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ORIGINAL PAPER

The Compensation Effect of Civic Education on Political Engagement: How Civics Classes Make Up for Missing Parental Socialization

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Abstract The development of political engagement in early life is significant given its impact on political knowledge and participation. Analyses reveal a large influence of parents on their offspring's curiosity about politics during their teenage years. Increasingly, civic education is also considered an important influence on political interest and orientations of young people as schools are assigned a crucial role in creating and maintaining civic equality. We study the effects of civic education on political engagement, focusing especially on whether and how civic education can compensate for missing parental political socialization. We use data from the Belgian Political Panel Study (2006–2011) and the U.S. Youth-Parent Socialization Panel Study (1965–1997), which both contain information on political attitudes and behaviors of adolescents and young adults, those of their parents, and on the educational curriculum of the young respondents. Our findings suggest that civics training in schools indeed compensates for inequalities in family socialization with respect to political engagement. This conclusion holds for two very different countries (the U.S. and Belgium), at very different points in time (the 1960s and the 2000s), and for a varying length of observation (youth to old age and impressionable years only).

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Introduction

It has long been known that the family plays an important role in the political socialization of pre-adults, notably with respect to party identification (Campbell et al. 1960), but also with respect to a host of other political attitudes and behaviors, including political interest (Hyman 1959, Chap. 4; Jennings and Niemi 1968). The sources of parent-offspring correspondence are varied, including deliberate teaching by parents, but also the socioeconomic environment shared by family members and even genetic inheritance (Alford et al. 2005). Whatever the mechanism, the influence is substantial and long lasting (Jennings et al. 2009; Zuckerman et al. 2007). Increasingly, civic education is also considered an important influence on knowledge and political orientations among young people (Galston 2001; Niemi and Junn 1998), even though the precise mechanisms by which classroom instruction and organization influence students are open to debate (Torney-Purta 2002; Campbell 2008; Martens and Gainous 2013; Kisby and Sloam 2012).

A less settled question is how family and school interact. In particular, does civic education, broadly conceived, reduce differences among youths that originate in the family, or does it possibly enhance pre-existing differences? Can civics training make up in some way for having come from a household in which there is less access to academic and similar resources and less interaction related to political news and the public sphere generally? Can schools, in other words, compensate for what Levinson (2012, Chap. 1) calls the "civic empowerment gap" between young people from privileged backgrounds and those from impoverished backgrounds? Or, to the contrary, does classroom instruction widen the gap by primarily benefiting those who begin civics classes with a high degree of pre-existing political knowledge and awareness?

These questions are important inasmuch as civic education, especially in the United States where much of the research has been conducted, has long been thought to be key to the development and maintenance of a democratic system in which all citizens have the knowledge, skills, and attitudes to understand and influence their government. Everyone, so the argument goes, should be part of an enlightened citizenry, and to the extent that differences exist, schools play a crucial role in creating and maintaining civic equality (Guardian of Democracy 2011, p. 13; Levine 2007, pp. 119, 152; Händle et al. 1999, p. 264). Much as the Head Start program in the United States was intended to provide an opportunity for children from poor economic environments to develop strong academic skills, one purpose of civic instruction is to assist children from politically barren backgrounds develop the knowledge and skills to participate on an equal footing in the political sphere. Using the vocabulary of recent research into this role (Campbell 2008; Gainous and Martens 2012; Persson 2014), a function of civic education is to *compensate* for possible deficiencies in knowledge, skills, and attitudes among those whose family

backgrounds or socialization have left them behind their wealthier or more involved classmates.

In this paper, we consider the compensation question with respect to political engagement, with a particular focus on whether civic education makes up for differing levels of family socioeconomic status and frequency of student-parental political discussions. Using the three waves of the Belgian Political Panel Study (2006–2011) and the four waves of the U.S. Youth-Parent Socialization Panel Study (1965–1997), we find that compensation does occur. We note, in addition, that the most important school variables are the amount of formal civic education and the inclusion of group projects, but not classroom climate.

