The Political Maturity of Adolescents

Are 16 and 17 year olds politically mature enough to actively participate in democracy?

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Using survey data from Austria, the first European country to lower its voting age to 16, I test whether 16 and 17 year olds are politically mature enough to vote and whether enfranchising them influences this. Using the hypothetical eligibility to vote, I find that 16 and 17 year olds have significantly lower values for political interest, frequency of following political news and self-assessed political ability than 18 to 20 year olds. Lowering the voting age does not significantly increase these measures of political maturity. These results support the sceptics of lowering the voting age by showing that 16 and 17 year olds are not politically mature enough and enfranchising them will not change this.

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1. Introduction

From 1960 onwards, most established democracies have lowered their voting age from 21 to 18. The arguments in favor of doing so included treating the responsibility to vote equal to that of military service and marriage, to counter declining turnout rates and developing civic values at an early age. Many of these arguments would currently also hold for 16 and 17 year olds (McAllister, 2014). This raises the question why we shouldn't lower the voting age even further.

The idea of lowering the voting age to 16 has started gaining support recently. The UK has been one of the countries investigating the possibility to do so and has voted on the issue in parliament several times, although the bill was never passed (McAllister, 2014). They did allow Wales and Scotland to lower its voting age to 16 (House of Commons, 2020). Austria has been the first European country to lower the voting age for all elections. Some countries already had a voting age of 16 in some local elections (including countries like Germany and Switzerland (Atkins & Hart, 2011)), others have had a lower voting age under certain conditions, for example for those that are employed (for example in Slovenia, Bosnia, Serbia and Montenegro (Bergh, 2013)).

Many arguments in favor of lowering the voting age to 16 revolve around concepts of fairness and citizenship (Chan & Clayton 2006, Atkins & Hart, 2011) or the problems of an aging population for election outcomes (Atkins & Hart, 2011). I abstain from discussing these issues as the question of who deserves the right to vote is purely subjective and political. The main argument against allowing 16 and 17 year olds to vote however, is a lack of political maturity, usually measured by the willingness and ability to actively participate in democracy (Chan & Clayton 2006). Unfortunately, the existing empirical literature does not provide a reliable estimate of the difference of political maturity between 16 and 17 year olds and other age groups, mainly caused by a lack of a proper counterfactual. That is, the political maturity of 16 and 17 year olds had they been allowed to vote.

Examining the effect of allowing 16 and 17 year olds to vote is very relevant as it can truly answer whether they are less politically mature, or whether these differences are simply a result of not being enfranchised. This is crucial in the debate over lowering the voting age, as the main argument against doing so is that 16 and 17 year olds are not yet ready to be given the responsibility to vote. It would not only counter this argument, but also act as an argument in favor of lowering the voting age, especially considering the importance of creating a habit

of voting (as mentioned in e.g. Fujiwara et al, 2016 and Plutzer, 2002), and the increased effect parents and schools might have on creating such a habit when the voting age is lowered to 16 (Zeglovits & Zandonella, 2013).

The results of the existing literature cannot provide a definitive answer to questions about the political maturity and the effect of lowering the voting age. Some papers conclude that 16 and 17 year olds lack political maturity (e.g. Bergh, 2013, Chan & Clayton, 2006), some papers find insignificant differences (e.g. Hart & Atkins, 2011, Wagner et al., 2011). Some find a positive effect of enfranchising 16 year olds (e.g. Zeglovits & Zandonella, 2013) and some do not (e.g. Bergh 2013, Stiers et al., 2020). Even though it seems only logical that younger people are less politically mature (as they are probably less mature in general) and that enfranchising them would stimulate the maturing process, the literature has not been able to back this up. Most of the research done suffers at least one of the following problems. Research on countries with a voting age of 18 generally assume that 16 and 17 year olds would have similar levels of political maturity with or without voting rights (e.g. Chan & Clayton, 2006, Atkins & Hart, 2011). Papers considering trials in which the voting age is lowered lack external validity caused by the unrealistic setting and selection bias of the trial (e.g. Berg, 2013, Stiers et al, 2020). Finally, papers studying the case of Austria usually lack proper statistical tests to provide estimations of the effects of lowering the voting age and the difference in political maturity that can be judged on statistical and economic significance.

With the goal to provide more reliable estimates regarding the political maturity of 16 and 17 year olds and the effect of lowering the voting age, I employ a difference-in-differences design on survey data from Austria from before and after the voting age was lowered. I set out to answer the following question: Are enfranchised 16 and 17 year olds less politically mature than people just over 18? I find that they are significantly less politically mature than 18 to 20 year olds and that lowering the voting age does not significantly increase the political maturity.

In what follows I will first discuss the relevant literature on the topic to provide some context on the results and the estimation methods typically used to answer such research questions. The next section describes the data that is used and the section that follows describes the methodology employed to estimate the results. This all leads to a result section in which I describe and interpret the results and subsequently reject or accept my hypotheses

that will help me in answering the research question. The final section concludes and discusses the final results.

2. Literature

Numerous papers have set out to examine the political maturity of adolescence in the context of lowering the voting age. In general there are three types of estimation methods: many papers simply compare 16 and 17 year olds to slightly older age groups, some utilize trials set up by (local) governments in which the voting age is temporarily lowered and finally the lowering of the voting age in some countries, especially Austria, has provided a new source of data on the political maturity of 16 and 17 year olds. In this section I discuss some important papers that categorize in each of those methods and that are relevant to my case study of Austria.

Using data from the British Household Panel Survey from 1991 and 2001, Chan and Clayton (2006) compare 16 and 17 year olds without voting rights to slightly older age groups. They generally find lower levels of interest in politics, party identification and political knowledge and therefore argue that the willingness and ability of 16 and 17 year olds to participate in politics is lower than for 18 and 19 year olds (Chan & Clayton, 2006). Political knowledge was measured using answers to question about political facts, such as 'The number of members of parliament is about 100, true or false', and using a measure of consistency and stability of attitudes. For the latter they measure how consistent the attitudes are regarding trust in government and women's employment within the same year across similar questions and across years for the same questions. Chan and Clayton admit that their empirical strategy lacks a proper counterfactual, however they argue that they do not believe that the right to vote will make up for the difference in political maturity, especially because the brain of teenagers is still developing and so lower levels of maturity are in line with neuroscientific research (Chan & Clayton, 2006).

Similarly to Chan and Clayton (2006), Hart and Atkins compare 16 and 17 year olds without the right to vote with people over 18. They use a survey conducted in America in 1996. Although their focus is on the discussion of whether 16 and 17 year olds deserve citizenship and therefore should be allowed to vote, their measures of citizenship are very similar to the measures typically used for political maturity. For their measures of political ability (including factual knowledge and self-stated competence), tolerance and political interest (measured by

the frequency of following the news), they do not find statistically significant differences between 16 and 17 year olds and young adults (Hart & Atkins, 2011). More interestingly, they find that most of the measures display a sharp increase before the age of 16, which then levels off to values very similar of young adults. Although it's not formally tested, this could suggest that the development of adolescents regarding politics takes place before the age of 16 and therefore 16 and 17 year olds have already achieved a level of political maturity comparable people over 18.

To provide data of the political maturities of 16 and 17 year olds with the right to vote, some researchers have turned to (quasi-) experiments. One such experiment is the Norwegian voting age trial done in 2011 for municipal elections. From the municipalities that applied to participate, 20 were selected to take part in the trial (Bergh, 2013). Selection was based on creating a wide variety in characteristics in the treatment group (e.g. regarding size, geography, political composition etcetera) and previous efforts to get the youth involved in politics. Bergh (2013) tests whether the trial increased the political interest, using a self-stated level of interest, and the political ability for 16 and 17 year olds. Ability was measured using the self-stated level of competence, the consistency of beliefs and consistency of someone's political attitudes and his or her final vote choice. The consistency of beliefs is measured using a wide variety of questions, for example sets of questions about income (re)distribution and environmental protection. The trial municipalities still displayed higher levels for all measures of political maturity for 18 year olds than for the 16 and 17 year olds and this difference did not decrease after lowering the voting age (Berg, 2013). What should be noted is that in general we observe a higher levels of political maturity in the trial municipalities (for both the 18 year olds as the 16 and 17 year olds). This could be a Hawthorn effect or simply the result of the selection procedure of picking municipalities that have a history of encouraging youth to participate in politics.

