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*Descriptive Finding*

**The association between childlessness and voting turnout in 38 countries**

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## **The association between childlessness and voting turnout in 38 countries**

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### **Abstract**

#### **OBJECTIVE**

This descriptive study aims to analyse the association between childlessness and voting turnout.

#### **METHODS**

We used the first nine rounds of the European Social Survey and logistic regression models to estimate the association between childlessness and having voted in the last national elections using data from 38 countries.

#### **RESULTS**

Our results show that childlessness is negatively associated with voting turnout in general. The association is stronger among individuals who are in the late reproductive lifespan (ages 35 to 39, 40 to 44, and 45 to 49), males, and those with lower education. The analyses show also considerable heterogeneity across countries but without a clear pattern.

#### **CONTRIBUTION**

This descriptive study offers evidence to stimulate more theoretical and empirical research on the relationship between childlessness and voting turnout, which is crucial to better understanding the role of demography in the functioning of democracy.

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## 1. Introduction

Demography and politics are so interrelated that the research field of political demography has recently gained attention (e.g., Goldstone, Kaufmann, and Toft 2012). Population structure (e.g., the size of population by age, gender, social class, union status, and ethnic groups) is closely interrelated to democracy. For example, several studies report that population age structure relates to political instability (Weber 2013; Wilson and Dyson 2017), and the size of religious and ethnic groups influence political powers (Teitelbaum 2015). Studying the association between population structure and political behaviours is important because if certain population groups are more likely to be politically active (e.g., participate in the elections), this may influence the functioning of democracy, electoral results, and the type of policies implemented in a given country (e.g., Sevi 2021; Vogl and Freese 2020; Webster and Pierce 2019).

Since the middle of the 20th century, the population structure in the most developed countries has been changing mainly due to fertility decline. Particularly, the increase in the childless population at the end of their reproductive period has a high weight in explaining overall fertility reduction (Zeman et al. 2018). Childlessness has steadily increased in recent decades throughout Europe (Beaujouan, Brzozowska, and Zeman 2016; Kreyenfeld and Konietzka 2017; Miettinen et al. 2015; Tocchioni 2018), North America (the United States: Frejka 2017; Canada: Ravanera and Beaujot 2014), and Japan (Raymo et al. 2015). Increased childlessness may have long-term effects on the composition of the electoral population, implying its ageing (i.e., a larger share of older voters). In addition, since the 1970s, the age at entering motherhood has increased on average by about one year each decade across high-income countries (Mills et al. 2011). Therefore, as a result of increasing the proportion of childless individuals and postponement of entering motherhood, the average duration of the reproductive life without children has been increasing (Mogi and del Mundo 2020), and women in many European countries spend more than half of their reproductive lives as childless between ages 12 to 50 (Mogi, Nisén, and Canudas-Romo 2021). In this descriptive study, we focus on the association between childlessness and voting turnout and aim at answering this question: Is childlessness associated with voting turnout? In other words, are childless individuals more or less likely than parents to vote?

Generally speaking, people's resources (time, money, and civic skills) and interests or concerns matter in their decision to participate in political activities (see the review by Voorpostel and Coffe 2012). Although it has been found that political attitudes vary by parenthood status (Elder and Greene 2012; Fieder and Huber 2018), studies on the association between parenthood and political participation are few and present mixed results. Plutzer (2002) hypothesises that children, especially older ones, enhance parents' networks, thus increasing political knowledge and interest. However, the author does not

find major differences between parents and nonparents in the probability of voting using the three-wave Student-Parent Socialization Study from the United States. Voorpostel and Coffe (2012) argue that parenthood possibly has both negative and positive influences on participation in political activities: negative because of reduced parents' time availability and positive due to parents' higher interest in political issues. Using a Swiss survey, they report a consistent result with the study by Plutzer (2002). However, a US study based on the American Current Population Survey finds that parents have a lower turnout in presidential elections (Wolfinger and Wolfinger 2008). Smets and van Ham (2013) implement a meta-analysis of 90 empirical studies on individual-level voting turnout in national elections published in ten top journals between 2000 and 2010 and report that few papers analysed the association between having children and voting participation. Whilst parenthood is one of the most impactful personal life experiences on political attitudes (Banducci et al. 2016), there is a paucity of studies between parenthood–childlessness and voting behaviours.