Parental Socialization and Civic Education in the Literature

That the family plays a role in political socialization has never been in doubt. Studies of current and recalled parental partisanship suggested close correspondence (Campbell et al. 1960), a fact that was later confirmed by interviews with youths and their parents (Jennings and Niemi 1968; Westholm and Niemi 1992; Jennings et al. 2009; Kroh and Selb 2009). Agreement on other matters proved to be not as strong, but similarities existed and were found to persist as teenagers turned into young and then even older adults (Jennings and Niemi 1981; Jennings et al. 2009).

How much influence comes from civic education is a more controversial matter. Education itself is highly correlated with political knowledge, interest, and voter turnout and other forms of political participation. Yet it has been repeatedly suggested that this connection might exist largely because education serves as a proxy for social class or cognitive ability, or that education simply serves as a sorting mechanism that divides the population into higher and lower statuses (Nie et al. 1996; Campbell 2009). These and similar questions about the effects of education mean, in David Campbell's words, that "we know relatively little about the civic development of adolescents. Specifically, we have a limited understanding of how schools do, or do not, foster political engagement among their adolescent students" (2009, p. 438).

With respect to civic education per se, the uncertainty is much greater. For a long time, it was argued that civic education and the curriculum more broadly had almost no influence at all on students' attitudes (Langton and Jennings 1968). That proposition has been under fire for well over a decade now (Niemi and Junn 1998; Nie and Hillygus 2001). Still, the precise way in which schooling influences students is unclear. One possibility, of course, is that civics instruction itself—the classes students take that teach about one's government and one's role as a citizen—is the causal agent. Even then, the influence may stem from specific features of the class—whether it consists mostly of lectures, incorporates class discussions, involves students in group projects, and so on. Another possibility, which has found support from a major cross-national study, is that the climate of the classroom—how free students feel to express their opinions and have them discussed and respected—underlies student attitudes, political engagement, and even political knowledge (Torney-Purta 2002). Community service, which may or may not be a

part of formal classroom instruction, is yet another factor that may influence youths' feelings and actions about civic and political participation (Finlay et al. 2010).

Further adding to the complexity of school effects is how they interact with family and other outside influences. If one of the goals of civic education is to create and maintain civic equality, one might hope that schools compensate for the substantial inequalities that students bring with them. Families vary considerably in the extent to which they introduce their children to the political world. Some parents provide a rich literacy environment, often operationalized simply by the number of books found in a home (Campbell 2008; Evans et al. 2010; Persson 2014). Their children are provided with a basis for learning of all sorts, political and otherwise. Similarly, some parents are themselves politically active, or they may display an interest in politics through frequent discussions and media use, while others eschew any mention of politics. The compensation hypothesis asks whether schools have more influence on youths who are less strongly socialized by their families. Does civic education, in whatever form, in some way make up for the absence of strong family effects?

There is some evidence in support of the compensation hypothesis. The early findings of Langton and Jennings (1968) suggested that civics coursework, though generally ineffective, might have a positive impact on children from disadvantaged backgrounds. Strongly supportive evidence was recently found by Campbell and Niemi (2015), who uncovered a disproportionate effect of high-stakes civics exams on immigrant and Latino students' political knowledge.[1] In a study of the open classroom effect, Campbell (2008) found that "exposure to an open classroom climate at school can partially compensate for the disadvantages of young people with low socioeconomic status," more strongly influencing low SES students' appreciation of conflict in politics and their anticipated turnout behavior. In a quasi-experimental study of a newspaper-in-the-school program in Argentina, Chaffee et al. (1998, p. 161) reported what they dubbed "gap-closing patterns" in indices of media use, political discussions, political knowledge, and tolerance.