More recently, Stiers, Hooghe and Dassonneville (2020) use a trial done in the Belgian city Ghent in which 16 and 17 year olds were invited to participate in mock elections which were held at the same time as the local elections of 2018. During the trial, many schools set up a program to inform and engage students in the local elections. Using survey data they compare adolescents over 16 to those just under 16, who were not allowed to vote in the mock elections. Using an RD-design they do find an increase in political interest, but not in their measures of political ability and trust (Stiers et al., 2020). It should be noted that the RD-

designs comparing under and over 18 year olds yield similar results, suggesting that there's an insignificant difference in political maturity for people just under and over 18. Furthermore, the fact that the voting rights for 16 and 17 year olds in this case are the eligibility to participate in a mock election of which the outcome will have no effect on policy whatsoever could explain the absence of any strong effects.

These experiments with the voting age are definitely informative, but fail to provide a natural environment and therefore in general lack external validity. To solve this problem you would need a true democracy with a lower voting age. In Austria in June 2007 a bill to lower the voting age to 16 was accepted and came into force on the first of July (Parlamentskorrespondenz, 2007). Simultaneously a bill was passed to allow for postal voting. This is likely to affect voting either positively or negatively and therefore also influence the (reported) political maturity. However as the first election as expected at the time of the survey was the European Parliament in June 2009, I do not expect the postal voting to effect political maturity around the voting age change in 2007. At the same time as the voting age reform, a program to teach about civic duty and citizenship was added to school curricula for the eighth grade. Fortunately this could not have affected the political maturity, as 16 year olds were already in higher grades than the eighth (Zeglovits & Zandonella, 2013). This sets the stage for more reliable estimation methods in which we do have data on enfranchised 16 and 17 year olds.

Wagner, Johann & Kritzinger (2012) use an Austrian survey conducted shortly before the European Parliament elections of 2009, to compare the political maturity of 16 and 17 year olds with the right to vote to older age groups. They simply compare unconditional means for political maturity for 16 and 17 year olds with 18 to 21, 22 to 25, 26 to 30 and 30+ years old. They do not find significant differences in interest in politics, knowledge and ability, and non-electoral political participation (Wagner et al., 2012). Knowledge is measured by assessing whether respondents placed a left winged party to the left of two right winged parties on a left-right political spectrum. The ability is measured by the congruence of respondents ideology and their preferred political party. Respondents self-placement on the left-right spectrum was compared to the left-right score of their preferred party as determined by experts. The same was done with a scale for their attitude towards European integration. To measure non-electoral participation a set of variables was used, including whether someone participated in a demonstration, contacted a politician or worked for an election campaign.

Unfortunately the only statistical model used in this paper aims to explain the lower turnout of 16 and 17 year olds and does not test if there is a significant difference in political maturity while controlling for confounding factors (Wagner et al., 2012).

Whereas Wagner et al. (2012) compare 16 and 17 year olds with the right to vote to older age groups, Zeglovits and Zandonella (2013) use the case of Austria to compare 16 and 17 year olds before and after the policy change. They use the data from two different surveys, one conducted in person in 2004 and one conducted over the phone in 2008. They observe an increase in political interest and in the frequency of following the news. They argue that the self-stated political interest is a measure of situational interest, which is relatively unstable and is influenced by one's surroundings and the timing of the question. They use the frequency of following the news as revealed political interest, which they argue is a more accurate measure of the stable individual political interest. Both these measures are found to increase for 16 and 17 year olds after the voting age change (Zeglovits & Zandonella, 2013).

There are two main differences between my estimation method and the two described above. First of all, Wagner et al. (2012) only use data from after the policy change and are therefore unable to estimate the effect of enfranchising 16 and 17 year olds on their political maturity. Zeglovits and Zandonella (2013) do compare 16 and 17 year olds before and after the voting age change, but do not include older age groups and therefore cannot conclude whether 16 and 17 year olds are less politically mature than other age groups. Additionally, by including people over 18, I am able to control for overall time trends in the political maturity of the population.

I will do so with a wide variety of dependent variables to capture the various definitions of political maturity as used in the literature. The first hypothesis is that allowing 16 and 17 year olds to vote will increase their political maturity. This hypothesis consists of three subhypotheses, hereafter referred to as hypotheses 1a, 1b and 1c. First of all, for hypothesis 1a, I expect that voting rights will increase the level of interest in politics for 16 and 17 year olds. This will include a similar self-stated level of political interest as used in most of the literature on political maturity. Furthermore, following Zeglovits and Zandonella (2013) and Hart and Atkins (2011) I will include three variables to measure the frequency of following the news, namely time spent on TV watching, radio listening and newspaper reading regarding politics.

For subhypothesis 1b I expect the lowering of the voting age to increase the political ability. To measure this, two questions about one's own political ability are used, similar to one of the measures used by Hart and Atkins (2011) and Bergh (2013). I refrain from using a measure of consistency of beliefs (such as used in e.g. Chan & Clayton, 2006, Wagner et al., 2012), as I suspect the number of observations not to be large enough to construct a new variable of which the accuracy to measure what I need it to measure is not perfect.

For the third subhypothesis (1c) I expect that non-electoral participation of 16 and 17 year olds will increase as a result of a lowering of the voting age. As Wagner et al. (2012) and McAllister (2014) argue, young voters might prefer alternative forms of political participation. The measures I use are similar to those use by Wagner et al. (2012) including whether someone took part in a demonstration, contacted a politician or worked for a political party.

Additionally I expect that the increase in political maturity described in the first hypothesis decreases the difference between 16 and 17 year olds and people who are over 18 to the extent that there is no significant difference between the two groups anymore. I expect this for all of the first three subhypotheses, which therefore leads to the following three subhypotheses: 16 and 17 year olds do not differ from a slightly older age group in terms of political interest (2a), political ability (2b) and non-electoral participation (2c). By testing these hypotheses, I am able to provide more information on whether 16 and 17 year olds are ready to vote and what the positive effects of allowing them to vote could be.

3. Data

To examine the political maturity I use data from the European Social Survey. This survey is conducted every two years and includes mainly reoccurring themes, including a large number of questions on political attitudes of participants. The European Social Survey is conducted in well over 30 European countries since 2001, although unfortunately not all countries participated in every single survey round. The data includes some repeated observations on the individual level as well, as some of the participants have been interviewed for multiple survey rounds.

The survey includes a wide variety of questions related to politics. Answers to the questions how interested one is in politics or how much time they spent watching political TV, listening to political radio or reading political newspaper articles provide information on the willingness to participate in politics. As do variables describing non electoral political

participation such being a member of a political party or joining demonstrations. The ability to be politically active is harder to measure as has been documented in the existing literature as well. The dataset does include two variables on self-stated ability, one being the answer to a question of whether politics is too complicated to understand and the other being the question of whether it's easy to make up one's mind about political matters.

Furthermore the dataset contains a large set of more general variables of which some are used as control variables. Those include basic variables like gender, and variables described in the literature as being an important influencer of political maturity, such as whether someone lives with his or her parents and whether someone is still in education (e.g. Wagner et al, 2012, Zeglovits & Zandonella, 2013).

