 EU member states and, in the case of German respondents, we distinguish former East and West Germany.

<sup>42</sup>Blais 2000; Geys 2006; Smets and van Ham 2013; Stockemer 2016.

<sup>43</sup>We rescale the political interest variable to run from 0 to 1.

<sup>44</sup>Flickinger and Studlar 2007.

<sup>45</sup>Oaxaca 1973; Blinder 1973.

<sup>46</sup>For consistency with the rest of the analysis (i.e., the use of linear probability models, see below), we apply a linear decomposition technique. The use of a non-linear decomposition (Fairlie 2005) leads to similar substantive results, which we display in the Online Appendix. We executed the two decompositions using software developed by Jann (2006, 2008).

<sup>47</sup>Dow 2009; Kim 2010.

unobserved factors. The decomposition analysis allows us to test more directly whether the gender gap in voter turnout in European elections is, in line with Hypothesis 2, mostly driven by a gender gap in political interest.

$$\text{Gender gap in turnout} = \underbrace{[E(X_M) - E(X_W)' \beta^*]}_{\text{Explained part}} + \underbrace{[E(X_M)'(\beta_M - \beta^*) - E(X_W)'(\beta_W - \beta^*)]}_{\text{Unexplained part}} \quad (1)$$

Note:  $X_M$  and  $X_W$  denote vectors with men's and women's endowments in terms of independent variables.  $\beta^*$ ,  $\beta_M$ , and  $\beta_W$  are regression coefficients for the pooled sample, men, and women respectively.

We subsequently explore the cross-country variation in the gender gap in political interest. We employ three sets of macro-indicators.

First, we use different indicators to capture the impact of women's political representation (Hypothesis 3). We test the impact of a single measure of the percentage of women in the legislature. This is probably the indicator that has been used most extensively in research on the effects of women's political representation.<sup>48</sup> Information on the percent of women in parliament comes from Paxton et al.<sup>49</sup> and has been complemented with data on recent years from the Inter-Parliamentary Union website.<sup>50</sup> In addition, we verify the impact of the percent of women in parliament when a citizen entered the electorate, hence taking into account the possibility that the impact of women's descriptive representation is long-term.<sup>51</sup>

Second, to measure the overall level of gender inequality in society (Hypothesis 4), we follow Fraile and Gomez<sup>52</sup> and employ an index produced by the European Institute for Gender Equality (EIGE).<sup>53</sup> The EIGE's gender equality index draws on 37 indicators and spans 6 areas: work, money, knowledge, time, power, and health. The index is available between 2005 and 2015 and ranges from 0 (full gender inequality) to 100 (full gender equality). We enter it in our analyses in two versions. The variable *EIGE* corresponds to a time-series indicator available for the EP elections of 2004, 2009, and 2014.<sup>54</sup> The variable *EIGE (2005-2015 average)* contains an time-invariant average for the 2005-2015 period.

Third, we operationalise the degree of cultural gender inequality in society (Hypothesis 5) through gender differences in mathematical performance. Earlier research shows that, in countries with more gender-equal culture, there is no mathematical gender gap.<sup>55,56</sup> We use data from two distinct cross-national studies: the Program for International Student Assessment (PISA) and the Trends in International Mathematics and Science Study (TIMSS). Both studies provide a comprehensive assessment of mathematical skills: the PISA data for 15-year-old students and the TIMSS study for approximately 10-year-old students. In both cases, we calculated the gender gap for country  $i$  as the difference between women's and men's average scores, standardised

<sup>48</sup>Beauregard 2017; Fortin-Rittberger 2016; Fraile 2014; Karp and Banducci 2008.

<sup>49</sup>Paxton, Green, and Hughes 2008.

<sup>50</sup>Inter-Parliamentary Union 2016.

<sup>51</sup>Dassonneville and McAllister 2018.

<sup>52</sup>Fraile and Gomez 2017.

<sup>53</sup>The data and further information about the index is available at <https://eige.europa.eu/https://eige.europa.eu/>.

<sup>54</sup>We use the values of the index from the most proximate available years: 2005, 2010, and 2015 respectively.

<sup>55</sup>Guiso et al. 2008, p. 1164.

