

Research note

Coming of voting age. Evidence from a natural experiment on the effects of electoral eligibility

Arndt Leininger^{a,*}, Armin Schäfer^b, Thorsten Faas^c, Sigrid Roßteutscher^d

^a Chemnitz University of Technology, Germany

^b Johannes Gutenberg University of Mainz, Germany

^c Freie Universität Berlin, Germany

^d Goethe University Frankfurt, Germany

ARTICLE INFO

Dataset link: <https://doi.org/10.7910/DVN/RWJKW1>

Keywords:

Eligibility

Voting age

Political interest

Information

Regression discontinuity

Youths

ABSTRACT

In recent years, several jurisdictions have lowered the voting age, with many more discussing it. Sceptics question whether young people are ready to vote, while supporters argue that allowing them to vote would increase their specific engagement with politics. To test the latter argument, we use a series of register-based surveys of over 10,000 German adolescents. Knowing the exact birthdates of our respondents, we estimate the causal effect of eligibility on their information-seeking behaviour in a regression discontinuity design. While eligible and non-eligible respondents do not differ in their fundamental political dispositions, those allowed to vote are more likely to discuss politics with their family and friends and to use a voting advice application. This effect appears to be stronger for voting age 16 than for 18. The right to vote changes behaviour. Therefore, we cannot conclude from the behaviour of ineligible citizens that they are unfit to vote.

1. Introduction

Several jurisdictions have already lowered the voting age and many more are discussing it (see the contributions in [Eichhorn and Bergh, 2020](#)). According to its proponents, this measure would involve more people in the democratic process at an earlier (and possibly more participatory) point in their lives ([Franklin, 2004](#)). However, a recurring argument against lowering the voting age is that young people do not have sufficient political competence, information, or interest to be made eligible. Proponents of a lower voting age counter that even if this were true, it should not be interpreted as a lack of political maturity. Instead, less engagement with politics may be the result of a rational choice on the part of those who are not eligible to vote. As seeking information about elections, party manifestos, and candidates is costly, it seems rational to do so only if one has the right to vote.

In this research note, we seek to test the latter argument. Specifically, we ask: Does the acquisition of the right to vote influence citizens' information-seeking behaviour? We expect that young people seek political information more actively, by discussing politics with family or friends or using a voting advice application (VAA), when they become eligible to vote. To test this expectation, we compare young people who are just eligible to vote with peers who are not based on a regression discontinuity design (RDD). We exploit the fact that a citizen's birthdate determines whether they are eligible to vote and that

the distribution of birthdates around the cut-off date defining eligibility is randomly distributed with respect to our dependent variables as well as potential confounding variables: Respondents born shortly before and after the cut-off date differ only in their eligibility status.

We draw on two register-based surveys of over ten thousand German adolescents and young adults conducted after state elections in Schleswig–Holstein in 2017 and Brandenburg and Saxony in 2019. We chose these states because we were able to cover a first-ever state election with a voting age of 16 (in Schleswig–Holstein), a second-ever state election with a lowered voting age of 16 (in Brandenburg), and a state election with a voting age of 18 (Saxony). We combine the advantages of survey data with accurate register-based data on voter eligibility.

Besides using a research design allowing for causal inferences, we contend that it is essential to differentiate theoretically between fundamental political dispositions, which develop early in life and are less susceptible to short-term change, and behaviour, which is more malleable by short-term forces. In line with our theoretical considerations, we find that eligible and ineligible participants do not differ in their political interest, efficacy and attitudes towards voting. This shows that these groups are well suited for comparison and that eligibility alone is not enough to change the general attitude of young citizens towards politics. However, those born early enough to be eligible to vote are

* Corresponding author.

E-mail address: arndt.leininger@phil.tu-chemnitz.de (A. Leininger).

more likely to discuss politics with family and friends, more likely to use a VAA and feel better informed about party platforms.

Our research note makes three contributions to the nascent literature on the antecedents and consequences of lowering the voting age. First, we show that eligibility increases information-seeking behaviour, supported by a credible design for causal inference. Studying the effects of eligibility is extremely difficult because it is correlated with age and thus with many contextual variables, such as whether 17- and 18-year-olds are in school and what grade they are in. Our research design addresses this problem. Second, we are the first to estimate eligibility effects for both 16- and 18-year-olds – in our case, for two elections held on the same day in two neighbouring states – and find suggestive evidence of stronger effects for 16-year-olds. Third, we are the first to observe not one but two elections with a voting age of 16: a first-ever election with a voting age of 16 and another election that was the second time that 16- and 17-year-olds were allowed to vote in that state. We find some evidence of a boost effect in the first election after the voting age was lowered. Overall, our evidence can be interpreted as supporting arguments for a lower voting age, as adolescents do not appear to be any less politically inclined than young adults and are willing to act on their dispositions when called upon to do so.