As the voting age in Austria was lowered to 16 in the beginning of 2007, I need data shortly before and shortly after this period. For the round conducted before 2007, interviews for ESS round 2 were held in the beginning of 2005. For the data after the law change I use data collected for ESS round 3 at the end of 2007, with all of the interviews happening after the law was passed. The first election after the voting age change, in 2008, were the result of a collapsed government (Paterson, 2008) and therefore unexpected at the time of the interviews. The first expected elections were the European Parliament elections of 2009. The timing of all relevant events are displayed in table 1 below[1]. Adding data from later rounds would increase the chance of factors other than a lower voting age affecting the political maturity, like for example the change in school curriculum[2].

Table 1 Timing of important events regarding elections and survey rounds

Year	Month(s)	Event
2005	January – April	ESS round 2
2006	October	Austrian National Council elections
2007	June	Voting age was lowered to 16
2007	July - November	ESS round 3
2008	September	Austrian National Council elections
2009	June	European Parliament elections

Source for election dates: International Foundation for Electoral Systems, 2020

[1] Local elections are ignored in the analysis as controlling for each local election, taking place in a different year and time of the year for each region, will likely lead to an overfitting of the model considering the limited number of observations available.

[2] The fourth round of the ESS in Austria was conducted at the end of 2010 and the beginning of 2011, which results in even more time in between rounds 3 and 4 than the two years that are usually in between the ESS survey rounds.

A crucial variable in determining the differences in political maturity across age groups obviously is the age of the participants of the survey. Unfortunately the ESS does not provide a reliable estimate of age for all survey rounds. The constructed age variable included in all rounds is based on the year of birth and the year of the interview. This age variable is therefore very imprecise as for example, everyone turning 18 in the year of the interview, is treated as an 18 year old. Additionally, the fact that the interviews are not conducted in the same months each survey round would lead to huge biases if this constructed age variable were to be used. For survey rounds conducted at the beginning of the year, most participants will not have had their birthday yet and so will be treated as being older than they actually are. The age variable will be more accurate for the rounds in which the interviews were conducted near the end of the year, as the majority of the participants will have had their birthday and so the age variable actually resembles their age.

To combat this problem I use a constructed age variable only released for round 3 of the ESS, which is based on not only the year of birth but also the month of birth. For everyone who participated in round 3 I calculated the month of birth and then constructed a new age variable for each of the other rounds they participated in.

I follow the method used by the ESS for round 3 in treating people as if their birthday is on the first day of the month, so for example, if the month of birth is equal to the month of the interview, the person is treated as if having had their birthday already. This means that the age variable is still not perfect, but a lot more precise than the original age variable. Additionally, unlike the month of the interview, the day of the interview is approximately evenly distributed and so there is no bias of systematically over or underestimating the age of participants. Unfortunately the number of observations now drops for all rounds other than round 3, but the accuracy of the age variable has drastically increased.

The number of 16 and 17 year olds that are excluded cannot be estimated very precisely as for these observations I only have the year of birth. The table below therefore provides only a rough impression of the total number of 16 and 17 year olds (and other age groups) and the number of 16 and 17 year olds for which the month of birth is also known. It displays the number of observations for two different age groups, one below and the other above 18, using only the year of birth, and the number of observations in this group for which the more accurate age variable is also available. For 60 percent of the 16-17 age group, the more accurate age variable is not available, for the 18-20 group this is 62 percent.

Table 2 Number of observations with and without the month of birth available

	Age group considering year of birth only	Number of observations	Number of observations with month of birth is also available
ESS Round 2	16-17	84	33
	18-20	186	73
ESS Round 3	16-17	80	80
	18-20	163	163

Table 2 above does not show the number of observations actually used in the analysis, as it defines the age groups using only year of birth. This is inaccurate because a 17 year old who will turn 18 later that year are included in the 18-20 group for example. This explains the increase in the number of observations of 16 and 17 year olds used for the analysis as depicted in table 3 below.

Table 3 Number of observations

	Age group	Number of observations
ESS Round 2	16-17	47
	18-20	65
ESS Round 3	16-17	87
	18-20	163

From now on, when referred to age, the newly constructed age variable is meant and therefore participants who did not participate in round 3 are excluded as this variable is not available for these observations.

Table 4 displays the means for the dependent variables and potential control variables used in the models introduced in the next section. The last column includes the total subsample used for most of the analysis and column 2 to 5 display the means for the four subsamples relevant for the dif-in-dif specification. Questions corresponding to the variables can be found in the appendix. For the dependent variables we expect differences, as we expect them to be affected by age and the eligibility to vote. For the dif-in-dif specification we're essentially comparing the same age groups (16 and 17 year olds) while controlling for an overall time trend by subtracting the difference for a different age group that's unaffected by the change in voting age (the 18 to 20 year olds).

For example, we see a slight increase in the political interest for 16 to 17 year olds and a slight decrease in the political interest for 18 to 20 year olds, while the overall political interest is higher for the older group. Regarding watching political TV we see a decrease for the

younger group, which could also be a result of a decrease in the total amount of TV they watch. Non electoral participation (contacting politicians, working for a political party, member of a political party, wearing a badge, taking part in demonstrations) is typically low for all subsamples and any differences are statistically insignificant. The older group also seems to believe that politics is less complicated, with lower values for 'politics is too complicated to understand' and higher values for 'making your mind up about politics is easy', although the differences are small, they are significant after the voting age was lowered.

Table 4 Summary statistics for subsamples by age group and survey round

Age	16-17	16-17	18-20	18-20	16-20
ESS Round	2	3	2	3	2 and 3
Political interest	1.98	2.12	2.55	2.36	2.29
TV politics	1.30	0.98	1.21	1.36	1.23
TV total	4.62	4.25	4.29	4.22	4.29
Radio politics	1.05	1.35	1.29	1.51	1.37
Radio total	3.57	3.50	3.05	3.14	3.27
Newspaper politics	1.08	0.95	1.21	1.15	1.10
Newspaper total	1.45	1.32	1.45	1.46	1.42
Contacted politician	0.06	0.09	0.12	0.10	0.10
Worked in political party	0.04	0.08	0.08	0.07	0.07
Member of political party	0.08	0.05	0.05	0.07	0.06
Worn badge	0.13	0.19	0.12	0.13	0.14
Taken part in demonstration	0.11	0.09	0.14	0.09	0.10
Politics is too complicated	3.24	3.36	3.03	2.99	3.12
Making mind up is easy	2.93	2.99	3.18	3.31	3.16
Age	17.10	17.04	19.44	19.45	18.55
Gender	0.46	0.55	0.47	0.48	0.49
Education	0.81	0.64	0.65	0.49	0.60
Education years	10.46	10.61	11.81	12.19	11.51
Doing paid work	0.21	0.34	0.29	0.44	0.36
Citizen of Austria	0.98	0.95	0.98	0.98	0.97
Rural residence	0.46	0.42	0.26	0.43	0.40
Living with parents	0.96	0.96	0.76	0.77	0.84

Questions corresponding to the variables can be found in the appendix

For a number of control variables we do not expect and want there to be a difference between groups, such as the gender variable. The proportion of male participants in the group of 16 and 17 year olds is clearly different in the before and after voting age change groups. In this subsample, the group before the voting age change is approximately 46% male and for the group after the change it is 55%, however this difference in means is not statistically significant. Nevertheless, gender is included in the set of control variables.

Over the years the proportion of young people who are in education seems to have dropped, for both the 16-17 and the 18-20 group. Simultaneously the proportion of people with paid work has increased from round 2 to round 3. Also, the group of 18 to 20 year olds in round two contains a smaller proportion of people living in rural areas than the other three sub samples. The difference between this group and the same age group in de previous survey round and the difference between this group and the younger age group in the same survey round are statistically significant. Education is included in the set of control variables. Rural residence is found not to have a significant effect on political maturity and on the coefficients of the independent variables.

Although this paper is not concerned with the actual act of voting, comparing the voter turnout from the ESS survey to the total voter turnout for each election is interesting to examine if our sample might contain a larger proportion of politically engaged people than the population does. The appendix contains a table (table 8) with the self-reported turnout rate and the turnout rate of the corresponding election. The differences are generally not very large and often with higher reported turnout rates in the survey than the actual turnout rate, which could simply be the result of variation, or an overreporting of turnout rate as found in the literature as well (e.g. Belli et al., 1999, Bernstein et al., 2001, Harbaugh, 1996, Karp & Brockington, 2005).