<sup>56</sup>See also Nosek et al. 2009; Nollenberger, Rodríguez-Planas, and Sevilla 2016.

by the country's average score (see Equation 2). These data are available only for the periods 2000–2015 (PISA)<sup>57</sup> and 1995–2015 (TIMSS).<sup>58</sup> During these time-spans, neither measure exhibits a time-trend and the country-level differences remain stable. This supports the idea, suggested in the aforementioned studies, that the gap in mathematical performance reflects long-term and durable cultural traits that pertain to gender. In the following analyses, we thus enter the PISA and TIMSS measures as time-invariant country-level averages. This produces more reliable measures (i.e., measures less affected by idiosyncratic measurement errors) and also allows us to cover the whole period under study.<sup>59</sup>

Descriptive statistics of all variables included in the analyses are reported in the Online Appendix.

$$\text{Gender gap in maths}_i = \frac{\text{Women's average score}_i - \text{Men's average score}_i}{\text{Country average}_i} \quad (2)$$

The European Election Studies data have a nested structure, with individual respondents nested in election-years and in countries. In addition, we are interested in analysing how contextual-level variables (indicators of political, societal, and cultural gender inequalities) moderate individual-level differences in political interest. We take into account the data structure and estimate hierarchical random intercept models. We also specify random slopes for gender.<sup>60</sup> To ease the interpretation of the effects (and the estimation), we present the results of linear probability models.

## RESULTS

### *Tenacity of the Traditional Gender Gap in Voter Turnout*

Figure 1 displays the over-time evolution of the gender gap in voter turnout in supranational elections.<sup>61</sup> We distinguish two groups of countries. The first comprise only those countries that had become EU member states by 1979 and, therefore, the related estimates are not affected by successive EU enlargements. The other group include all EU member states in the given election year and its estimates thus indicate an average value of the gender gap for the whole European Union.

The two types of indicators point systematically in the same direction. In line with Hypothesis 1, they confirm that women tend to vote at lower rates than men in EP elections. This inequality in electoral participation is strikingly stable in time and generally oscillates between two and three percentage points. The effect of EU enlargements on the overall magnitude of the gender gap appears to be negligible.

Although the gender gap in voter turnout remains stable in time, it varies strongly between countries. This is shown in Figure 2, which plots the gender gap by country in both EP and

<sup>57</sup>The PISA study was conducted in 2000, 2003, 2006, 2009, 2012, and 2015.

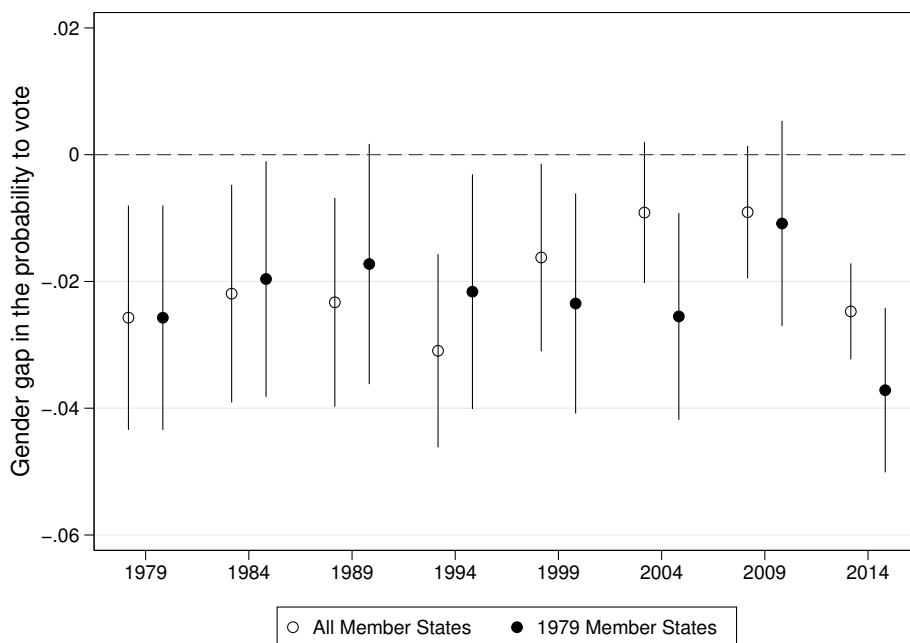
<sup>58</sup>The TIMSS study was conducted in 1995, 2003, 2007, 2011, and 2015.