1.1. The state of the debate and empirical findings

One critical point of contention in public and scholarly debates about voting age reductions revolves around the question of whether 16- and 17-year-olds are able to make informed choices at the ballot box. We contribute to a small but growing literature that addresses this question.¹

A first set of papers presents cross-sectional comparisons of younger and older citizens by looking at different aspects of political maturity, such as political interest or knowledge. In an early study, Chan and Clayton (2006) use the British Household Panel Survey to examine differences in political engagement between 16-, 17- and 18-year-olds. They find that ineligible adolescents are less interested in politics, less likely to identify with a party and less knowledgeable about political affairs than eligible adults and argue against enfranchising younger citizens because “too many of them would vote incompetently” (Chan and Clayton, 2006, p. 538). However, this conclusion may be premature, as it remains hypothetical how politically engaged 16- and 17-year-olds would have been *with* the right to vote. In contrast, Wagner et al. (2012) compare Austrian 16- and 17-year-olds eligible to vote with older voters and find that those under 18 are able to participate effectively. Hart and Atkins (2011) confirm this view for several indicators of political engagement among 16- and 17-year-old Americans. Similarly, Stiers et al. (2020) test whether 16- and 17-year-olds enfranchised in a mock local election in the Belgian city Ghent vote less congruently with their ideology than older voters, and find that they do not. Lang (2023) confirms these results on ideologically congruent voting based on a survey of German citizens. However, in these cases, it remains hypothetical how interested in politics 16- and 17-year-olds would have been *without* the right to vote.

A second set of studies presents cross-sectional comparisons between young people of the same age who are eligible to vote and their peers who are not. Bergh (2013) analyses data from Norway, where the voting age for local elections was lowered from 18 to 16 in some municipalities. In places where the voting age was lowered, political interest increased both among adolescents and young adults. The fact that interest was also higher for young adults in the test municipalities suggests that the one-off experimental nature of this event affected all young citizens, regardless of age. Zeglovits and Zandonella (2013) compare ineligible 16- and 17-year-old Austrians surveyed after the 2004

European elections with eligible 16- and 17-year-olds surveyed after the 2008 national parliamentary elections. In 2006, Austria lowered the voting age to 16 for all elections. They find that eligible adolescents interviewed after the national elections show greater political interest. Similarly, Eichhorn (2018) compares young Scots who were allowed to vote at 16 in the 2014 Scottish independence referendum with English respondents of the same age who were not and finds the former to exhibit greater political interest. However, such comparisons do not allow us to determine whether higher interest among minors is due to their electoral eligibility or the high-profile campaigns around the Scottish independence referendum or Austrian national election. While these studies suggest that eligibility leads to increased political interest, they cannot empirically separate the effect of eligibility from contextual effects.

A third set of studies uses quasi-experimental designs but suffers from the uniqueness of the data or contexts. Rosenqvist (2020) merges and analyses Swedish register data and information on high school grades of young citizens and finds that those who turned 18 just in time to vote in a national election or referendum did not obtain better grades in social studies in high school than those who had to wait a few more years for their first election. However, high school grades are only a distant proxy for political knowledge, even less so for political engagement. Stiers et al. (2020) conducted a survey of young people in the context of a mock election for 16- and 17-year-old citizens taking place on the same day as the actual municipal elections in Ghent, Belgium. The study finds a small but positive effect of eligibility on young people’s self-assessed attention to politics. Based on the same survey, Hooghe and Stiers (2022) also report a positive effect on political discussions in families. Regarding these studies, it remains to be seen whether the results apply to real elections without special efforts to mobilize young citizens. Finally, two studies on young people in Brazil and the US found no effect of first-time eligibility on political interest or political knowledge but did not look at behavioural outcomes beyond turnout (Holbein et al., 2021; Holbein and Rangel, 2020).

1.2. Theorizing the effect of eligibility on political engagement

Our literature review revealed mixed conclusions, which are partly explained by differences in research design and the respective choices of outcome variables. Moreover, we argue that it is essential to differentiate theoretically between, on the one hand, political dispositions that develop early in life and are less susceptible to short-term change, and, on the other hand, political and campaign-directed behaviour that is more malleable by short-term forces.

Political disposition develop through political socialization, which occurs in childhood and adolescence. In this process, parents are essential socializing agents. In particular, politically interested parents transmit their core values to their children (Jennings et al., 2009). This does not mean that children from political families support the same party as their parents (Dinas, 2012) but are generally more interested in politics and more likely to vote than those from less politically involved families (Highton and Wolfinger, 2001). Basic dispositions towards politics are shaped during the impressionable years, and subsequent change is often slow (Neundorff et al., 2013; Prior, 2010). Accordingly, there is little reason to expect political interest, efficacy beliefs or perceptions that voting is a civic duty to be affected by becoming eligible to vote. And, indeed, prior research studying young people in Brazil and the US has not found any effect of first-time eligibility on political interest or political knowledge (Holbein et al., 2021; Holbein and Rangel, 2020).