Yet not all tests have supported the compensation hypothesis. Campbell's (2008) positive results did not extend to civic knowledge, and Persson (2014), in a study similar to Campbell's, found no compensatory effect on civic knowledge in a Swedish panel study or in the full 28 countries of the IEA civic education study from which Campbell drew his American sample. And Gainous and Martens (2012), using the same data as Campbell but different operationalizations, found that open classrooms did have a greater effect on political knowledge among students from lower than average "home environments" but a smaller effect on intent to vote.[2] In the Belgian study that underlies our work, Hooghe and Dassonneville (2011, p. 333), found a mix of compensation, acceleration (greater learning among those with initial high levels) and no effect depending on the civic education variable involved.[3]

[1] Humphries, Muller, and Schiller (2013) reported that the academic rigor of high school course work (but not the number of social science credits) had a greater positive effect on the likelihood of registering to vote for Latino children of immigrants than among white third-generation-plus young adults.

[2] A study of a political event (specifically a U.S. presidential campaign) also showed mixed evidence – a kind of compensation with respect to candidate evaluations (Sears and Valentino 1997, 56-57).

[3] Hooghe and Dassonneville interacted students' initial knowledge levels and classroom characteristics, thus looking only indirectly at compensation for limited family socialization.

Theorizing the Relationship between Parental Socialization and Civic Education

To the extent that civic education leads to heightened political engagement, it is likely to have a greater impact on some groups than others. Here we argue that the relative impact of school political education depends on the extent of political socialization happening at home. We expect that for those that do not get introduced to politics by their parents, civic education in school is more important for becoming politically active. The interaction of civic education and parental socialization can be explained in relation to starting levels of political engagement while the children are still at school and in relation to the subsequent development of levels of political engagement as young people age.

Firstly, in relation to the starting levels of political engagement, we expect that students from lower SES families and less intellectually stimulating households receive lesser amounts of political input. This implies lower starting levels of political engagement. Based on the compensation hypothesis, we expect civic education to boost political engagement especially for those from less political families, as school education and activities are their way to understanding and engaging with politics. This effect is observed at the time that children are in school and are exposed to civic education.

The second effect of civic education on young people's political engagement is on the subsequent development as adolescence age after leaving school. Four possible effects spring to mind: a compensation effect, an acceleration effect, a ceiling effect, and a left-behind effect. In the literature, *compensation* is usually considered akin to a catching-up process as individuals age, or in the language of the modeling presented below, during the growth process. Such a catching-up process suggests that civics classes will have their greatest impact on the development of political engagement for young people with less exposure to political information at home, in their social networks, and through the media. Whatever the reason for the relative absence of political stimuli, youths with diminished interest and information, so the argument goes, are likely to gain more from school classes—civics classes in the study at hand. In other words, this group is likely to close the gap between themselves and those coming from politicized families during the growth process as a result of their exposure to civic education classes. Assessing which aspects of civic education matter more or less is also one of the aims of this research.

The compensation hypothesis rests on the assumption that acquisition of at least a minimal understanding of politics is necessary to stimulate greater engagement. Without some understanding of how government works or who the players are, learning more about or participating in the "sport" is difficult (just as learning detailed rules of baseball or rugby or any other sport, much less taking part in it, can be difficult if one does not know the basics). Some people learn about politics at home, while others need to compensate for a lack of political information at home by learning the basics of the political process in school.

A related point, of course, is that for many people political engagement does not come easily. The measure we utilize here, detailed below, includes a question about interest in "societal issues and politics." Aggregate political interest increases to some degree during adolescence and early adulthood (Neundorf et al. 2013), but it does not change easily or greatly (Prior 2010). A strong stimulus is therefore needed, and for students with little prior awareness, a class devoted specifically to the subject may provide that push while young people are still in school. We could hence also expect that for disadvantaged pupils that come from apolitical homes, taking a civics course alone pushes-up their initial political engagement, closing the gap to the children from political families.

Moreover, politics "are usually of rather low visibility," so the effects of socialization are likely to "be triggered by the intervention of exogenous political events" (Sears and Valentino 1997, p. 47). Though Sears and Valentino were writing about election campaigns, civics classes can be considered an exogenous occurrence as well, since students are typically required to take such a class (at the secondary school level) rather than selecting it because of prior interest in the subject.