This descriptive study aims to analyse the association between childlessness and voting turnout using the first nine rounds of the European Social Survey (ESS). The relationship between fertility and politics is not new. Some studies analyse the effects of political systems on fertility (e.g., Aksoy and Billari 2018). Others examine the impact of demographic changes on democratisation (Sommer 2018; Wilson and Dyson 2017) but focus on macro-level analyses. It is well known that a macro-level relationship does not necessarily indicate the same association at the micro level. Thus, we contribute to the emerging debate on the interconnections between demography and democracy by providing micro-level analyses aimed at investigating the association between childlessness and voting turnout. Our descriptive results also show heterogeneities in this association as a function of key sociodemographic characteristics: age, gender, education, and country.

## **2. Data and methods**

We use the first nine rounds of the ESS, a repeated cross-national survey conducted since 2002/2003 every two years in several European and other countries. Our data cover the period 2002/2003–2018/2019. The ESS data offer a great deal of information about individuals' political values and behaviours and sociodemographic characteristics, also allowing for cross-national analyses. The ESS questionnaire is composed of a 'core' module that is repeated at each round and additional special ('rotating') modules that are present in only certain rounds. We use variables available in the core module. Thus, we pool data from all nine ESS rounds available at the time of writing. After selecting individuals aged 18 to 99 years (centenarians form 30 cases) and after removing

respondents who are not eligible to vote in the country of residence and observations with any missing values in the variables used (1,999; 0.5%), the working sample is composed of 385,269 individuals in 38 countries.

The question about voting turnout was asked as follows: “Did you vote in the last [country] national election in [month/year]?” The answer options were “Yes,” “No,” and “Not eligible to vote.” As mentioned above, we dropped from the analyses all ineligible respondents. Thus, our outcome is a binary variable: “Did you vote in the last country’s national election?” (1 = Yes; 0 = No). Table A-1 in the replication material reports the year of the national election preceding each ESS round by country.

The ESS questionnaire asks whether the respondent has ever had a biological child in only two rounds (3 and 9). Thus, to maximise the sample sizes and the number of countries analysed, we alternatively used the questions, included in each round, that asked whether the respondent currently lives with children of their own or a partner’s children in the same household and whether they have ever lived with any child. Children of any type are included (biological, step, adopted, foster). Childless individuals were defined in this study as people who have never lived with any child. Therefore, the analytical sample may underestimate childless people because it cannot capture people who have had children but have never lived with them. However, we expect this to be a minor issue. In rounds 3 and 9 of the ESS, there was a question asking whether the respondent ever gave birth or fathered any biological child. The percentage of those who have had at least one biological child but never lived together with any of them is 7.6% (4,813 cases) among those who have either had at least one biological child or lived with any types of children in rounds 3 and 9. Moreover, the effect of having children on the likelihood to vote should be stronger if parents have lived with them because this is a proxy for a closer relationship with them. In addition, a robustness check analysis using both questions (‘ever had a child’ and ‘ever lived with a child’) from only rounds 3 and 9 gave similar results (see Table A-2 in the replication material) to our main findings shown below. The questions we use also offer the advantage of accounting for any type of children.

Our main independent variable of interest is a binary variable equal to 1 for individuals who never lived together with any child (to be known as ‘childless’) and 0 otherwise (i.e., for those who have ever lived with a child, or ‘parents’).

In our multivariable regression models, we also control for some factors that have been found to be associated with entering parenthood and voting behaviours: survey round, country of residence, gender, age at the last national election, and education. Voting behaviours and prevalence of childlessness might have changed over time, thus the survey round controls for this. Country of residence takes into account the broad differences in voting behaviours and childlessness across countries. As for the individual-level controls, it is well known that there is a gender gap in voting turnout with men reporting higher turnout in most countries (Stockemer and Sundstrom 2021). Voting turnout varies also with age, following an inverse U-shaped curve (e.g., Bhatti, Hansen,

and Wass 2012). Educational differences in voting turnout have also been found with mixed results depending on the country's voting system and other factors (e.g., Gallego 2010). Gender, age, and education are also three important factors influencing parenthood (e.g., Kreyenfeld and Konietzka 2017), thus they are included in the models as controls. As a robustness check, we have re-estimated the main model without Albania, Cyprus, Israel, Kosovo, Montenegro, Russia, and Turkey and obtained similar results (see Table A-3 in the replication material) as the main findings shown below. Descriptive statistics for all variables are reported in Table 1.