<sup>59</sup>It should be noted that the scores are not available for East Germany (both PISA and TIMSS), Estonia (TIMSS), and Luxembourg (TIMSS). Because of data constraints, we use pan-German scores for West Germany (both PISA and TIMSS) and, in the case of the TIMSS, the scores of England for the United Kingdom and the score of the Flanders for Belgium.

<sup>60</sup>Gelman and Hill 2007.

<sup>61</sup>The figure draws on average marginal effects (AME) from linear probability models of voter turnout including the dummy variable female and country controls as predictors.

Figure 1: Evolution of Gender Gap in Voter Turnout



Note: Negative values mean that women participate at lower rates. 90 % confidence intervals. EES data 1979-2014. The 2004 estimate does not include Belgium and Lithuania for which the voter turnout variable is not available.

national elections.<sup>62</sup> The traditional gender gap in EP elections can be observed in approximately two thirds of EU member states and reaches almost 7 percentage points in Poland and Croatia. In contrast, in mostly North European countries (but also Malta, the gap is reversed and women vote at higher rates than men by up to 5 percentage points. Nearly in all cases, the traditional gap is weaker (i.e., less unfavorable to women) in national elections than in EP elections.<sup>63</sup> In fact, on average, women do not vote less than men in national elections. This discrepancy between EP elections and national elections corroborates the findings of Kostelka et al.<sup>64</sup> At the same time, it should be noted that, although the sex differences in participation vary in magnitude, they are correlated across election types. In countries where the EP gap is reversed, women also participate at higher rates than men in national elections. Conversely, where the traditional gap is strong in EP elections, there seems to be a mild gap also in national elections. This suggests that sex differences in voting rates reflects some more general societal patterns that are unrelated to the specificity of supranational elections.

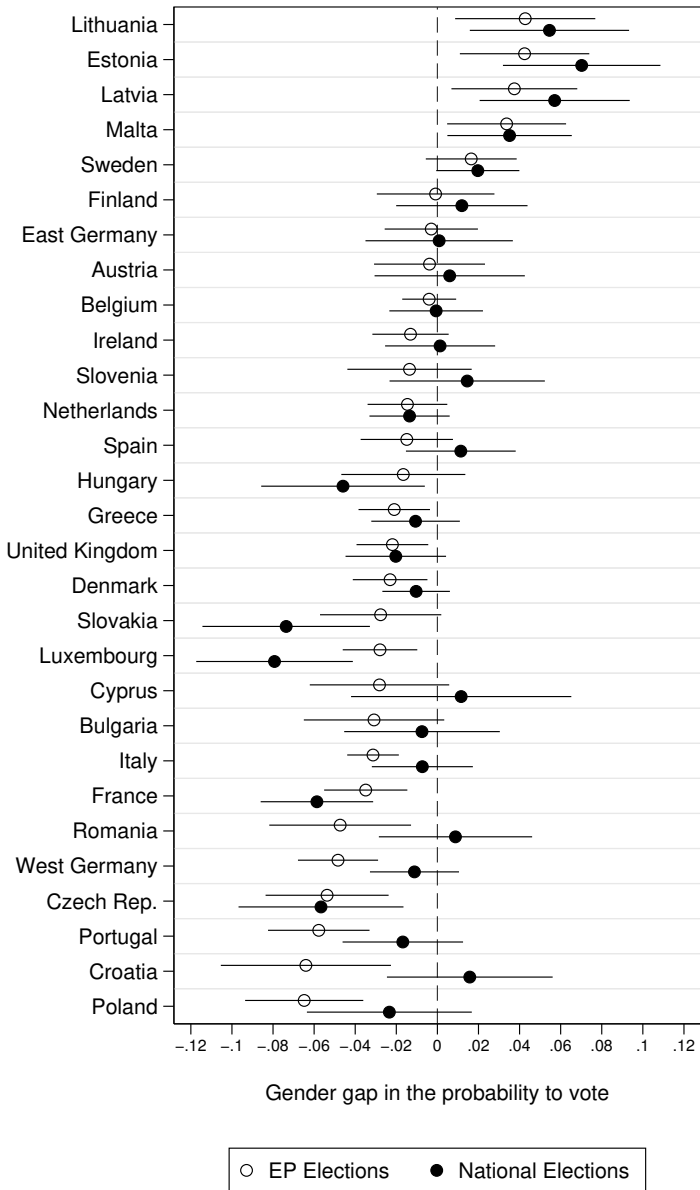
<sup>62</sup>The figure displays AME from country-specific regressions including year dummies.