While the compensation hypotheses suggests that those from families with low levels of political socialization gain most from civic education, those from high SES backgrounds and from families where political discussions frequently take place may also gain something from civic education classes. One possibility is that of an *acceleration effect*. We expect those coming from highly politicized families to have higher starting levels of civic education.[4] Acceleration, the opposite of compensation, implies that greater learning takes place among those with high initial levels of political engagement based on their prior political knowledge and understanding, which makes learning in school easier. This means that the development of political engagement is steepest among this group, possibly widening the gap between themselves and those who are initially less highly socialized.

However, there might also be a *ceiling effect* for those from highly politicized families. Higher starting levels of political engagement may leave less room for growth in levels of political engagement as young people age. The ceiling effect would thus imply political engagement to be relatively stable from an early age onwards for this group. Moreover, having already been engaged means that new kinds of opportunities must come along for them to become even more highly engaged. That could happen, of course, but it seems relatively unlikely to occur in an ordinary classroom setting. The underlying dynamic is similar to what Sears and Valentino (1997) found with respect to information received during the presidential campaign; adults were little affected by the information they received because it was largely consistent (or perceived as consistent) with their long-term understanding of the parties and their existing evaluations of them. If there are ceiling effects

[4] Since parental socialization processes already occur before young people are exposed to civic education classes, our general expectation is that those from families with high levels of socialization have the highest starting levels of political engagement, whereas those from less politicized backgrounds have the lowest starting levels of civic education.

among the highly politicized, any gains by those who are initially less politicized are likely to close the gap—i.e., there will be compensation.

The fourth and final effect is what we call the *left-behind process*. Those coming from families with lower levels of political socialization are hypothesized to have lower starting levels of political engagement. Without the stimulus of civic education classes, or with minimal or poor civics education generally, this group is likely to stay behind peers coming from politicized backgrounds that permit them to benefit from civics classes. In other words, without civic education classes or other stimuli to give them the necessary foundation for learning, it will take those with a poor family socialization background a long time, if ever, to catch up in terms of political engagement.

In short, the compensation hypothesis suggests that if education in general plays a role in creating and maintaining civic equality, civic education classes help those with fewer political resources to *catch up* with their peers who come from families with high levels of political socialization. The acceleration hypothesis, on the other hand, proposes that those from highly political families have higher starting levels of political participation and that their subsequent development is also steep. According to the ceiling hypothesis, these very same people have less steep growth trajectories as only new kinds of learning opportunities will increase their levels of engagement. The left-behind hypothesis, lastly, stipulates that those from low SES backgrounds and with low levels of civic education lag behind their peers and take a long time to catch up.

Thus, the first question we investigate is which elements of civic education and parental socialization matter for the starting levels and development of political engagement during adolescence and young adulthood. Then we assess how the two factors interact, aiming especially to determine the extent—if any—to which civic education compensates for a low level of parental political socialization. We focus on various facets of the civic education curriculum (formal civic education, open class room climate, active learning strategies) but also on the various ways in which parents may influence their offspring's political attitudes and behaviors (through socioeconomic status, intellectual environment, and frequency of political discussions). We consider the effect of these factors on a political engagement index that gauges the extent to which students follow socio-political issues.

Data and Variables

The main empirical test of the compensation hypothesis uses the rich data of the Belgian Political Panel Study (BPPS). The three waves of the study were carried out between 2006 and 2011. The panel offers information on political attitudes of adolescents and young adults between the ages of 14–24. Respondents were, in addition, asked about their educational curriculum as well as their parent's political attitudes and behaviors.[5]

[5] Belgium is an established democracy that offers a common core curriculum to pupils in secondary education, as is true for many other European countries (European Commission 2014). It is, moreover, unexceptional in Europe with regard to the level and development of political engagement (Torney-Purta 2002). We thus have no reason to believe that Belgium would be an unusual case with respect to civic education, which is in the focus of this study.