**Table 1: Descriptive statistics of variables used in the analyses**

	Voted (%)	Childless (%)	Total cases		Voted (%)	Childless (%)	Total cases
Ever lived with children				Country			
No	73		110,643	Germany	84	32	22,759
Yes	81		274,626	Greece	87	32	8,951
Age at the last election				Hungary	77	27	13,662
18–24	64	87	36,385	Iceland	92	21	2,683
25–29	69	66	29,349	Ireland	78	35	18,389
30–34	73	39	32,022	Israel	83	25	13,076
35–39	77	23	34,094	Italy	81	39	6,561
40–44	79	17	34,520	Kosovo	68	25	1,165
45–49	81	15	34,961	Latvia	68	27	2,513
50–54	82	15	35,197	Lithuania	61	20	9,094
55–59	84	15	34,428	Luxembourg	78	31	2,327
60–64	85	15	32,274	Montenegro	88	39	1,089
65–69	85	15	28,976	Netherlands	84	34	15,781
70–74	85	16	22,893	Norway	87	27	12,987
75–79	82	17	16,440	Poland	71	28	14,028
80–84	79	17	9,248	Portugal	74	27	14,783
85–89	75	17	3,660	Romania	68	54	1,993
90–99	67	16	822	Russia	68	26	11,432
Sex				Serbia	77	24	1,874
Female	78	25	208,454	Slovakia	74	23	9,111
Male	79	33	176,815	Slovenia	73	23	11,137

**Table 1: (Continued)**

	Voted (%)	Childless (%)	Total cases		Voted (%)	Childless (%)	Total cases
Educational level				Spain	81	34	15,190
Less than low	77	19	47,802	Switzerland	67	37	12,048
Low	73	24	60,425	Sweden	91	28	14,561
Secondary	76	30	164,311	Turkey	86	36	3,702
Tertiary	85	33	112,731	UK	74	29	18,005
Country				Ukraine	84	27	9,293
Albania	85	24	1,015	ESS round			
Austria	84	34	11,797	1	82	29	37,733
Belgium	91	30	13,992	2	79	29	41,805
Bulgaria	75	17	9,971	3	79	29	38,424
Croatia	76	27	4,456	4	79	30	51,167
Cyprus	87	26	4,720	5	77	28	47,228
Czechia	60	26	16,085	6	77	27	49,218
Denmark	94	23	11,198	7	77	29	35,766
Estonia	69	24	12,793	8	77	30	39,524
Finland	83	31	16,210	9	79	29	44,404
France	74	26	14,838				

We estimated the association between childlessness and participation in the last national election using logistic regressions. Model 1 includes all variables listed above without any interaction. Then models 2 to 5 add in turn interaction terms between childlessness and age group, gender, educational attainment, and country of residence, respectively. To examine the substantive importance of the estimated associations, we also report average marginal effects (AMEs) of childlessness on voting turnout. In our case, the AME is the difference between the predicted probability of voting in the last national election of childless individuals and that of parents. Thus, a negative (or positive) AME indicates that childless individuals have a lower (or higher) voting turnout in the last national election than parents.



### 3. Results

Table 2 presents the results of logistic regressions (log odds). Overall, childless individuals are less likely to vote in the last national election than parents. The AME of childlessness in model 1 (not shown) is  $-0.027$  (standard error (SE) = 0.0016), meaning that childless individuals are about 3 percentage points (pp) less likely to vote than their counterparts with children. Figures 1 and 2 show the AMEs of childlessness on voting turnout by age, gender, educational attainment, and country estimated using logistic regression models with interactions (models 2, 3, 4, and 5, respectively).