<sup>63</sup>There are a few exceptions, but these are probably the result of a less accurate estimation for national elections as the question on national turnout was asked only three EES waves (1989, 1994 and 2014). Most of the countries where the national gap appears stronger than the EP gap joined the European Union only in 2004 and the participation rates in national elections hence draw on a single EES sample (of 2014).

<sup>64</sup>Kostelka, Blais, and Gidengil, forthcoming.



Figure 2: Gender Gap in Voter Turnout by Country



Note: Negative values mean that women participate at lower rates. 90 % confidence intervals. EES data 1979-2014. Information on national elections is available only for 1989, 1994 and 2014.

*Explaining the Gender Gap in Voter Turnout*

Having shown indications of a traditional gender gap – with women turning out at lower rates than men – in a large majority of countries in the EES dataset, we now turn to investigating the sources of the gender gap in voter turnout in EP elections.

In a first step, we examine which individual-level factors account for this gender gap in voter turnout. In Table 1, we present the estimates of a series of hierarchical models explaining turnout in EP elections. We present five models. The first is a baseline model in which we only control for respondents' gender. In Model 2 and 3 we add the socio-demographic variables and attitudes towards the EU respectively. In a fourth model, we additionally control for correlates of political mobilisation, while the fifth and final model also accounts for the role of political interest.

The results of Model 1 in Table 1 offer evidence of a significant gender gap in turnout in the pooled dataset. The effect of gender, that is estimated to be about 1.7 percentage points (pp.), appears to be largely unaffected by the addition of socio-demographics control variables in Model 2. Even though each of these control variables is significantly – and in expected ways – related to turnout in EP elections, these variables do not seem to account for gender differences in this sample of elections.

Additionally controlling for respondents' attitudes towards the European Union (in Model 3) reduces the estimated gender gap in EU turnout somewhat. Though women are still estimated to turn out less than men.

In Model 4 we add a set of variables that captures the impact of mobilization agents on turnout. The estimates of this model confirm the impact of mobilization, as trade union members, those who regularly attend religious service and individuals who are close to a party are all more likely to turn out to vote. Accounting for these variables, however, only marginally affects the gender gap.

The picture radically changes when additionally controlling for respondents' reported level of interest in politics (Model 5). A higher level of interest in politics is positively and significantly associated with the probability of participation in EP elections. Importantly, adding political interest to the model leads to a reversal of the gender gap in turnout (the coefficient for female is now positive and significant). These results suggest that when we account for the fact that women are generally less interested in politics,<sup>65</sup> women appear to turn out *more* than men.

<sup>65</sup>Thomas 2012; Kostelka, Blais, and Gidengil, forthcoming.

TABLE 1: Explaining Turnout in EP Elections, Individual-Level Determinants

	(1)	(2)	(3)	(4)	(5)
Female	-0.017*** (0.003)	-0.014*** (0.003)	-0.007** (0.003)	-0.005* (0.003)	0.019*** (0.003)
Age		0.006*** (0.000)	0.006*** (0.000)	0.005*** (0.000)	0.004*** (0.000)
Postsecondary		0.086*** (0.003)	0.070*** (0.003)	0.065*** (0.003)	0.040*** (0.003)
Unemployed (ref: working)		-0.031*** (0.003)	-0.032*** (0.003)	-0.028*** (0.003)	-0.028*** (0.003)
Not working (ref: working)		-0.057*** (0.005)	-0.050*** (0.005)	-0.045*** (0.005)	-0.039*** (0.005)
Middle class (ref: working class)		0.062*** (0.003)	0.049*** (0.003)	0.046*** (0.003)	0.032*** (0.003)
Upper class (ref: working class)		0.095*** (0.005)	0.073*** (0.005)	0.067*** (0.005)	0.040*** (0.005)
Eu membership neither good nor bad (ref: bad)			0.015*** (0.004)	0.019*** (0.004)	0.026*** (0.004)
Eu membership good (ref: bad)			0.138*** (0.004)	0.125*** (0.004)	0.103*** (0.004)
TU member				0.047*** (0.004)	0.035*** (0.004)
Attendance of religious services at least once a week				0.069*** (0.004)	0.069*** (0.003)
Closeness to a party				0.180*** (0.003)	0.137*** (0.003)
Interest in politics					0.302*** (0.004)
Constant	0.654*** (0.026)	0.312*** (0.027)	0.238*** (0.026)	0.152*** (0.024)	0.084*** (0.023)
$\sigma^2$ countries	0.017	0.018	0.016	0.014	0.013
$\sigma^2$ elections	0.008	0.008	0.007	0.007	0.006
(N) countries	29	29	29	29	29
(N) elections	119	119	119	119	119
(N) individuals	119610	119610	119610	119610	119610