Respondents were first interviewed in 4th grade (equal to grade 10 in the U.S. system). The 2006 survey, in which 6330 adolescents participated, was representative for region, school type, gender and educational track. The respondents were surveyed again at school in 2008 and through regular mail in 2011 as they had left high school by then. Respondents who had changed schools or dropped out of school received the 2008 survey by regular mail. In the second wave, 4235 pupils (67 %) of the first wave participated and of these 3025 respondents (71.4 %) participated again in the third wave (for more details see Hooghe et al. 2011 and Hooghe et al. 2015). Only those respondents who had participated both in 2006 and 2008 were contacted for the third wave (see Hooghe et al. 2011, 19). Our analyses are thus based on a dataset including only those respondents who participated in all three waves of the panel study (2821 respondents).[6]

Our focus is on one dependent variable: an index of political engagement.[7] The political engagement index gauges the extent to which respondents follow societal issues and politics. It is based on three questions: one asking how often a respondent reads, watches or listens to the news (also on the internet), a second measuring how interested the respondent is in societal issues and politics, and a third assessing how often the respondent discusses politics or problems in society when (s)he is with good friends (for the exact wording of all questions see Appendix A in Supplementary Material). The political engagement index ranges from 1 'never reads or watches the news/not interested/never discusses politics' to 5 'reads or watches the news daily/very interested/always discusses politics'. The Cronbach's alpha for the index increases from 0.54 in 2006 to 0.61 in 2008 and 0.65 in 2011.[8] The distribution of the political engagement index is very close to normal (see Appendix C in Supplementary Material), which fulfills one requirement for modelling continuous-level variables.

Since the main goal is to assess the extent to which civic education classes compensate for missing parental socialization, our main independent variables of

[6] The main reason for requiring participation in all three waves is a methodological one, as it is required by our modeling strategy – latent growth curve modeling. This means, however, that we only work with 44.6 % of the original sample. In the online Appendix I, we compare the demographic attributes, civic education scores, parental socialization, and the mean dependent variable for those who dropped out of the panel in either 2008 or 2011 and those who remained in the panel throughout all three waves. The main and significant differences relate to the demographic attributes (see also Hooghe et al. 2011, 16). Those who dropped out of the panel were on average 5 months older in 2006. Also, more boys and respondents from Wallonia dropped out. Further, those who remained in the panel had higher educational aspirations (37 % aimed to go to university in 2006, compared to only 25 % of those that dropped out of the panel). Our models control for all these variables, which makes it less problematic that the three-wave panel is somewhat less representative than the initial wave. Regarding the key variables (civic education scores, parental socialization, and civic engagement), the differences between the two samples are very small and negligible. We therefore do not believe that panel attrition affects our conclusions.

[7] See Ansolabehere et al. (2008) for more on the advantages of using indexes to measure attitudes and behavior.

[8] A factor analysis confirmed that all three items load very strongly on only one dimension (Eigenvalue: 2.387; proportion: 0.478). To make sure that using an index as a dependent variable does not influence our results, we also estimated our models with the single independent variables (political news consumption, political interest, and political discussion). The results are presented in Appendix F in Supplementary Material and are largely the same as those presented in results section below.

interest are various measures of parental and educational influences asked in the first wave in 2006.[9] Starting with the latter, we largely follow Dassonneville et al. (2012) by looking at formal civic education, open classroom climate and active learning strategies. In doing so, our study focuses on different facets of civic education classes studied by various other researchers (see e.g. Campbell 2008; Finlay et al. 2010; Kisby and Sloam 2012; Martens and Gainous 2013; Torney-Purta 2002). Most of the civic education measures are based on multiple questions and all are aggregated at the class level in the first wave of the panel in 2006.[10]

Formal civic education refers to conversations about socio-political issues and institutions in class and is measured through a number of questions on how often on a scale from 1 'never' to 4 'often' the following topics were discussed in class: (1) the way parliament works; (2) the United Nations; (3) the European Union; (4) federalism; (5) elections; and (6) recent political events. The Cronbach's alpha for the formal civic education measure is 0.81 in 2006.