**Table 2: Association of childlessness with voting turnout using a logistic regression model (model 1)**

	Log odds	Robust SE		Log odds	Robust SE
Ever lived with children			Country		
(ref: Yes)			(ref: Austria)		
No	-0.172	(0.011)	Greece	0.309	(0.042)
			Hungary	-0.539	(0.033)
			Iceland	0.761	(0.078)
Age at the last election			Ireland	-0.423	(0.032)
(ref: 30–34)			Israel	-0.146	(0.036)
≤24	-0.331	(0.018)	Italy	-0.098	(0.042)
25–29	-0.194	(0.019)	Kosovo	-0.645	(0.074)
35–39	0.188	(0.019)	Latvia	-1.145	(0.052)
40–44	0.378	(0.019)	Lithuania	-1.469	(0.034)
45–49	0.490	(0.019)	Luxembourg	-0.380	(0.059)
50–54	0.645	(0.020)	Montenegro	0.258	(0.098)
55–59	0.838	(0.020)	Netherlands	-0.081	(0.034)
60–64	0.988	(0.021)	Norway	0.116	(0.037)
65–69	1.057	(0.022)	Poland	-0.777	(0.032)
70–74	1.093	(0.024)	Portugal	-0.496	(0.033)
75–79	0.955	(0.026)	Romania	-0.882	(0.058)
80–84	0.727	(0.030)	Russia	-1.230	(0.034)
85–89	0.468	(0.043)	Serbia	-0.602	(0.064)
≥90	-0.0002	(0.081)	Slovakia	-0.713	(0.036)
Sex (ref: Female)			Slovenia	-0.753	(0.034)
Male	0.054	(0.008)	Spain	-0.065	(0.034)
Educational level			Sweden	0.613	(0.040)
(ref: Secondary)			Switzerland	-1.148	(0.033)
Less than low	-0.561	(0.016)	Turkey	0.625	(0.056)
Low	-0.448	(0.012)	UK	-0.721	(0.032)
Tertiary	0.561	(0.011)	Ukraine	-0.315	(0.039)

**Table 2: (Continued)**

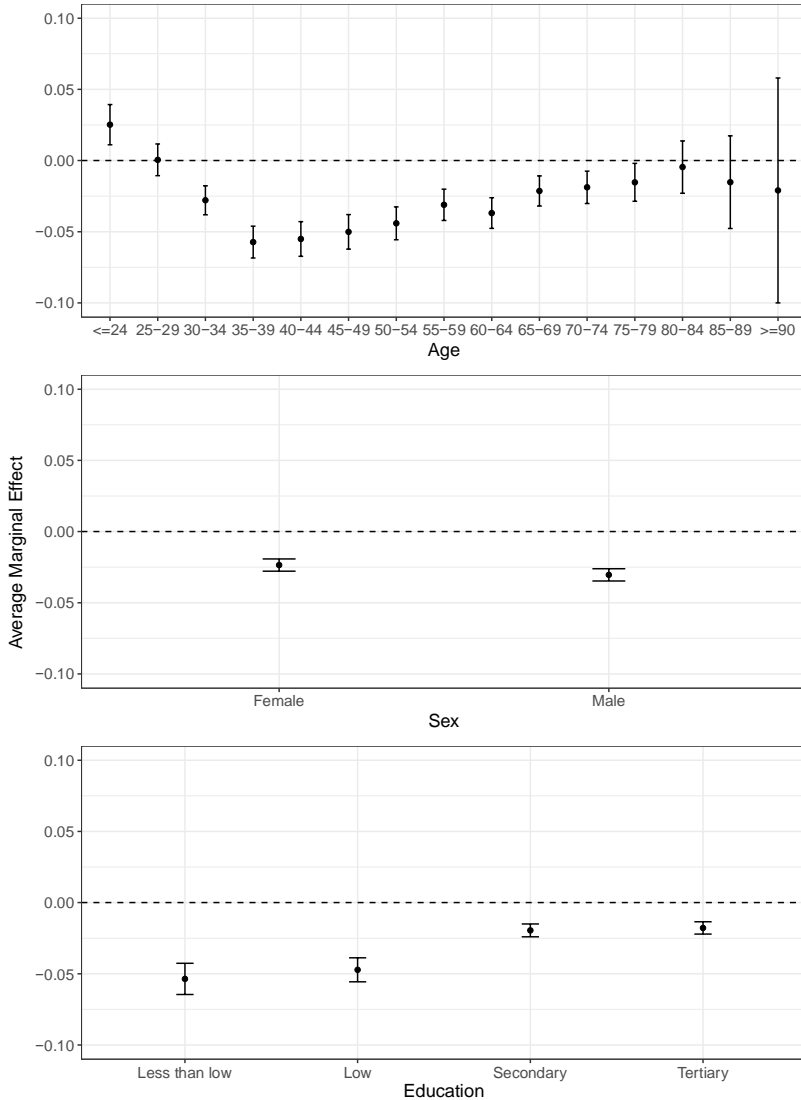
	Log odds	Robust SE		Log odds	Robust SE
Country			ESS round		
(ref: Austria)			(ref: round 1)		
Albania	0.318	(0.094)	2	-0.132	(0.019)
Belgium	0.623	(0.040)	3	-0.118	(0.020)
Bulgaria	-0.727	(0.036)	4	-0.111	(0.019)
Croatia	-0.606	(0.045)	5	-0.203	(0.019)
Cyprus	0.121	(0.051)	6	-0.247	(0.019)
Czechia	-1.385	(0.031)	7	-0.290	(0.020)
Denmark	0.960	(0.048)	8	-0.250	(0.019)
Estonia	-1.059	(0.033)	9	-0.204	(0.019)
Finland	-0.233	(0.034)	Constant	1.539	(0.032)
France	-0.772	(0.032)	Observations	385,269	
Germany	-0.229	(0.032)	Log likelihood	-183,282	
			Akaike inf. crit.	366,695	