Political behaviour, in contrast, should be more context-dependent. For instance, Bhatti et al. (2016) find that the medium-term impact of first-time eligibility on participation in subsequent elections differs by type of election. Hence, the extent to which citizens engage with an upcoming election may also depend on their eligibility. Acquiring the

¹ For a tabular overview of all studies mentioned in the following paragraphs, see Table A.1 in the appendix.

right to vote makes it more likely that the costs of gathering information will be borne. Hence, we expect that *attaining electoral eligibility positively affects the information-seeking behaviour of young citizens while not affecting political predispositions.*

One argument for lowering the voting age to 16 is that first-time voters are more likely to live with their parents and go to school. These socialization agents can provide useful election-specific information and mobilize them to vote. For example, Neundorf et al. (2016) show that school can partly compensate for differences in parental influence on political engagement. As 16-year-olds are more likely to be still living at home and more likely to still be in school than 18-year-olds, they may be prompted to engage more with an upcoming election. While this may not affect their fundamental attitudes towards politics, it should make them more likely to gather information about current political events. Therefore, in places where the voting age has been lowered to 16, attaining electoral eligibility should have a stronger effect on information-seeking behaviour. Although we can only observe one election with voting age 18 and two with voting 16, we may investigate whether the effect of eligibility is stronger for younger than for older first-time voters.

Finally, the public debate on the participation of young citizens in elections is usually more intense in the first election after the voting age has been lowered. Therefore, eligibility effects might be more pronounced in contexts where the voting age of 16 is new (in our case, Schleswig-Holstein in 2017) than in contexts where it is already established (Brandenburg in 2019). Hence, we may speculate that a *first-ever election with a lowered voting age has a stronger positive impact on the information-seeking behaviour of young citizens than subsequent elections.*

1.3. Research design

We have carried out two original surveys of young citizens on the occasion of three regional elections in Germany. The first survey was conducted after the state elections in Schleswig-Holstein on 7 May 2017. The second survey was conducted simultaneously in Brandenburg and Saxony after the state elections in both states on 1 September 2019.² In total, we were able to interview over 10,000 respondents: 3897 citizens aged 15 to 18 in Schleswig-Holstein and 6699 respondents aged 15 to 24 in Brandenburg and Saxony. We combine the survey data with precise information on respondents' eligibility to vote from the population register.³ We deliberately chose Schleswig-Holstein, Brandenburg, and Saxony, because there we were able to cover a first-ever state election with voting age 16 (in Schleswig-Holstein), a second-ever state election with a lowered voting age of 16 (in Brandenburg) and a state election with voting age 18 (Saxony).⁴

In Germany, any citizen who turns 16 (in Schleswig-Holstein and Brandenburg) or 18 (in Saxony) on the day of the election at the latest is eligible to vote and is automatically entered into the electoral register. The eligibility of young citizens to vote thus depends solely on whether they were born on or before a legally defined cut-off date: 7 May 2001 (16 years before 7 May 2017) in Schleswig-Holstein, 1 September 2003

² For detailed information about case selection and the surveys, see appendix sections 2 and 3.

³ The electoral register for all elections in Germany is based on the population register, which is administered at the municipal level. Due to budget constraints, we were unable to select and contact a random sample of municipalities and ask them for extracts from the population register. Instead, we mainly focused on larger cities in the respective states.

⁴ Since 2012, there has been a [campaign](#) to mobilize young voters in Schleswig-Holstein, and the Brandenburg state government has also specifically targeted first-time voters with billboards and [posters](#). However, we could not find any similar initiatives in Saxony and it is difficult to say whether these efforts have had a significant impact on the target population.

(16 years before 1 September 2019) in Brandenburg and 1 September 2001 (18 years before 1 September 2019) in Saxony.⁵

Since a person's exact date of birth can be considered a random event, the eligibility of respondents born close to the cut-off dates approximates random assignment. It should not matter for the political behaviour of two respondents that they were born a few days or weeks apart. Therefore, when we compare respondents born within a few weeks before and after the cut-off date, we are comparing young citizens who, apart from their eligibility to vote, are, on average, similar in all other respects.