Note: Coefficients of random intercept linear probability models, random slope specified for gender. Standard errors in parentheses. Significance levels: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

To investigate the contributions to the gender gap in voter turnout more explicitly, Table 2 displays the results of the linear decomposition. It reveals that the gap is entirely due to differences in the levels of the independent variables (i.e., the explained part). In fact, differences in regression coefficients (and unobserved factors, i.e., the unexplained part) moderate the gap and without them, the gap is nearly 1.8 pp. larger.<sup>66</sup> By far, political interest represents the strongest contribution and, on its own, it accounts for all the observed gap. The other, significantly weaker contributions largely cancel out. Moreover, the two strongest of these contributions – closeness to a party (22.6 %) and considering EU membership as a good thing (20.9 %) – are themselves strongly associated with political interest and, therefore, their contributions may partly reflect political interest' indirect effects.<sup>67</sup> In short, the decomposition analysis provides strong support for Hypothesis 2.

TABLE 2: Linear Decomposition of the Gender Gap in Voter Turnout

Observations	119610	
Probability to vote: Men	0.660	
Probability to vote: Women	0.632	
Gender gap	0.027	
Explained	0.046	
Unexplained	-0.018	
Factor	Contribution	Share of the gap
	(Explained party)	
Age	-0.002***	-8.0 %
Postsecondary	0.001***	4.5 %
Unemployed	0.003***	12.4 %
Not working	0.000	-0.2 %
Middle class	-0.001***	-3.2 %
Upper class	0.001***	2.9 %
EU membership neither good nor bad	-0.002***	-5.8 %
EU membership good	0.006***	20.9 %
Trade union member	0.002***	7.1 %
Attendance of religious services	-0.004***	-15.8 %
Closeness to a party	0.006***	22.6 %
Interest in politics	0.028***	102.9 %
28 country dummies (total contribution)	0.007	25.4 %
7 election dummies (total contribution)	0.001	1.8 %

Note: Significance levels: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

<sup>66</sup>In Table 2, the magnitude of the gender gap appears larger than in Table 1. This is because, in the estimation procedure, the initial regression of turnout on gender does not control for country and year dummies. These controls are incorporated only in the decomposition stage and their contributions jointly account for the difference between Tables 2 and 1.

<sup>67</sup>In additional analyses, we found that among the variables included in our data set, political interest is the strongest predictor of closeness to a political party and of considering EU membership as a good thing. Of course, our data do not allow us to establish the direction of causality in these cases. However, it is likely that, at least in some instances, interest in politics made respondents adhere to a political party or appreciate the benefits of European integration.

Summarizing the results from this section of results, we find evidence of a traditional gender gap in turnout in EP elections. This gender gap, it appears, is to a large extent a reflection of women's lower level of interest in politics. When we account for differential levels of political interest, women turn out more than men.

These results align well with our expectations; not only is there evidence that women turn out less than men in EP elections (Hypothesis 1), we also find political interest to be a key cause of this gender gap in EP turnout (Hypothesis 2). Having identified political interest as the main reason for women's lower propensity to turn out in EP elections, in the next section we seek to gain insights in what leads women to be less interested in politics – with particular attention for the role of contextual factors.

### *Explaining the Gender Gap in Political Interest*

To explore the origins of the gender gap in voter turnout, we leverage over-time and cross-country variation in political interest. We aim to identify factors that may explain why, in some countries, women are more interested in politics and, thereby, participate at higher rates in European elections.

In Table 3, we first explicitly demonstrate the presence of a gender gap in political interest. The results confirm that in our EU-wide 1979-2014 dataset, women are on average significantly less interested in politics than men even when accounting for a set of individual-level predictors of political interest. All models include controls for age, level of education, employment status, social class and party closeness. By and large, the effects of these individual-level variables are in line with theoretical expectations; being older, higher educated, employed, a member of a higher social class and feeling close to a party all increase reported levels of political interest.