AMEs by age show a U-shaped pattern: The lowest value is found at ages 35 to 39 years (AME = -0.06) and, except for individuals younger than 30 years, all age groups show negative AMEs implying a higher voting turnout for parents (the upper panel in Figure 1). The difference in voting turnout between childless individuals and parents aged 35 to 49 years is approximately 5 to 6 pp, while for older individuals and individuals aged 30 to 34 smaller values are found. Note that for individuals aged more than 85 the estimated AMEs are characterised by a high degree of uncertainty, as reflected in the large confidence intervals, due to relatively small sample sizes (1.2% among all the analysed cases).

The middle panel in Figure 1 shows that both sexes have negative AMEs, and particularly male childless individuals are less likely to vote than their parents' counterparts. However, the gender difference in the voting turnout between childless people and parents is rather low (AMEs are -0.024 and -0.03 for females and males, respectively).

All educational groups show negative AMEs (lower panel of Figure 1), but the gap in voting turnout between childless people and parents is the widest among individuals belonging to the two groups with the lowest education levels (AMEs of about 5 pp against AMEs of about 2 pp for the other two groups).

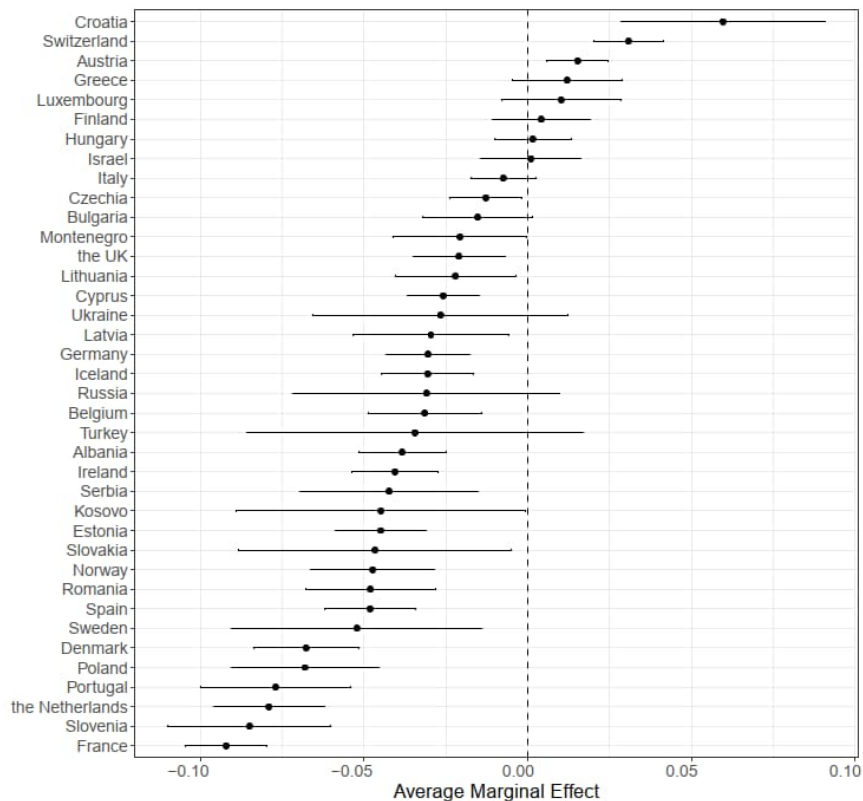
**Figure 1: Average marginal effects on voting turnout by age group (upper panel), gender (middle panel), and educational attainment (lower panel)**



Note: Estimated by logistic regression models with an interaction term between childlessness and age group for the upper panel, gender for the middle panel, and educational attainment for the lower panel.