Knowing our respondents' exact date of birth, we estimate the causal effect of eligibility in a regression discontinuity design. We use the fact that legal rules set a strict limit in the form of a cut-off date before which citizens must be born in order to be eligible to vote. Eligibility is a binary treatment (D_i) that is entirely determined by whether a predictor, in our case the respondent's date of birth (b_i), is on the one or the other side of the cut-off date defining eligibility (c):

$$D_i = \begin{cases} D_1 = 1 & \text{if } b_i \leq c \\ D_0 = 0 & \text{if } b_i > c \end{cases}$$

The basic assumption behind any RDD of quasi-random allocation of treatment status around the cut-off can be violated if respondents can manipulate the forcing variable. In our case, the idea that parents could or would time their children's births with sufficient precision to affect their children's future eligibility is unrealistic. Therefore, it is impossible that there is sorting around the threshold in our case.⁶ We, therefore, believe we have a robust design for estimating the causal effect of electoral eligibility, which we estimate with the following regression model:

$$y_i = \beta_0 + \tau D_i + \beta_1(c - b_i) + \beta_2 D_i * (c - b_i) + \epsilon_i$$

The variable y_i stands for several attitudinal and behavioural outcomes measured in our survey. Our key independent variable, the treatment dummy (D), is equal to 1 if a respondent's date of birth was before or on the cut-off date. The term $c - b_i$ indicates how many days a respondent is older ($c - b_i \geq 0$) or younger ($c - b_i < 0$) than the legal voting age. If $c - b_i \geq 0$, a respondent is 16 (in Schleswig-Holstein and Brandenburg) or 18 (in Saxony) years old or older. β_1 and β_2 capture the linear relationship between the forcing variable ($c - b_i$, the difference in days between cut-off and date of birth) and the outcome variable. The interaction of D and $c - b_i$ allow for different slopes in the treatment and control groups. The coefficient τ captures whether there is a discontinuity, a 'jump,' in the relationship between the forcing variable and the dependent variable at the cut-off date. The coefficient τ estimates the effect of eligibility as a *local average treatment effect* (LATE).

We estimate local linear regressions as specified above on a subsample within a bandwidth of h days so that $c - h \leq X \leq c + h$ and we employ a triangular kernel to weight observations close to the cut-off point more heavily than those further away (Cattaneo et al., 2019). We estimate the models using the R package `rdrobust` and companion packages (Calonico et al., 2015). Our forcing variable, a respondent's date of birth relative to the cut-off date, is discrete, meaning that a day acts as 'mass point' containing multiple observations. Given a discrete forcing variable, the usage of continuity-based RD models is appropriate only if the number of mass points is large (Cattaneo et al., 2023, ch. 4). In our case, 10,596 respondents are distributed over 3,119 unique birthdates, representing a high number of mass points that allow us to use classical RD methods. However, because the number of observations at the values around the cut-offs is small in our

⁵ See Table A.1 in the appendix for a detailed overview.

⁶ Several sorting and placebo tests confirm this by failing to reject the null hypothesis of smoothness of the forcing variable at the cut-off, as appendix section 4 shows. Eligibility also does not affect participation in our survey. See Appendix section 4.3.

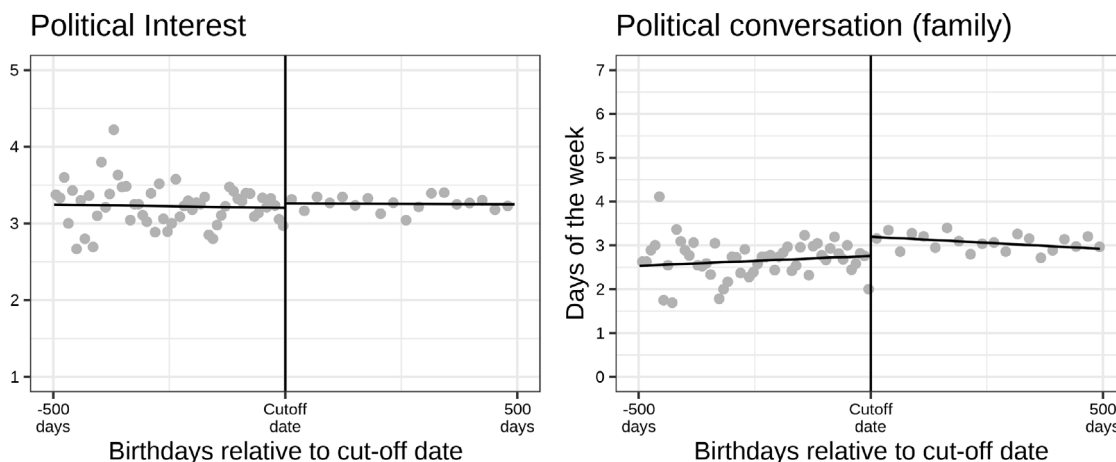


Fig. 1. Visualization of the RDD approach based on the pooled sample showing two dependent variables, political interest as fundamental political disposition and political conversations with family as information-seeking behaviour, around the cutoff date.

case, we cannot perform a local randomization analysis. Following the recommendation by Cattaneo et al. (2023), we base our analysis on an aggregated dataset, where each observation represents a day, and the dependent variable takes the mean of all responses from participants born on that day. We also estimate our main specifications on the individual-level data set, leading to similar results.⁷ Bandwidths are algorithmically determined using an MSE-optimal bandwidth selector as implemented by Cattaneo et al. (2019). We first analyse a combined sample covering all three elections before analysing separate samples.