Open classroom climate is measured on a scale from 1 'totally disagree' to 4 'totally agree' and taps whether students: (1) felt encouraged to develop their own opinions; (2) felt free to express their own opinion in class, even when it deviates from the majority; and (3) were under the impression that their teacher provided several views on topics in class. The Cronbach's alpha for open classroom climate is 0.60 in 2006.

The presence of active learning strategies, lastly, is measured through three different indicators.[11] The first records overtly political contacts—i.e., whether pupils visited the parliament or town hall as part of their civic education course and whether any politicians or important people in society came to give a talk in class. The 'visits' measure runs from 0 'none' to 2 'both activities'. The second measure of active learning strategies measures how often students had to engage in group work for which they received a joint grade in the past year (1 = never, 4 = often). Group work is thought to foster one's ability to work cooperatively and understanding of the efficacy of coordinated behavior, both key elements of active political engagement. The third and last indicator of active learning strategies measures on a scale from 0 'no' to 3 'more than 20 h' whether and how much voluntary work students were obliged to do by their school. Such work is often

[9] As discussed in the methods section below, we are modelling the change in the dependent variable as respondents age. We treat the initial parental socialization and civic education as the starting points that (at least partly) predict the initial level of political engagement observed in the 2006 wave, when respondents were between 14 and 20 years old (average = 15.7).

[10] Students are clustered in 337 classes in 108 schools. There are between 1 and 47 pupils per class, with an average of 14 pupils per class. Using the average score of civic education per class accounts for measurement error, as it is expected that some students under- or over-report the amount and content of their civic education. See Dassonneville et al. (2012) for more on this topic. In order to assess whether the civic education measures are affected by varying reliability due to changing class sizes, we replicated our models with those in classes of at least 10 pupils. Appendix H in Supplementary Material reports the results of these models, which are based on 1485 pupils in 110 classes. The substantive conclusions remain the same.

[11] We refrained from putting the three indicators into an index measuring active learning. First, each item taps different forms of active learning, some being explicitly political (visits to the parliament and from politicians) and others being very unspecific (group work). Second, as the alpha coefficient of 0.04 indicates, these items are empirically unrelated.

thought of as a kind of "new engagement" that may be replacing more traditional modes of political behavior (Zukin et al. 2006).

The second set of independent variables aims to tap various parental socialization influences. We focus on family socioeconomic status, the overall intellectual atmosphere of the home and the frequency of student-parent political discussions. Parental socio-economic status is measured through the average educational level of the mother and the father of the respondent (ranging from 1 'lower secondary education' to 4 'a university diploma').[12] The intellectual character of the home is assessed through the estimated number of books students have at home (ranging from 0 'none' to 6 'more than 500').[13] Next, we include a dummy variable measuring whether parents are considered the respondent's main source of information about problems in society and about politics. We also measure on a scale from 1 'never' to 4 'always' the frequency with which students discuss politics or problems in society with their parents. Since all civic education and parental socialization variables are measured from less to more, in principle we expect a positive relationship between each of the measures and our dependent variable.

Lastly, we also include a number of control variables in our analysis. The first is age. Following a standard life-cycle hypothesis we expect that levels of political engagement increase over the life span. We also include a dummy variable for gender (1 = female) with the expectation that females are less politically engaged and less politically active. To control for the educational level of the students we include a dummy variable selecting those respondents who aspire to go to university. Since the Belgian educational system is stratified, with educational tracks that are considered to be of different quality, we also include a dummy variable selecting those in the highest educational track (general secondary education), which prepares students for higher education.[14] We expect these two variables to be positively related to the dependent variable. Because Belgian schools can be strictly divided between Dutch- and French-language schools (i.e. there are

[12] We decided to capture the average educational attainment of the parents rather than including the education of the mother and the father separately. First, the education of the parents is reported by the children themselves. We hence hope that by averaging the education of the parents, we account for possible over- or under-reporting. Second, the education of parents is highly correlated (r = 0.54) and we hence feel confident that we capture a family status rather than a maternal or paternal influence only. We nevertheless ran the models separately for mothers' and fathers' education and find the same, insignificant, effects as for the combined parental education. The results are available upon request from the authors.