The main goal of the analyses that are reported in Table 3, however, is to explain between-country variation in the gender gap in political interest—which we found to be the key to understanding the presence of a traditional gender gap in EP turnout. For doing so, we include in Models 3 to 8 interactions between respondents' sex and six different macro variables. We investigate the role of women's political representation (the percent of women in parliament at the time of the survey, and when the respondent was 18-21 years old), societal gender equality (EIGE and EIGE (2005-2015 average)) and cultural gender equality (by means of differences in maths between boys' and girls' according to PISA and TIMSS).

First, a stream of recent publications has argued that women's descriptive representation can play a crucial role in increasing women's political engagement, in this way reducing gender gaps. Models 3 and 4 test these claims for political interest. The results consistently show the expected positive interaction effect between women's political representation and respondent's gender. However, this effect fall short of significance when focusing on the percent of women in the legislature at the time of the survey. The results of Model 4 are more encouraging, as they suggest that a higher percentage of women in the legislature during respondents' formative years (18 to 21) is associated with a significantly smaller gender gap in political interest. These results are in line with earlier work, that has argued that if there is an effect of women's descriptive representation, it works through the mechanism of political socialisation.<sup>68</sup>

By contrast, the level of overall societal gender equality does not find support in our data (see Models 5 and 6). The interaction between the EIGE's index and Female (both in the time-variant and time-invariant versions) does not have the expected sign and is statistically insignificant. This invalidates Hypothesis 4.

<sup>68</sup>Dassonneville and McAllister 2018.

Finally, Models 7 and 8 in Table 3 test cultural explanations. For doing so, we interact respondent's sex with country-level differences in boys' and girls' results on maths scores. The estimates in Table 3 suggest that cultural differences matter a great deal for explaining the gender gap in political interest. The effect of the two indicators is in the expected direction, highly significant, and of roughly the same size for both data sources.

Furthermore, the estimates of Model 9 indicate that when considering both political and cultural factors simultaneously, it is the latter that matter more. That is, when accounting for differences in boys' and girls' maths scores, the long-term impact of women's descriptive representation is no longer significant at conventional levels. The effect of culture, in contrast, seems largely unaffected when we account for the role of women's descriptive representation.

To ease the interpretation of the interaction effects in Table 3, we present in Figure 3 the average marginal effect of gender (using the observed values of the other variables) for different values of the statistically significant macro-indicators. Looking at the marginal effects plots clarifies that the political and cultural macro-variables have the expected effect: as women's political representation (upper graphs) or cultural gender equality (bottom graphs) increases, the gender gap in political interest tends to be smaller. The strongest impact, however, and the only contextual factor that seems to have the potential to reduce the gender gap in interest significantly, is culture. To be more precise, as the difference between boys' and girls' maths scores in the PISA tests moves from the minimum to the maximum value, the gender gap in political interest is nearly halved. This suggests that if societies curb stereotypical perceptions about gender-specific social roles, i.e., they stop considering that maths and politics are more for boys than girls, this may reduce or even fully eliminate the traditional gender gap in voter turnout.<sup>69</sup>

## DISCUSSION

The scientific literature on gender and turnout generally finds few indications of different turnout rates among men and women. In contrast to what holds for attitudinal variables such as political interest or non-institutional forms of participation, the gender gap in turnout appears to have diminished or even reversed.

As we have shown here, however, this conventional wisdom does not apply to low turnout elections, such as elections to the European Parliament. In a large majority of the countries in our dataset, women are less likely to turn out than men for EP elections, while there is no such a gap for elections to the national parliament. This gender gap, furthermore, is remarkably stable over time, despite patterns of growing gender equality in other domains.

Why is the gender gap in turnout for EP elections so persistent, while the traditional gender gap in national parliament elections has diminished or disappeared? Our results suggest that attitudinal factors, and political interest more specifically, are key. A large number of studies have shown that gender differences in such attitudinal variables are large and stable<sup>70</sup> and these indicators of psychological engagement with politics have even more weight in low turnout elections.<sup>71</sup> Hence, once we account for these attitudes, and women's overall lower level of interest in politics, women actually turn out *more* than men in EP elections.