Fig. 1 illustrates our empirical approach.⁸ After respondents become eligible, there is no change in political interest (measured with a standard 5-point Likert-scale item), but we can observe an increase in political conversations (measured on a scale from zero to seven days in the week before the election) with family members—as evidenced by the ‘jump’ right after the cut-off point. First, we test whether eligible and ineligible respondents are comparable by estimating RDD models for socio-demographic characteristics. If the selection of groups were random, we would expect to find no significant differences in pre-treatment variables between the groups. Table 1 shows the results: We do not find any substantively or statistically significant differences in sociodemographic characteristics between barely eligible and barely ineligible respondents, which supports our assumption that the distribution of respondents around the cut-off date mirrors random allocation.⁹

2. Results

2.1. Political predispositions and information-seeking behaviour among eligible and ineligible citizens

In this section, we analyse two sets of dependent variables, with the first set of variables measuring political predispositions and the second set of variables capturing information-seeking behaviour. Political interest, affirmation of a duty to vote, internal and external political efficacy are all aspects of longer-running political predispositions, and, hence, should, as we theorized, not react to electoral eligibility. We

⁷ See appendix section 6.5.

⁸ See section 5.1 of the appendix for corresponding figures for our other two key dependent variables.

⁹ In the table, *h* denotes the main bandwidth used to construct the RD point estimator and *b* the bias bandwidth used to construct the bias-correction estimator. Bandwidths are algorithmically determined using an MSE-optimal bandwidth selector as implemented by Cattaneo et al. (2019).

Table 1

Group comparison: Eligible vs. not eligible.

Dependent variable	LATE (se)	h (N)	b (N)
Socio-demographics			
Subjective class	-0.17 (0.09)	369 (725)	586 (1088)
Female	0.04 (0.05)	321 (639)	502 (955)
Independent city	0.02 (0.06)	193 (382)	305 (608)

Note: Treatment effect with standard errors in parentheses: LATE (se). Width of bandwidth for constructing the RD point estimator in days, with number of observations in parentheses: h (N). Width of bandwidth for constructing the bias-correction estimator in days, with number of observations in parentheses: b (N).

Significance levels: * $p < .05$; ** $p < .01$.

use discussions about politics with family or friends, the use of a VAA, and using social media to learn about the election to test whether eligible young people seek information more actively than those who are not eligible. Table 2 presents the RDD results for our key dependent variables which largely confirm our expectation that attaining electoral eligibility positively affects the information-seeking behaviour of young citizens while not affecting political predispositions.

Eligible respondents are more likely to discuss the election with family and friends by an average of half a day or more.¹⁰ The size of the effect, estimated as LATE, is stronger for conversations with family members than with friends, likely due to not only children initiating conversations about politics in their homes but also parents feeling compelled to initiate conversations about politics with their newly eligible children (see also Hooghe and Stiers, 2022). After all, having eligible children even compels parents to vote (Dahlgard, 2018). Eligible citizens are also 17 percentage points more likely to use a VAA than ineligible citizens. As a consequence, they also feel better informed about the parties’ electoral platforms.¹¹

Effect sizes are substantial: They are much larger than the effect of gender or age and similar in size to the effect of education for political conversations in the family and for the use of the VAA. For political conversations with friends, the effect is about 60% of the effect size

¹⁰ Frequency of discussions were measured on a scale from zero to seven days in the week before the election. For a full list of item wordings for all variables see appendix section 3.2.

¹¹ See appendix section 6.4.