As explained before, the use of the newly constructed and more precise age variable comes at the cost of losing a number of observations from survey round 2. As long as the excluded participants are not statistically different from the participants for which this new age variable is available, this should not bias the results. A table (table 9) with summary statistics for the two age groups (based on the year of birth only this time) of the people for which the new age variable is available and for those who it is not is included in the appendix. For most variables the differences are small and statistically insignificant, suggesting that the excluded observations are similar to the observations that are included in the analysis. Within the group of 16 and 17 year olds, the difference is statistically different for the total time of listening to the radio, having worn a badge and having taken part in a demonstration. This has to be taken into consideration when interpreting results related to these variables.

4. Methodology

To utilize the change in the voting age I use a dif-in-dif model, estimated with OLS regressions[3], to compare the differences between 16 and 17 year olds before and after the voting age change, to the difference for a slightly older age group. This allows to estimate the effect of allowing 16 and 17 year olds to vote on their political maturity, while taking the overall trends in political attitudes into consideration. Each regression will take the following form:

$$Y_{it} = \beta_0 + \beta_1 A_i + \beta_2 T_t + \beta_3 (A_i * T_t) + \beta_4 X_i + \epsilon_{it}$$

In which Y_{it} is the dependent variable, which could be any of the variables measuring political ability or motivation. The dummy A_i equals 1 for respondents aged 16 or 17 and 0 for those 18 or older. Observations younger than 16 are excluded from the analysis. The dummy T_t equals 1 for all observations before the policy change. A set of control variables, denoted as X_i in the above equation are included to control for possible confounding factors. We're mainly interested in the interaction term, which gives the effect of allowing 16 and 17 year olds to vote on the dependent variable.

The treatment variable A_i is independent of the actual eligibility to vote in the upcoming elections and depends solely on the age of the participant. I therefore estimate the effect of a hypothetical eligibility to vote, would there be elections at the day of the interview. This would assume that joining the group of potential voters affects political behavior. Given the increasing evidence of the importance of social image concerns in political behavior (e.g. Dellavigna et al., Gerber et al., 2008, Gerber et al., 2016), it seems very likely that being eligible to vote, albeit only in theory, creates certain expectations which would incentivize political activity.

Unfortunately the alternative method, in which the actual eligibility to vote determines treatment is unfeasible with the available data. The first planned election at the time of the interview was a European Parliament election in June 2009. As this is at least one and a half years away from the third survey round all 17 year olds and more than half of the 16 year olds

[3] With the dependent variables being either binary or ordinal, nonlinear models are arguably more appropriate here. However, using logistic regressions for the binary dependent variables and ordered logistic regressions for the ordinal dependent variables yields the same results in sign and statistical significance. Therefore in the remainder of the paper linear regressions will be used for a more straightforward interpretation of the coefficients.

would be allowed to vote for this election even if the voting age had not been lowered. The same problem occurs for the second round and the upcoming elections of 2006.

The time variable T_t allows to compare the differences in political attitudes before and after the voting age was lowered. Unlike conventional dif-in-dif specifications where after the treatment (in this case the policy change) is marked as $T_t = 1$, in the models in this paper $T_t = 1$ for observations before the policy change. The interpretation of the interaction term is nearly the same, except for the sign of the estimate that will change. It will give the effect of not giving 16 and 17 year olds the right to vote, which is equal to -1 times the effect of giving 16 and 17 year olds the right to vote. The benefit of marking before policy observations as 1 is that it enables me to interpret the coefficient and it's statistical significance of the dummy for 16 and 17 year olds as the political maturity of this age group compared to the observations who are older than 17. The model therefore not only provides an estimate of the change in the dependent variable as a result of allowing 16 and 17 year olds to vote, it also tests whether this effect is large enough to make up for the lower political maturity of this age group.

The set of controls include the gender and whether someone is in education. Wagner et al. (2012) argue that whether someone lives with their parents or lives in a rural area might influence their motivation and ability to participate in politics. These variables have no significant effect on political maturity and adding them to the model as controls does not change the size and significance of the estimates of the independent variables and so they are not included. Migration background is also often included in the controls, but Zeglovits and Zandonella (2013) find no significant effect of this on political interest. The dataset used for this paper only includes a variable on whether someone is a citizen of Austria. Participants that are not a citizen of Austria are excluded from the analysis as they would not be allowed to vote irrespective of their age. Regarding the frequency of following the political news, I expect participants who spent more time watching TV, listening to radio and reading newspapers in general, to also spent more time consuming political information through these channels. As the time spent on each of the forms of media is likely to be age dependent as well, not considering this could lead to omitted variable bias. Therefore, for the dependent variables about time spent on watching political TV, listening to political radio and reading newspapers on politics I've included the variables of the total time spent on either of these as a control.

For the main analysis the sample is restricted to people from 16 to 20 years old, meaning that I compare 16 and 17 year olds to 18, 19 and 20 year olds. As the discussions on lowering the voting age to 21 in the past and to 16 currently show great similarities as discussed by McAllister (2014), I compare the age group that was previously excluded from voting with the age group that is currently, according to some, unrightfully excluded. When using other commonly used age groups, such as 18 to 21 (Wagner et al., 2012), 18 to 19 (Chan & Clayton, 2006) and just 18 year olds (Bergh, 2013), I find similar results. The main difference is that most coefficients that are significant in the original sample, turn statistically insignificant when using just 18 year olds as a reference group. The results for alternative age ranges can be found in tables 10 through 12 in the appendix.

For a causal interpretation of the estimates we would need a common trend for the dependent variables in absence of the policy change. To test this, I run the models for each dependent variable again, but now with a time variable equaling 1 for the first survey round and 0 for the second survey round. Only the interaction term in the model for political TV watching is statistically significant, for the other dependent variables we do not find proof of a difference in trends between 16 and 17 year olds and 18 to 20 year olds. The statistically significant difference in trends for political TV watching will be further discussed in the result section. It should be noted that the number of observations is more limited when using survey rounds further away from round 3, for which the month of birth is available[4]. An additional assumption for a dif-in-dif specification is that the composition of our treatment and control group should not change. As assignment to treatment is based on one's age, it is impossible to self-select into treatment.

The above 18 year old group would also not be a good control group if they respond differently to the distance from a previous or upcoming election than the 16 and 17 year olds. For example, if political maturity is largely determined and updated right before elections we could observe no differences between the age group as this would only become apparent shortly before elections. Similarly, long before the first expected upcoming elections, we

[4] Using the total dataset, including participants for whom only the year of birth is available, does increase the number of observations, but results in biased estimates as a result of the unequal distribution of the month of the interview for survey rounds 1 and 2. The interviews were conducted throughout the year for the first round and were conducted in the beginning of the year for the second round, making the age groups as defined by year of birth only on average younger in round 2 than in round 1. Testing the common trend with these samples results in a significant interaction term for the 'TV politics' and 'politics too complicated' models on the 5% level. This could simply be the results of younger subsamples in round 2.

might not observe a change in political maturity as this is only updated before elections. However, evidence shows that political interest is very stable over the years, unless elections are for some reason extraordinarily exiting. This stability of political interest is observed for older and for younger age groups (Prior, 2010). If the political interest is stable over time it seems reasonable that the difference in political interest between age groups will also be relatively stable over time.

5. Results

To test the hypotheses, similar dif-in-dif specifications are used as it allows to test the effect of allowing 16 and 17 year olds to vote and whether they are still less politically mature than a slightly older age group, were they given the right to vote. Which dependent variable is used depends on the specific hypothesis that is tested. In some cases the set of control variables will also be altered slightly.