[13] The number of books at home is often used as a proxy for the parental status (Campbell 2008; Persson 2015), though the modest correlation with parental education (r = 0.35) suggests that it taps into something else as well.

[14] While the educational tracks in Flanders and Wallonia are slightly different, in general, there are three different tracks in the Belgian secondary education system: a vocational, a technical, and a general track. Anyone with a secondary education diploma is free to enroll in post-secondary education. However, those taking the vocational track have to take an extra year in post-secondary education. Moreover, the success rate for those coming from vocational and technical tracks is lower than for those from the general track, which prepares students for higher education (not surprisingly, this is also related to factors such as socio-economic status). We categorized the educational track variable into a dummy, as the tracks below the general secondary education track differ slightly between Flanders and Wallonia and a more nuanced distinction is therefore problematic.

no bilingual schools) we also include a dichotomous variable to capture the differences between the two Belgian language communities. Appendix B in Supplementary Material reports the full list of descriptive statistics for all variables analyzed below.

Latent Growth Curve Modeling

We are interested in the way civic education and parental socialization affect the development of political engagement during adolescence and young adulthood. This implies intra-individual variation as we assume that—on average—levels of political engagement increase with age.[15] We also expect to observe differences in starting levels and growth patterns between respondents. Some have high levels of political engagement from an early age onwards. Others, however, might have low levels of political engagement when they are young but become more active over time and catch up with their more politically engaged peers.

Latent growth curve (LGC) modeling is a statistical methodology that allows us to study *between*-person differences in *within*-person change. Each respondent has a unique trajectory as they age through the estimation of random slopes and random intercepts (cf. Bollen and Curran, 2006; Preacher et al., 2008; and van Ingen and van der Meer, 2016, for a recent application in political behavior). The actual scores of the dependent variable—the level of political engagement—during adolescence and young adulthood are not of primary interest. Rather, repeated individual observations are used to estimate an underlying trajectory or line that best describes this growth of political engagement for every individual in the sample over the three waves of the panel study that we have at our disposal.

Figure 1 illustrates these individually fitted trajectories for the first ten (random) respondents in our sample. The bold line shows the overall development of political engagement of these young adults. From this illustrative picture it becomes apparent how growth curve models work. Clearly respondents differ in their initial level (intercepts) of the dependent variable. Moreover, as Fig. 1 shows, respondents also differ in their growth or development in political engagement as they age. While some have a steep increase, some have decreasing levels of engagement as they pass through the crucial years between childhood and adulthood.

When estimating these trajectories, three questions are crucial: First, what is the mean starting level and further development of political engagement for the entire sample? This is captured by the mean intercept and mean slope, which are comparable to the standard OLS regression coefficients. Second, to what extent do individual trajectories deviate from the mean? Lastly, how can we explain this variation? The latter can be done through the incorporation of explanatory variables to better understand the variability observed in individual trajectories. For the

[15] As a robustness check, we also estimated our growth models as a function of time instead of as a function of age. The results are presented in Appendix G in Supplementary Material and show very few differences to the models estimated with age. We present the models with growth as a function of age in the remainder of this paper, as the theoretical expectation is that levels of political engagement increase with the life experiences that accompany the ageing process.