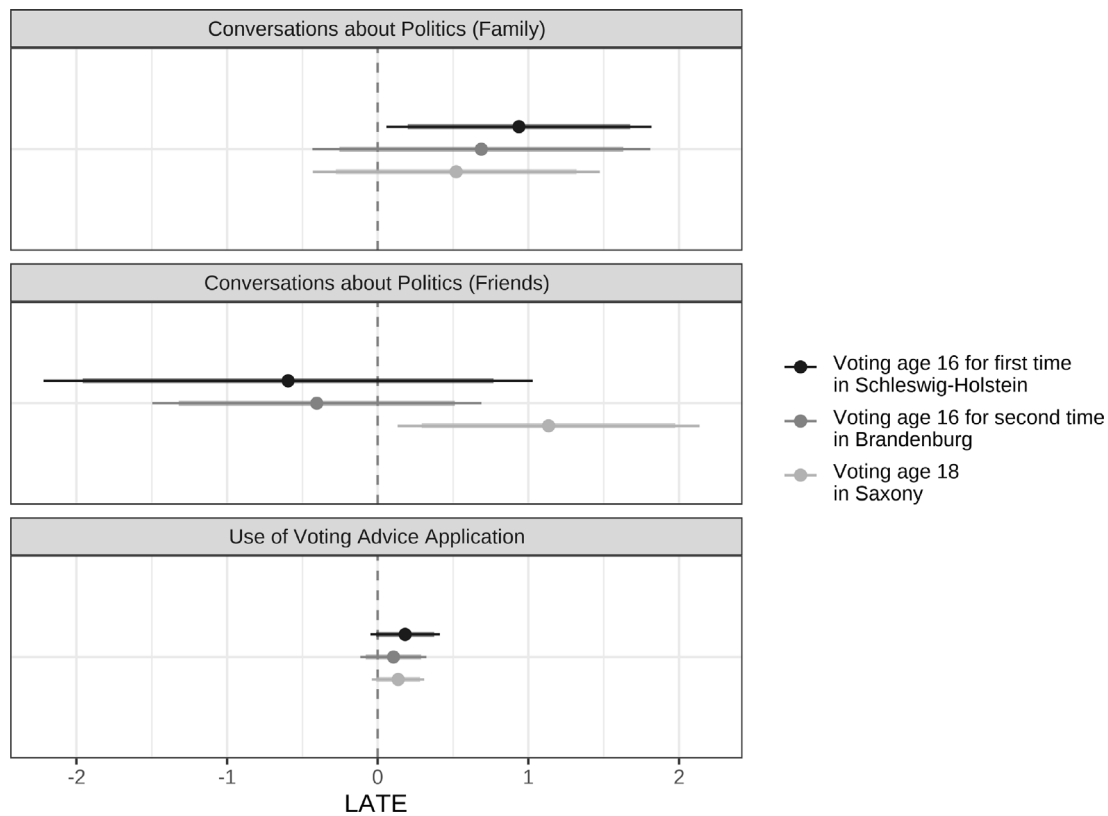


Fig. 2. Eligibility effects in three states, with 90% and 95% confidence intervals.

Table 2
Political predispositions and information-seeking behaviour: Eligible vs. not eligible.

Dependent variable	LATE (se)	h (N)	b (N)
Political predispositions			
Political Interest	0.07 (0.07)	387 (759)	602 (1119)
Duty to Vote	-0.03 (0.12)	378 (742)	587 (1090)
Internal Efficacy	0.07 (0.1)	293 (580)	456 (873)
External Efficacy	0.10 (0.10)	221 (438)	385 (757)
Information-seeking behaviour			
Conversations about Politics (Family)	0.72** (0.19)	268 (532)	440 (850)
Conversations about Politics (Friends)	0.47* (0.23)	265 (524)	432 (843)
Use of Voting Advice Application	0.17** (0.05)	303 (604)	476 (907)

Note: Treatment effect with standard errors in parentheses: LATE (se). Width of bandwidth for constructing the RD point estimator in days, with number of observations in parentheses: h (N). Width of bandwidth for constructing the bias-correction estimator in days, with number of observations in parentheses: b (N). Significance levels: * p < .05; ** < .01.

of having obtained or pursuing a high school degree qualifying for university studies (“Abitur”) or not.¹² These results show that gaining the right to vote changes the behaviour of young citizens: They become more active in obtaining political information, presumably in order to be able to cast an informed vote. Although ineligible participants are

generally as interested in politics as eligible ones, being allowed to vote changes their behaviour. These effects are robust to the choice of bandwidth and do not appear at placebo cut-offs.¹³

2.2. Differences across contexts

So far, we have analysed the data from the three elections together, ignoring differences in the electoral context. In the next step, we repeat the analyses for the three states separately. While the 2017 state election in Schleswig–Holstein was the first time young people were allowed to vote in this state, the state election in Brandenburg was the second with a lowered voting age. In Saxony, the voting age remained at 18. Our empirical results only partially align with our expectations regarding potential contextual differences. Fig. 2 shows the coefficients of nine RDD models estimating the effect of eligibility on acquiring information in each of the three states separately.¹⁴

In Saxony, young adults with the right to vote are more likely to discuss politics with their friends than young people without the right to vote. Apparently, the political discussion shifts from family to friends when one acquires the right to vote at an older age and is more likely to have left the parental home (cf. Rossteutscher et al., 2022). Neither in Schleswig–Holstein nor in Brandenburg do we find a significant effect of eligibility on political discussion with friends. The effect of eligibility on using a VAA is positive but not statistically significant in all three subsamples. Thus, eligible and ineligible participants are similar in this respect once we disaggregate the results to the state level. As the sample sizes are smaller in these disaggregated analyses, we estimate the effects with less precision. Although the point estimates in the subsamples are in most cases similar to the estimates obtained from the pooled sample, confidence intervals are considerably wider. These

¹³ See appendix sections 4 and 3.2.2.

¹⁴ For a tabular display of the results, see section 5.3 in the appendix.

¹² See table A.15 in the appendix for details.

results are only partially consistent with the expectation that eligibility at a lower age or first-ever elections with a lowered voting age exert stronger effects but suggest that different sources of information are important at different ages of eligibility.