5.1 Political interest

We will start with the variable that's most consistently used in the literature as a component of political maturity; political interest. Table 5 displays the results of the dif-in-dif specifications for political interest and the three indicators for the frequency of following the political news. The first row, 'before change', gives an insight to the overall time trend of the dependent variable. The coefficient tells us, all else equal, how much higher or lower political interest was before the voting age was lowered, using the data from people over 18 years old. The next row, '16 or 17 years old', describes the political interest of 16 and 17 year olds with the right to vote. The coefficient reports the political interest relative to the 16 and 17 year olds from before the change in voting age. Lastly the interaction term provides an estimate of the effect of lowering the voting age on political interest. For an easier and more relevant interpretation this coefficient must be multiplied with -1 so that it gives the increase or decrease in political interest for 16 and 17 year olds after they have been given the right to vote.

The first column describes the effects on the self-stated level of political interest, which is measured on a 4 point scale ranging from not at all interested to very interested. We see that only the age dummy returns a statistically significant coefficient. 16 and 17 year olds with the right to vote are still expected to have a political interest that is 0.308 lower on the four point

scale than 18 to 20 year olds. The coefficient does suggest that lowering the voting age did increase the political interest substantially (an increase of 0.304) suggesting that all else equal, 16 and 17 year olds would have a 0.612 lower level of political interest before they were enfranchised. However the effect of lowering the voting age on political interest is statistically insignificant, so we cannot draw any conclusions regarding this. What we can conclude is that any effect of lowering the voting age on political interest was not strong enough to counter the lower political interest of under 18 year olds.

Table 5 Dif-in-dif specifications for political interest and frequency for following political news

	Political interest	TV Politics	Radio Politics	Newspaper Politics
	0.122	-0.248**	-0.197	0.009
Before change	(0.113)	(0.119)	(0.150)	(0.081)
	-0.308***	-0.443***	-0.155	-0.221***
16 or 17 years old	(0.117)	(0.109)	(0.172)	(0.083)
Before change ×	-0.304	0.559***	-0.149	0.111
16 or 17 years old	(0.189)	(0.208)	(0.239)	(0.141)
		0.114***		
TV		(0.023)		
			0.275***	
Radio			(0.031)	
				0.469***
Newspaper				(0.051)
	2.082***	0.644***	0.624***	0.166
Constant	(0.085)	(0.136)	(0.134)	(0.110)
Controls	Yes	Yes	Yes	Yes
Observations	357	341	312	293

* p<0.10, ** p<0.05, *** p<0.01, robust standard errors in parentheses

The last three columns provide the same estimated effects for three measures of the frequency of following political news: watching TV, listening to the radio and reading the newspaper. They are measured on a 7 point scale which represent half hour intervals except for 7, which is more than 3 hours. For all three the total amount of time spent on either TV, radio or newspapers is added to the regressions to control for differences in the overall time spent on each.

Similarly to political interest we see negative coefficients for '16 or 17 years old' indicating that even with the right to vote, they seem to acquire less information on politics through these traditional news channels. Only for the model for radio listening this coefficient is statistically insignificant. Bear in mind that the data used is from 2005 to 2007, so although it's possible that younger people prefer other methods of gathering information, social media

were not as influential then as they have become in the years since[5]. Off course adolescents also have another important source of information, their schools. Although schools will probably not inform you which party to vote for, adolescents did feel like school was the best place for them to get informed about politics following the lowering of the voting age (Zeglovits & Zandonella, 2013). Attending education is included as a control variable and is actually positively related to the frequency of following the news[6].

The lowering of the voting age did not affect listening to the radio and reading newspapers regarding politics for adolescents. Watching TV related to politics did change significantly over time. After the voting age was lowered, people over 18 years olds watched more TV related to politics. More specifically, the level of watching political TV increased significantly by 0.248. For some reason the amount of political TV watched by 16 and 17 year olds after the voting age change decreased sharply by 0.559. Even though they were given the right to vote, they started watching a lot less politically related TV. To put these estimates in perspective, assuming all categories are half an hour intervals and TV watch time is uniformly distributed over each interval, we can multiply the coefficients by 30 minutes to get a rough idea of the effects. Watching political TV increased by approximately 7 minutes for people over 18 from 2005 to 2007, it is about 13 minutes lower for 16 and 17 year olds with the right to vote and the lowering of the voting age is related to a decrease of approximately 17 minutes for the adolescents affected by the voting age change.

The negative effect on watching political TV on 16 and 17 year olds is opposite of what you would expect and not backed by existing literature on the topic. This could be the effect of the violation of the common trend assumption, but even in a very basic model, in which I do not control for the time trends by restricting the sample to just 16 and 17 year olds, I find that political TV watching does not increase. The effect is still negative, suggesting that 16 and 17 year olds watched less political TV, but the effect is statistically insignificant. Even though the violation of the common trend does not allow us to conclude that 16 and 17 year olds started watching less political TV as a result of their enfranchisement, I believe that the results

[5] For reference, in rounds 2 and 3 (2005 and 2007), 31% of Austrians reported using the internet daily, for people under 26 (using the old age variable based on year of birth only) this number was 53%. This seems incomparable to the 61% reported in round 9 (end of 2018 and start of 2019) for the entire population and 94% for people under 26.

[6] Only in the model for listening to radio, it is negatively related to the frequency of following the political news, but this coefficient is statistically insignificant.

(including those from the model without the 18 to 20 year olds) do suggest that at least it did not increase.

Concluding, we can reject hypotheses 1a and 2a which stated that as a result of enfranchising 16 and 17 year olds, their political interest would increase and this would lead to insignificant differences between them and people over 18 years old in terms of political interest.

5.2 Political ability

The second most used measure of political maturity is the ability to actively participate in democracy. Even if 16 and 17 year olds are interested in politics to a similar extent as the young adults that are already allowed to vote, if they are not capable of expressing their interest and ideology in the form of their vote, many argue that we should not allow them to cast this vote (Chan & Clayton, 2006). As I mentioned before, I refrain from using a measure of consistency of beliefs as Chan and Clayton (2006) and Wagner et al. (2012) do. I use the answers to two questions about the self-assessed competence in politics. The first question asks how often politics seems to be too complicated to understand and the second question asks how easy it is to make up your mind about politics. Both questions are answered on a 5 point scale. For the former higher values indicate that politics is too difficult more often, for the latter higher values indicate that it is easier to make up your mind about politics.

Table 6 Dif-in-dif specifications for political ability

	Politics is too complicated	Making mind up is easy
Before change	0.046 (0.166)	-0.139 (0.159)
16 or 17 years old	0.419*** (0.156)	-0.406*** (0.153)
Before change × 16 or 17 years old	-0.215 (0.258)	0.126 (0.231)
Constant	3.244*** (0.122)	3.037*** (0.118)
Controls	Yes	Yes
Observations	344	341

* p<0.10, ** p<0.05, *** p<0.01, robust standard errors in parentheses

The table above shows the results of the dif-in-dif specifications with the answers to these two questions as the dependent variables. The specifications used here are very similar to those used to evaluate political interest and so the interpretation of the coefficients is similar

too. The only statistical significant coefficients are those of being 16 and 17 year old. The adolescents that were granted the right to vote still rate themselves as less competent when it comes to politics. All else equal they find politics too complicated 0.419 categories more often than people over 18. For the second question they report making up their minds about political issues 0.406 categories less easy.

In fact, enfranchising 16 and 17 year olds seems to have led to lower levels of self-assessed competence, although the coefficients on the interaction term are both statistically insignificant. After multiplying the coefficients with -1, we find suggestive evidence that after the voting age was lowered, 16 and 17 year olds reported that politics was too complicated to understand more often and that making up their mind about political issues was less easy than before.