<sup>69</sup>Our first analysis demonstrates that, at the same level of political interest, women tend to vote more than men. Therefore, to eliminate the gender gap in voter turnout, the level of political interest does not even need to be the same. A substantial reduction in the difference between men and women may suffice. Of course, caution is needed in the extrapolation of these results as the variation we observe in our data is mostly cross-sectional.

<sup>70</sup>Dassonneville and McAllister 2018; Thomas 2012.

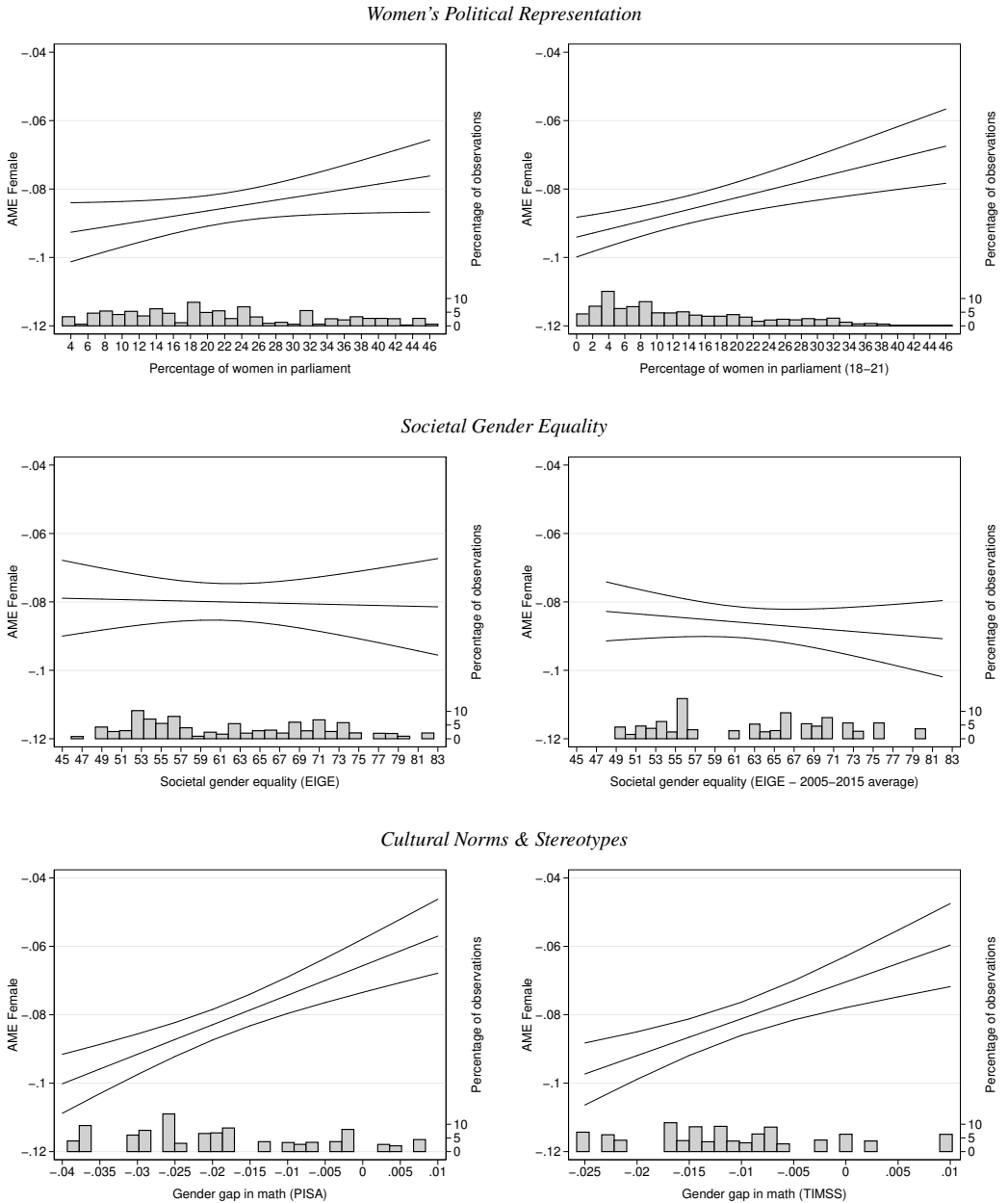
<sup>71</sup>Kostelka, Blais, and Gidengil, forthcoming.