Eligible respondents in Schleswig–Holstein are more likely to discuss politics with their family and to use a VAA than their non-eligible peers, slightly but not significantly more than in Brandenburg, where 16-year-olds were also eligible in the last election. These findings provide suggestive evidence that the positive effect of acquiring the right to vote may be enhanced in the first election with a lower voting age. Based on our data, we can confirm that eligibility influences information-seeking behaviour, but we cannot judge with confidence whether the effects differ by voting age or context or whether they will still remain once voting at 16 becomes an established feature of elections.

3. Conclusion

As Anthony Downs (1957) famously noted, voting entails costs that often outweigh the immediate individual benefits. If one is ineligible, it seems reasonable to avoid the costs of obtaining detailed information about an upcoming election, even if one is otherwise politically interested. However, the observation that ineligible 16- and 17-year-olds may be less informed about elections has been used to argue that they should remain ineligible to vote. Our research note suggests that causality may run the other way: Being informed about an election is a function of being allowed to vote in that election.¹⁵ Overall, our evidence can be interpreted as supporting arguments for a lower voting age. For example, we find no difference in political interest or efficacy between adolescents and young adults. However, when given the right to vote, the latter act on these predispositions and gather information about the upcoming election as do older voters.

Unlike most studies on the effects of lowering the voting age, we were able to compare young citizens in a natural experiment covering multiple elections with different voting ages. Those in the eligible group were significantly more likely to seek information about the upcoming election. In the pooled dataset, we found that eligible young people were more likely to discuss politics with family and friends, more likely to use a voting advice application, and consequently felt better informed¹⁶ than their ineligible peers. Obtaining the right to vote changed how our respondents informed themselves about the elections. Disaggregated analyses could not fully clarify whether these eligibility effects differ by voting age or context or whether they will persist if voting at 16 becomes a permanent feature of electoral law. More detailed data are needed to answer this question in the future.

Further research would need to show whether there is a stronger eligibility effect at the voting age of 16 and whether there is an initial effect of lowering the voting age – e.g., due to press coverage, public debate or discussions in schools – that may dissipate over time. Answering these questions would require further surveys and monitoring differences between eligible and ineligible citizens over several election cycles. Finally, beyond the group we studied, our findings may also apply to adults who acquire new citizenship and thus the right to vote in their home country. We suggest that eligibility may also change the information-seeking behaviour of these groups. Furthermore, EU citizens living in another member state where they do not hold citizenship might be more active in seeking information about local and European elections in the host country than national elections there. It is, therefore, possible to extend the research on the effects of citizenship beyond young citizens.

¹⁵ Related research found information to be endogenous to participation (Shineman, 2018).

¹⁶ See appendix section 5.4.

CRediT authorship contribution statement

Arndt Leininger: Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing. **Armin Schäfer:** Conceptualization, Formal analysis, Writing – original draft, Writing – review & editing. **Thorsten Faas:** Conceptualization, Writing – review & editing. **Sigrid Roßteutscher:** Conceptualization, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

All data and code necessary to reproduce the results presented in this article and the online appendix are available through Harvard Dataverse at <https://doi.org/10.7910/DVN/RWJKW1>.

Acknowledgments

Arndt Leininger and Thorsten Faas acknowledge funding for the survey in Brandenburg and Saxony in 2019 provided by Otto Brenner Stiftung (Award no. 2019-100).

Appendix A. Supplementary data

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.electstud.2024.102751>.