The interpretation of this might actually be fairly straightforward given the nature of our ability measures. The answers to both questions do not give us a true value of ability, but rather the respondents assessment of their competence. The results suggest that respondent without the right to vote overestimate their ability or underestimate the difficulty of actively participating in democracy before they've felt the need to invest time in political matters. If you're not well informed, it is more difficult to judge how poorly you are informed. When running the same regressions, but with a dummy variable indicating 1 when after the lowering of the voting age, we can interpret the coefficient and its significance level as the self-assessed ability of adolescents when they are not eligible to vote. In this case the coefficient is insignificant, indicating that before 16 and 17 year olds were enfranchised, they believed that their level of ability was at the same level as their slightly older peers who had the right to vote.

This sheds a light on the use of self-assessed competence in this context. Obviously I was well aware of the limitations of using a subjective rating for ability. However, these results suggest that this measure provides more information on the overestimation of one's ability or the underestimation of the difficulty of politics when applied to people who are relatively new to politics. It shows that you should be careful when interpreting changes in these measures of ability and justifies the use of the constructed measures of ability such as the consistency of beliefs used in Chan and Clayton (2006) and Wagner et al. (2012).

For a measure of ability you cannot expect similar short run effects as for following the news and expressing your interest, however. Acquiring a new skill takes time. In the short run

the effects of realizing how difficult politics actually is might prevail, but when in the long run the ability of 16 and 17 year olds starts to increase, a self-assessed level of competence might prove a more accurate measure of ability. From this model however, only the short run effects can be judged.

Using this admittedly flawed measure of political ability I can reject hypotheses 1b and 2b that stated that the self-assessed level of political ability of 16 and 17 year olds would increase once they were given the right to vote and that after this increase the differences between them and their slightly older peer would cease to be significant.

5.3 Non-electoral participation

Some people argue that the younger generations have different ways to engage in politics. Wagner et al. (2012) therefore argue that the effects could possibly be seen in alternative forms of political participation. They test a list of variables that are used to measure non-electoral participation. Those include, contacting a politician, collecting signatures, working for an NGO, taking part in a demonstration and working for an election campaign. I use a similar set of variables to test whether non-electoral participation increases as a result of lowering the voting age and whether there are significant differences between 16 and 17 year olds and their slightly older peers.

Table 7 Dif-in-dif specifications for non-electoral political participation

	Contacted Politician	Worked in political party	Member of political party	Worn badge	Taken part in demonstration
Before change	0.015 (0.048)	0.008 (0.039)	-0.023 (0.033)	-0.006 (0.049)	0.041 (0.049)
16 or 17 years old	-0.034 (0.040)	0.010 (0.036)	-0.014 (0.033)	0.071 (0.052)	-0.004 (0.039)
Before change × 16 or 17 years old	-0.031 (0.067)	-0.048 (0.058)	0.049 (0.060)	-0.070 (0.083)	-0.031 (0.074)
Constant	0.052* (0.028)	0.049* (0.026)	0.049** (0.023)	0.106*** (0.034)	0.089*** (0.034)
Controls	Yes	Yes	Yes	Yes	Yes
Observations	354	357	358	358	359

* p<0.10, ** p<0.05, *** p<0.01, robust standard errors in parentheses

The table above gives the estimated effects and differences regarding 5 measures of non-electoral participation. These include whether in the last 12 months someone: contacted a

politician, worked for a political party or action group, was a member of a political party, worn or displayed a campaign badge or sticker and took part in a lawful public demonstration.

None of the coefficients displayed above are significantly different from zero, indicating that I cannot prove an effect of lowering the voting age and 16 and 17 year olds are not significantly different from 18 to 20 year olds for these measures of non-electoral participation[7]. All these forms of non-electoral participation are not exactly common for the entire population, as we could also see in the summary statistics of table 4. Values for all five measures are somewhere around 0.10, meaning that the proportion of the population taking part in these forms of non-electoral participation is little over or under 10 percent.

Concluding from the results discussed above, we can reject hypothesis 1c as well. We do not find evidence for an increase in non-electoral participation for 16 and 17 year olds after they were given the right to vote. Hypothesis 2c can be accepted as there is no significant difference in non-electoral participation between 16 and 17 year olds and their slightly older peers. However, the measures of non-electoral participation do suffer the same problem as the ability measures in that the true effects might only show in the long run. We cannot expect 16 and 17 year olds to take up activities, that are generally speaking not very common within any age group, within a few months.

5.4 Interpretation of the results

As the discussion above shows, all but one hypothesis can be rejected. In general I do not find evidence that the political maturity of 16 and 17 year olds increases as a result of enfranchising them. Furthermore, they are significantly less mature than 18 to 20 year olds. The only measures for which this is not the case seems to be listening to the radio and non-electoral participation. I believe radio is not a source of political news you would actively turn to, to increase your political knowledge and therefore it is not surprising that we do not see statistically significant differences or a change in the amount of political radio that is being listened to. The non-electoral participation is generally not a very common way to engage in politics. Across age groups we do not observe any large variation in these measures. Therefore it is not surprising that there is no significant difference between the age group and no

[7] Using a dummy variable equal to 1 if someone has participated in any of the non-electoral forms of political participation used as dependent variables, as Wagner et al. (2012) also do, yields insignificant results too.

significant change due to the lowering of the voting age, especially considering that any effects are more likely to take place in the long run.

The results fit the existing literature that does not find supportive evidence to lower the voting age to 16. Most of these papers use a context in which 16 and 17 year olds are not actually allowed to vote (e.g. Chan & Clayton, 2006) or an experimental setting of which the external validity can be questioned (e.g. Bergh, 2013). Chan & Clayton find that 16 and 17 year olds without the right to vote are less politically mature than older age groups. Bergh (2013) finds no significant increase of politically maturity for 16 and 17 year olds after enfranchising them, albeit for local elections only. I find evidence supporting these claims in the context of 16 and 17 year olds that are enfranchised for all elections. It therefore also supports the sceptics of lowering the voting age, arguing that 16 and 17 year olds are less politically mature than the enfranchised young adults and that lowering the voting age will not change this.

These results are opposite of what Wagner et al. (2012) and Zeglovits and Zandonella (2013) find for Austria. Wagner et al. (2012) do not find significant differences in political maturity between 16 and 17 and 18 to 21 year olds. I do find significant differences, but for an alternative age group, which does not include 21 year olds. However, even when including 21 year olds, as can be seen in tables 10 to 12 with alternative age ranges in the appendix, I find similar results in size, sign and statistical significance as in the main model of this paper. Zeglovits and Zandonella (2013) find an increase in self-reported political interest and frequency of following the political news for 16 and 17 year olds between 2004 and 2008. Even when omitting the interaction term from the dif-in-dif specification and therefore simply comparing the 16 and 17 year olds from 2005 to those in 2007, after the voting age was lowered, I do not find a significant change in the political interest and the frequency of following the news.

One of the reasons for these differences in similar contexts is the fact that in both Wagner et al. (2012) and Zeglovits and Zandonella (2013), the surveys after the voting age change were conducted a few months later than the third ESS round used in this paper. They therefore allow 16 and 17 year olds more time to develop their political maturity. As discussed before, it is especially likely that the ability and non-electoral participation need time to develop.

However, these measures are not included by Zeglovits and Zandonella, but they do find an increase in political interest and following the news. This could be the effect of measuring political maturity closer to elections. Wagner et al. (2012) have data from right before the

European Parliament elections and Zeglovits and Zandonella (2013) have data from right after the 2008 Austrian National Council elections. Closer to elections, people obviously will have stronger incentives to get politically engaged, however we're not necessarily interested in this effect and therefore I control for general trends in political attitudes by comparing the differences for 16 and 17 year olds to the differences for 18 to 20 year olds. As long as the effect of the distance from elections is not different for both groups, the dif-in-dif specification controls for these general time trends.