AMEs displayed in Figure 2 indicate that in all countries except Croatia, Switzerland, Austria, Greece, Luxembourg, Finland, Hungary, and Israel, childless individuals are less likely to vote than parents. Particularly, France, Slovenia, the Netherlands, Portugal, Poland, and Denmark have the strongest negative AMEs (ranging between about 7 pp for Denmark to 9 pp for France). Among the few countries with positive AMEs, for Croatia, we found the highest value (about 6 pp). Overall, there is no clear pattern in the AMEs across countries. In fact, they do not seem to follow any demographic or political gradient (e.g., according to the proportion of childless individuals or voting turnout, geographical regions, post-communist/established democracies).

**Figure 2: Average marginal effects on voting turnout by country (estimated by a logistic regression model with interaction terms between childlessness and country)**



## **4. Discussion**

This descriptive study analysed the association between childlessness and voting participation in national elections in 38 countries using the first nine rounds of the European Social Survey. Our results show that childlessness is negatively associated with voting participation in general; however, the difference in voting turnout between childless individuals and parents is overall only approximately 3 percentage points. How should this difference of 3 percentage points be interpreted? In a close election, this difference may matter in the final result. The impact of the difference in the voting turnout is greater in countries where there are more childless individuals and lower voting turnout. Given that the proportion of childless individuals and childbirth postponement is increasing (Mills et al. 2011; Sobotka 2017) and voting turnout is decreasing in Europe (Solijonov 2016), the gap in the voting turnout between childless individuals and parents may become more important. In addition, regression models with interactions show that among some subgroups or countries, the gap in voting turnout between childless individuals and parents reaches values as high as 5 to 9 pp. In particular, we found the largest gaps among those who are in their late reproductive lifespan (ages 35 to 39, 40 to 44, and 45 to 49), males, individuals with lower education, and those living in Croatia, Denmark, France, the Netherlands, Poland, Portugal, and Slovenia.

Our study has some limitations. First, caution is warranted for the interpretation of our findings because the ESS does not contain the information on childlessness tout court for all rounds, and our definition of childless excludes those who have children but have never lived with them. Parenthood status per se may be relevant for voting turnout. Future studies can disentangle the effect of parenthood status from that of living with children (and more refined parenting measures). Second, several studies highlighted that childless people is a heterogeneous group (e.g., Mynarska et al. 2015). Our data did not allow distinguishing childlessness by choice from childlessness for other reasons, which might be anyway empirically challenging (e.g., Kreyenfeld and Konietzka 2017). Third, our data do not have information on the motivations to vote, hence, we cannot investigate the mechanisms behind the associations we found. By selecting some countries which have available data on more detailed information, future research should examine the relationship between childlessness and voting turnout in more depth. In addition, we found heterogeneous results across countries, but it was not possible to identify a simple pattern in these findings. Future research could investigate the role of specific contextual factors, such as family policies that may encourage or disfavour childless' voting behaviours compared to those of parents. Interesting avenues for future research would be also to (1) develop simulation scenarios of voting turnout and other political factors (e.g., election results) also based on demographic dimensions and (2) investigate the changing role of childlessness versus parenthood in voting behaviours over time. Finally,

we considered voting, the most common participatory activity (Teorell and Torcal 2007), but future studies can examine other forms of political participation, such as taking part in protests.

The association of population structure with voting behaviours is important considering the rapid and continuous fertility decline. However, as pointed out by Teitelbaum (2015) and Sommer (2018), few studies have focussed on this relationship so far. Our study provides evidence of the existence of a non-negligible and heterogeneous gap in voting turnout by parenthood status, and this has important implications for the future functioning of European democracies from the perspective of demography. In fact, even if the absolute gap in voting turnout between parents and childless individuals that our study presented will remain constant, an increasing share of childlessness implies an increasing weight of childless individuals in the electorate, thus leading to a further reduction in the overall turnout. In addition, given the decreasing voting turnout, the electoral participation gap between childless individuals and parents would be potentially increasingly crucial for determining the results of elections. The descriptive evidence we provide will hopefully stimulate more research on the implications of demographic changes for political behaviours.

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