References

- Bergh, J., 2013. Does voting rights affect the political maturity of 16- and 17-year-olds? Findings from the 2011 norwegian voting-age trial. *Electoral Stud.* 32, 90–100.
- Bhatti, Y., Hansen, K.M., Wass, H., 2016. First-time boost beats experience: The effect of past eligibility on turnout. *Electoral Stud.* 41, 151–158. <http://dx.doi.org/10.1016/j.electstud.2015.12.005>.
- Calonico, S., Cattaneo, D., Matias Titiunik, R., 2015. Rdrobust: An r package for robust nonparametric inference in regression-discontinuity designs. *R J.* 7, 38. <http://dx.doi.org/10.32614/RJ-2015-004>.
- Cattaneo, M.D., Idrobo, N., Titiunik, R., 2019. A Practical Introduction to Regression Discontinuity Designs: Foundations, Cambridge Elements. Cambridge University Press, <http://dx.doi.org/10.1017/9781108684606>.
- Cattaneo, M.D., Idrobo, N., Titiunik, R., 2023. A Practical Introduction to Regression Discontinuity Designs: Extensions [WWW document]. <http://dx.doi.org/10.48550/arXiv.2301.08958>.
- Chan, T.W., Clayton, M., 2006. Should the voting age be lowered to sixteen? Normative and empirical considerations. *Polit. Stud.* 54, 533–558. <http://dx.doi.org/10.1111/j.1467-9248.2006.00620.x>.
- Dahlgaard, J.O., 2018. Trickle-up political socialization: The causal effect on turnout of parenting a newly enfranchised voter. *Am. Polit. Sci. Rev.* 112, 698–705. <http://dx.doi.org/10.1017/S0003055418000059>.
- Dinas, E., 2012. The formation of voting habits. *J. Elections, Publ. Opin. Parties* 22, 431–456. <http://dx.doi.org/10.1080/17457289.2012.718280>.
- Downs, A., 1957. *An Economic Theory of Democracy*. Harper, New York.
- Eichhorn, J., 2018. Votes at 16: New insights from scotland on enfranchisement. *Parliament. Affairs* 71, 365–391. <http://dx.doi.org/10.1093/pa/gsx037>.
- Eichhorn, J., Bergh, J. (Eds.), 2020. *Lowering the Voting Age to 16: Learning from Real Experiences Worldwide*. Palgrave Macmillan, Cham.
- Franklin, M.N., 2004. *Voter Turnout and the Dynamics of Electoral Competition in Established Democracies Since 1945*. Cambridge University Press, Cambridge.
- Hart, D., Atkins, R., 2011. American sixteen- and seventeen-year-olds are ready to vote. *Ann. Am. Acad. Polit. Soc. Sci.* 633, 201–222. <http://dx.doi.org/10.1177/0002716210382395>.
- Highton, B., Wolfinger, R.E., 2001. The first seven years of the political life cycle. *Am. J. Polit. Sci.* 45 (202), <http://dx.doi.org/10.2307/2669367>.
- Holbein, J.B., Rangel, M.A., 2020. Does voting have upstream and downstream consequences? Regression discontinuity tests of the transformative voting hypothesis. *J. Polit.* 82, 1196–1216. <http://dx.doi.org/10.1086/707859>.

- Holbein, J.B., Rangel, M.A., Moore, R., Croft, M., 2021. Is voting transformative? Expanding and meta-analyzing the evidence. *Polit. Behav.* <http://dx.doi.org/10.1007/s11109-021-09746-2>.
- Hooghe, M., Stiers, D., 2022. Political discussion begins at home, Household dynamics following the enfranchisement of adolescent children. *Appl. Devel. Sci.* 26, 141–154. <http://dx.doi.org/10.1080/10888691.2020.1712207>.
- Jennings, M.K., Stoker, L., Bowers, J., 2009. Politics across generations: Family transmission reexamined. *J. Polit.* 71, 782–799. <http://dx.doi.org/10.1017/s0022381609090719>.
- Lang, A., 2023. Voting at 16? 16–17-year-old Germans vote as correctly as adults. *Polit. Psychol. Pops* 12892. <http://dx.doi.org/10.1111/pops.12892>.
- Neundorf, A., Niemi, R.G., Smets, K., 2016. The compensation effect of civic education on political engagement: How civics classes make up for missing parental socialization. *Polit. Behav.* 38, 921–949. <http://dx.doi.org/10.1007/s11109-016-9341-0>.
- Neundorf, A., Smets, K., García-Albacete, G.M., 2013. Homemade citizens: The development of political interest during adolescence and young adulthood. *Acta Politica* 48, 92–116.
- Prior, M., 2010. YouEither got it or you DonThe stability of political interest over the life cycle. *J. Polit.* 72, 747–766. <http://dx.doi.org/10.1017/S0022381610000149>.
- Rosenqvist, O., 2020. Rising to the occasion? Youth political knowledge and the voting age. *Br. J. Polit. Sci.* 50, 781–792. <http://dx.doi.org/10.1017/S0007123417000515>.
- Rossteutscher, S., Faas, T., Leininger, A., Schäfer, A., 2022. Lowering the quality of democracy by lowering the voting age? comparing the impact of school, classmates, and parents on 15- to 18-year-olds' political interest and turnout. *German Polit.* 31, 483–510. <http://dx.doi.org/10.1080/09644008.2022.2117800>.
- Shineman, V.A., 2018. If you mobilize them, they will become informed: Experimental evidence that information acquisition is endogenous to costs and incentives to participate. *Br. J. Polit. Sci.* 48, 189–211. <http://dx.doi.org/10.1017/S0007123416000168>.
- Stiers, D., Hooghe, M., Goubin, S., 2020. Are 16-year-olds able to cast a congruent vote? Evidence from a voting at 16 initiative in the city of Ghent (Belgium). *Electoral Stud.* 63, 102107. <http://dx.doi.org/10.1016/j.electstud.2019.102107>.
- Wagner, M., Johann, D., Kritzinger, S., 2012. Voting at 16: Turnout and the quality of vote choice. *Electoral Stud.* 31, 372–383.
- Zeglovits, E., Zandonella, M., 2013. Political interest of adolescents before and after lowering the voting age: The case of Austria. *J. Youth Stud.* 16, 1084–1104. <http://dx.doi.org/10.1080/13676261.2013.793785>.