The major advantage of having data closer to elections is that people who would be eligible to vote at the time of the survey are more likely to also be eligible to vote during the elections. As I described in the methodology section, unfortunately this is not possible with the available data from the European Social Survey and therefore I test the increase in political maturity after the voting age change and the difference in political maturity for using a hypothetical eligibility to vote. This hypothetical eligibility to vote is determined at the date of the interview instead of at the date of actual elections. If eligibility to vote is only relevant when the actual act of voting is involved and the effect of being part of the electorate and the expectations this could create is negligible, this could fully explain the differences in results in this paper and those of Wagner et al. (2012) and Zeglovits and Zandonella (2013).

6. Conclusion and Discussion

By using survey data from Austria, the first European country to unconditionally lower the voting age for all elections to 16, I find supportive evidence for the skeptics of lowering the voting age. All in all I do not find evidence that allowing 16 and 17 year olds to vote would increase their political maturity. It does not seem to increase the political interest, the frequency of following political news, the self-assessed competence with regards to politics and non-electoral political participation. I do however find a significant difference for these measures of political maturity between 16 and 17 year olds and 18 to 20 year olds, except for the non-electoral participation. Especially the absence of an effect of lowering the voting age might be against expectations, but it is in line with previous findings the findings (e.g. Bergh, 2013).

These results support the main argument against lowering the voting age, that 16 and 17 year olds are not ready to vote. Furthermore it opposes the argument put forward by proponents of lowering the voting age, first of all that 16 and 17 year olds are not less

politically mature than enfranchised young adults and second of all that lowering the voting age would increase the political maturity of the newly enfranchised.

It should be noted that these are the results when considering a hypothetical eligibility to vote. This could explain the differences in results between this paper and others that also study the political maturity of enfranchised 16 and 17 year olds in Austria. Wagner et al. (2012) find insignificant differences between the age groups and Zeglovits and Zandonella (2013) find an increase of political maturity for 16 and 17 year olds after they were enfranchised. To measure the effects of actual voting eligibility you would need data closer to elections.

To improve upon the analysis done in this paper, an accurate age variable for all observations would be very helpful. Off course many studies would be helped by a higher numbers of observations, but I lose a significant number of observations in the before policy change simply because the month of birth is not available for every observations. Having an accurate measure for age for the ESS data would not only increase the accuracy of determining to which group a respondent belongs, but would also allow to use the entire sample of the age groups available in survey round 3.

To measure political ability more accurately and filter the effects of a decreasing overestimation of one's ability as a result of being enfranchised a measure of factual knowledge about politics or the consistency of beliefs is needed. The ESS survey does not include questions about factual knowledge, but it does provide variables that could be used to construct a consistency of beliefs measure as is done in Wagner et al. (2012) and Chan and Clayton (2006).

Having data closer to elections, with an accurate age variable for all observations and with an improved measure for political ability would help to definitively answer the question of whether we should lower the voting age. For now I conclude that the evidence does not seem to support doing so.

7. References

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8. Appendix

Table 8 True turnout rates and turnout rates as reported by ESS respondents

ESS round	Year of interview	Election year	Voted	Did not vote	Not eligible	Total	ESS turnout rate	Real turnout rate
1	2003	2002	1833	266	138	2237	87.33 %	84.27 %
2	2005	2002	1504	388	309	2201	79.49 %	84.27 %
3	2007	2006	1856	309	210	2375	85.73 %	74.22 %
4	2010/2011	2008	1621	450	140	2211	78.27 %	78.73 %
5	2013	2008	1398	548	245	2259	71.84 %	78.73 %
6	-	-	-	-	-	-	-	
7	2015	2013	1289	381	117	1787	77.19 %	74.42 %
8	2016	2013	1592	278	114	1984	85.13 %	74.42 %
9	2019	2017	1996	344	145	2485	85.30 %	80.00 %

The survey asked whether someone voted during the last elections and so some rounds report the turnout for the same elections (for example ESS round 1 and 2 report turnout for the election of 2002). The ESS turnout rate is the number of people that voted divided by the sum of people that voted and did not vote (people that reported to be not eligible to vote are not included). Austria did not participate in ESS survey round 6. Source for real turnout rates: International Foundation for Electoral Systems, 2020.

Table 9 Summary statistics for subsamples of below and above 18 year olds and with and without the month of birth available

Age using year of birth only Month of birth available	16-17 Yes	16-17 No	18-20 Yes	18-20 No
Political interest	1.94	2.06	2.29	2.33
TV politics	1.65	1.14	1.10	1.31
TV total	4.59	4.37	4.46	4.13
Radio politics	1.24	0.98	1.14	1.26
Radio total	4.50	3.06	2.94	3.12
Newspaper politics	1.25	0.90	1.07	0.93
Newspaper total	1.66	1.14	1.27	1.53
Contacted politician	0.09	0.08	0.13	0.09
Worked in political party	0.06	0.10	0.07	0.06
Member of political party	0.09	0.04	0.06	0.08
Worn badge	0.03	0.24	0.18	0.15
Taken part in demonstration	0.03	0.16	0.15	0.14
Politics is too complicated	3.06	3.44	3.22	3.15
Making mind up is easy	3.00	3.02	3.10	3.12
Age	16.29	-	18.61	-
Gender	0.55	0.55	0.44	0.54
Education	0.82	0.88	0.67	0.75
Education years	9.64	9.80	11.49	11.86
Doing paid work	0.24	0.12	0.25	0.19
Citizen of Austria	0.42	0.41	0.34	0.42
Rural residence	0.94	0.94	0.84	0.80

Table 10 Dif-in-dif specificantions for political interest and frequency for following political news for alternative age ranges

	Age < 22				Age < 20				Age < 19			
	Political interest	TV Politics	Radio Politics	Newspaper Politics	Political interest	TV Politics	Radio Politics	Newspaper Politics	Political interest	TV Politics	Radio Politics	Newspaper Politics
Before change	0.061	-0.206**	-0.245*	-0.072	0.029	-0.321**	-0.002	0.039	-0.052	-0.172	0.156	0.046
	(0.107)	(0.104)	(0.133)	(0.075)	(0.136)	(0.135)	(0.175)	(0.103)	(0.171)	(0.187)	(0.280)	(0.131)
16 or 17 years old	-0.352***	-0.438***	-0.168	-0.273***	-0.260**	-0.379***	0.043	-0.179**	-0.146	-0.171	0.202	-0.157
	(0.115)	(0.103)	(0.165)	(0.079)	(0.125)	(0.118)	(0.174)	(0.091)	(0.149)	(0.125)	(0.177)	(0.109)
Before change × 16 or 17 years old	-0.241	0.516**	-0.111	0.198	-0.212	0.634***	-0.347	0.096	-0.137	0.473*	-0.492	0.077
	(0.185)	(0.200)	(0.231)	(0.137)	(0.202)	(0.216)	(0.250)	(0.153)	(0.227)	(0.251)	(0.328)	(0.174)
TV		0.118***				0.105***				0.092***		
		(0.022)				(0.025)				(0.029)		
Radio			0.272***				0.240***				0.233***	
			(0.029)				(0.033)				(0.038)	
Newspaper				0.499***				0.489***				0.539***
				(0.045)				(0.060)				(0.081)
Constant	2.075***	0.617***	0.629***	0.159*	2.103***	0.660***	0.550***	0.188	2.032***	0.532***	0.522***	0.081
	(0.076)	(0.122)	(0.115)	(0.092)	(0.109)	(0.167)	(0.151)	(0.138)	(0.148)	(0.204)	(0.194)	(0.180)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	416	395	362	342	285	273	249	231	209	201	185	166

* p<0.10, ** p<0.05, *** p<0.01, robust standard errors in parentheses

Table 11 Dif-in-dif specifications for political ability for alternative age ranges