TABLE 3: Explaining Political Interest, Contextual-Level Factors

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Female	-0.094*** (0.002)	-0.086*** (0.002)	-0.094*** (0.006)	-0.094*** (0.004)	-0.076*** (0.023)	-0.072*** (0.020)	-0.066*** (0.005)	-0.070*** (0.005)	-0.073*** (0.006)
Age		0.002*** (0.000)	0.002*** (0.000)	0.003*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.003*** (0.000)
Postsecondary		0.095*** (0.002)	0.095*** (0.002)	0.094*** (0.002)	0.089*** (0.002)	0.094*** (0.002)	0.089*** (0.002)	0.090*** (0.002)	0.088*** (0.002)
Unemployed		-0.009*** (0.002)	-0.009*** (0.002)	-0.008*** (0.002)	-0.007*** (0.002)	-0.009*** (0.002)	-0.007*** (0.002)	-0.008*** (0.002)	-0.008*** (0.002)
Not working		-0.030*** (0.003)	-0.029*** (0.003)	-0.030*** (0.003)	-0.029*** (0.004)	-0.028*** (0.003)	-0.029*** (0.004)	-0.029*** (0.004)	-0.029*** (0.004)
Middle class		0.056*** (0.002)	0.056*** (0.002)	0.055*** (0.002)	0.053*** (0.002)	0.056*** (0.002)	0.053*** (0.002)	0.052*** (0.002)	0.053*** (0.002)
Upper class		0.101*** (0.003)	0.102*** (0.003)	0.100*** (0.003)	0.095*** (0.004)	0.102*** (0.003)	0.098*** (0.004)	0.096*** (0.004)	0.098*** (0.004)
Closeness to a political party (a dummy)		0.152*** (0.002)	0.154*** (0.002)	0.151*** (0.002)	0.154*** (0.002)	0.153*** (0.002)	0.152*** (0.002)	0.154*** (0.002)	0.151*** (0.002)
Women parliament survey			0.001 (0.001)						
Female × Women parliament survey			0.000 (0.000)						
Women in parliament 18-21				0.001*** (0.000)					0.001*** (0.000)
Female × women in parliament 18-21				0.001** (0.000)					0.000 (0.000)
EIGE					0.001 (0.001)				
Female × EIGE					-0.000 (0.000)				
EIGE (2005-2015 average)						0.003* (0.001)			
Female × EIGE (2005-2015 average)						-0.000 (0.000)			
PISA							-0.672 (0.956)		-0.802 (0.977)
Female × PISA							0.863*** (0.210)		0.717*** (0.215)
TIMSS								0.820 (1.490)	
Female × TIMSS								1.076*** (0.327)	
Constant	0.535*** (0.014)	0.254*** (0.013)	0.221*** (0.020)	0.226*** (0.013)	0.196** (0.074)	0.067 (0.087)	0.238*** (0.021)	0.256*** (0.021)	0.204*** (0.022)
$\sigma^2$ countries	0.005	0.004	0.003	0.004	0.003	0.003	0.004	0.004	0.004
$\sigma^2$ elections	0.003	0.003	0.003	0.003	0.002	0.003	0.002	0.002	0.002
$\sigma^2$ female	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(N) countries/elections	29/119	29/119	29/113	29/119	28/75	28/114	28/90	26/84	28/90
(N) individuals	123398	123398	116198	118649	88512	117996	98358	93357	96327

Note: Coefficients of random intercept linear probability models, random slope specified for gender. Standard errors in parentheses. Significance levels: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Figure 3: Marginal Effects of Female on Political Interest, Conditional on Macro-Level Factors



Note: Estimates and 90% confidence intervals come from Models 3 to 8 in Table 3.

Our analyses suggest that the deep cause of the gender gap in voter turnout, acting through political interest, lie in the cultural perceptions of men's and women's roles. Full gender equality in voting and, presumably, other forms of political participation, is likely to be achieved only when these resilient perceptions evolve. Our results support the idea that better women's representation



in politics may help in this respect but we do not find a direct link between overall gender equality in society and political interest. To be effective, public policies aiming at greater gender equality in politics should thus target more directly cultural representations and stereotypes. Future research should help identify effective methods for overcoming these long-lasting impediments to genuinely gender-equal politics.

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