	Age < 22		Age < 20		Age < 19	
	Politics is too complicated	Making mind up is easy	Politics is too complicated	Making mind up is easy	Politics is too complicated	Making mind up is easy
Before change	0.024	-0.097	0.143	-0.057	0.161	-0.090
	(0.144)	(0.137)	(0.209)	(0.208)	(0.268)	(0.311)
16 or 17 years old	0.438***	-0.424***	0.348**	-0.340**	0.243	-0.213
	(0.153)	(0.149)	(0.166)	(0.162)	(0.199)	(0.205)
Before change ×	-0.198	0.087	-0.319	0.035	-0.345	0.073
16 or 17 years old	(0.246)	(0.217)	(0.285)	(0.265)	(0.330)	(0.350)
Constant	3.334***	3.045***	3.220***	3.061***	3.272***	2.970***
	(0.107)	(0.103)	(0.147)	(0.143)	(0.204)	(0.197)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	401	396	272	269	196	194

* p<0.10, ** p<0.05, *** p<0.01, robust standard errors in parentheses

Table 12 Dif-in-dif specifications for non-electoral political participation for alternative age ranges

	Age < 22					Age < 20					Age < 19				
	Contacted Politician	Worked in political party	Member of political party	Worn badge	Taken part in demonstration	Contacted Politician	Worked in political party	Member of political party	Worn badge	Taken part in demonstration	Contacted Politician	Worked in political party	Member of political party	Worn badge	Taken part in demonstration
Before change	-0.045	-0.029	-0.039	-0.022	0.056	0.070	0.014	-0.019	0.041	0.014	-0.035	-0.015	-0.030	0.006	0.062
	(0.041)	(0.033)	(0.028)	(0.042)	(0.046)	(0.065)	(0.052)	(0.047)	(0.065)	(0.057)	(0.074)	(0.053)	(0.054)	(0.080)	(0.079)
16 or 17 years old	-0.063	-0.011	-0.019	0.068	-0.009	-0.025	-0.004	-0.036	0.080	-0.011	-0.052	0.025	-0.015	0.090	0.035
	(0.039)	(0.036)	(0.032)	(0.050)	(0.038)	(0.042)	(0.039)	(0.038)	(0.054)	(0.042)	(0.055)	(0.043)	(0.044)	(0.062)	(0.045)
Before change × 16 or 17 years old	0.029	-0.013	0.066	-0.057	-0.048	-0.088	-0.056	0.043	-0.116	-0.002	0.017	-0.030	0.059	-0.085	-0.059
	(0.063)	(0.055)	(0.057)	(0.079)	(0.072)	(0.080)	(0.068)	(0.069)	(0.093)	(0.080)	(0.089)	(0.070)	(0.075)	(0.106)	(0.096)
Constant	0.091***	0.054**	0.061***	0.105***	0.080***	0.036	0.048	0.068**	0.109**	0.078**	0.069	0.044	0.082	0.131**	0.041
	(0.029)	(0.024)	(0.023)	(0.030)	(0.029)	(0.034)	(0.033)	(0.033)	(0.043)	(0.040)	(0.047)	(0.045)	(0.050)	(0.063)	(0.043)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	411	415	417	416	417	282	284	285	285	287	207	207	210	208	210

* p<0.10, ** p<0.05, *** p<0.01, robust standard errors in parentheses

Table 13 Testing the Common Trend assumption

	Political interest	TV Politics	Radio Politics	Newspaper Politics	Politics is too complicated	Making mind up is easy	Contacted Politician	Worked in political party	Member of political party	Worn badge	Taken part in demonstration
Before change	0.141	0.576**	0.096	0.098	0.026	0.148	-0.013	0.035	-0.007	0.029	0.123
	(0.180)	(0.236)	(0.237)	(0.156)	(0.240)	(0.271)	(0.073)	(0.069)	(0.046)	(0.080)	(0.093)
16 or 17 years old	-0.596***	0.076	-0.295*	-0.093	0.228	-0.257	-0.064	-0.044	0.032	-0.006	-0.050
	(0.149)	(0.174)	(0.168)	(0.113)	(0.211)	(0.179)	(0.058)	(0.047)	(0.051)	(0.067)	(0.064)
Before change × 16 or 17 years old	0.111	-0.715*	0.068	-0.221	0.030	0.194	-0.052	-0.071	-0.070	-0.079	-0.138
	(0.348)	(0.368)	(0.310)	(0.270)	(0.409)	(0.463)	(0.082)	(0.076)	(0.064)	(0.117)	(0.125)
TV		0.165***									
		(0.045)									
Radio			0.200***								
			(0.039)								
Newspaper				0.651***							
				(0.097)							
Constant	2.282***	0.043	0.621***	-0.137	3.388***	3.008***	0.086*	0.037	0.029	0.060	0.075
	(0.147)	(0.266)	(0.214)	(0.187)	(0.203)	(0.213)	(0.050)	(0.047)	(0.043)	(0.057)	(0.070)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	154	148	132	124	152	149	152	152	152	153	153

* p<0.10, ** p<0.05, *** p<0.01, robust standard errors in parentheses

Survey questions

The question are copied from the English version of the ESS codebook.

Political interest

The outcome of this variable is reversed so that higher values are higher levels of political interest.

How interested would you say you are in politics - are you...

1 Very interested
2 Quite interested
3 Hardly interested
4 Not at all interested
7 Refusal
8 Don't know
9 No answer

Frequency of following political news

TV watching, news/politics/current affairs on average weekday

[On] an average weekday, how much of your time watching television is spent watching news or programs about politics and current affairs?

0 No time at all
1 Less than 0,5 hour
2 0,5 hour to 1 hour
3 More than 1 hour, up to 1,5 hours
4 More than 1,5 hours, up to 2 hours
5 More than 2 hours, up to 2,5 hours
6 More than 2,5 hours, up to 3 hours
7 More than 3 hours
66 Not applicable
77 Refusal
88 Don't know
99 No answer

Radio listening, news/politics/current affairs on average weekday

[On] an average weekday, how much of your time listening to the radio is spent listening to news or programs about politics and current affairs?

0 No time at all
1 Less than 0,5 hour
2 0,5 hour to 1 hour
3 More than 1 hour, up to 1,5 hours
4 More than 1,5 hours, up to 2 hours
5 More than 2 hours, up to 2,5 hours
6 More than 2,5 hours, up to 3 hours
7 More than 3 hours
66 Not applicable

77 Refusal
88 Don't know
99 No answer

Newspaper reading, politics/current affairs on average weekday
And how much of [the time spent reading the newspaper] is spent reading about politics and current affairs?
0 No time at all
1 Less than 0,5 hour
2 0,5 hour to 1 hour
3 More than 1 hour, up to 1,5 hours
4 More than 1,5 hours, up to 2 hours
5 More than 2 hours, up to 2,5 hours
6 More than 2,5 hours, up to 3 hours
7 More than 3 hours
66 Not applicable
77 Refusal
88 Don't know
99 No answer

Political ability

Politics too complicated to understand
How often does politics seem so complicated that you can't really understand what is going on?
1 Never
2 Seldom
3 Occasionally
4 Regularly
5 Frequently
7 Refusal
8 Don't know
9 No answer

Making mind up about political issues
How difficult or easy do you find it to make your mind up about political issues?
1 Very difficult
2 Difficult
3 Neither difficult nor easy
4 Easy
5 Very easy
7 Refusal
8 Don't know
9 No answer

Non-electoral participation

There are different ways of trying to improve things in [country] or help prevent things from going wrong. During the last 12 months, have you done any of the following? Have you...

Contacted politician or government official last 12 months
...contacted a politician, government or local government official?
1 Yes
2 No
7 Refusal
8 Don't know
9 No answer

...worked in a political party or action group?
1 Yes
2 No
7 Refusal
8 Don't know
9 No answer

...worn or displayed a campaign badge/sticker?
1 Yes
2 No
7 Refusal
8 Don't know
9 No answer

Taken part in lawful public demonstration last 12 months
...taken part in a lawful public demonstration?
1 Yes
2 No
7 Refusal
8 Don't know
9 No answer

Member of political party
Are you a member of any political party?
1 Yes
2 No
7 Refusal
8 Don't know
9 No answer