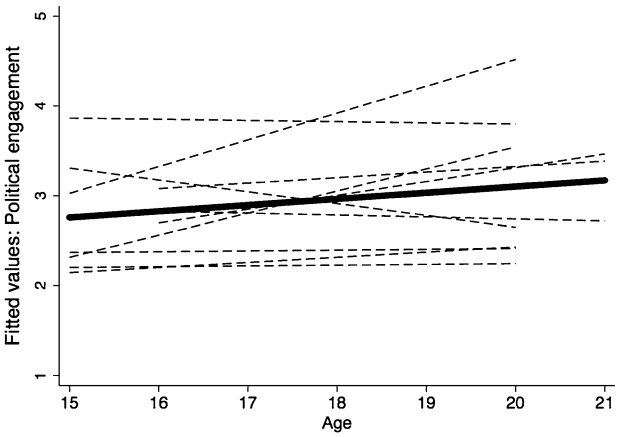

Fig. 1 Individual development of political engagement for 10 random respondents (in Belgium). *Source* Belgian Political Panel Survey (BPPS), 2006–2011. *Lines* show fitted values of a linear regression of age on political engagement for 10 random respondents

present paper these questions can be reformulated as follows: What is the average trajectory of political engagement over time in our sample of adolescents and young adults? Is there significant individual level variance in the intercepts and slopes, i.e., in the observed starting levels of political engagement and the subsequent development or growth as respondents age? And most importantly, to what extent do parental socialization and civic education explain these individual differences?

In order to answer these questions we first need to examine the overall development of political engagement as well as the amount of deviation from the mean (questions 1–2). Subsequently we include covariates in the model to predict the individual trajectories (question 3). LGC models assume the existence of continuous underlying latent trajectories, which track how levels of political engagement change or develop for each person, as they grow older. The following is the trajectory equation for an unconditional LGC model, which does not consider covariates affecting the latent trajectories (see Neundorf et al. 2013 for a more detailed description of the method):

$$y_{ia} = \alpha_i + \lambda_\beta \beta_i + \varepsilon_{ia}$$

where y_{ia} is the observed value of the variable y—in our case political engagement—for the ith case at age a, α_i is the random intercept, representing the initial level of political engagement for respondent i. β_i is the slope for i, measuring the 'true' rate of change for each individual as they grow older. λ_β is a vector that measures the functional form of the aging process.

Assuming a linear growth function, we get a constrained rate of change in the repeated measures of political engagement that is constant across all periods.[16]

[16] We assume a fixed (linear) parameterization of the growth function of political engagement during the (pre-)adulthood years, which is partially due to data restrictions and partially for theoretical reasons. Bollen and Curran (2006) show that three waves are the minimum requirement for testing a linear model

Besides the growth factor λ_β, the variances of the intercept ($\psi_{\alpha\alpha}$) and the slope ($\psi_{\beta\beta}$) are important components in an LGC model. They provide a measure of the variability of individuals on this growth function. The larger these variances are the more people differ with regard to their development of political engagement. If we want to try to explain these individual differences we can include covariates (X), such as parental characteristics and measures of civic education. The aim is to estimate the effect these factors have on the unobserved, underlying (latent) trajectory of our dependent variable.

Important in the LGC models we present in the next section is the distinction between fixed effects and random effects. The fixed effects explain the intercept, i.e., the starting level of political engagement at the age of 14 when respondents were first interviewed. The random effects explain the slope, i.e., the development of levels of engagement as respondents age. Positive random coefficients indicate a *faster than average* growth or development, whereas negative coefficients point to a *depressed growth rate*. Rather than thinking of positive or negative slopes, one should thus think in terms of steeper or flatter slopes when interpreting the results presented in the next section.

Results

This section has a two-fold aim. First, our analyses are aimed at understanding whether civic education and parental characteristics influence starting levels and the subsequent development of patterns of political engagement among young citizens. We then ask whether civic education can compensate for differing levels of family socioeconomic status, intellectual environment and frequency of student-parental political discussions. Before presenting the statistical results, we present the data descriptively.

Explorative Analyses

To explore the relationship between parental socialization, civic education and our dependent variable descriptively, we divided respondents according to levels of family discussion levels and formal civic education. The former is based on the average political discussion of parents with their children (mean: 2.1 on a 1–4 scale). Those above the average are classified as having high levels of parental socialization. Similarly, we classified respondents who received above average formal civic education as having high levels of civic education (mean: 1.7 on a 1–4 scale). Based on these two classifications, we can differentiate four different types of respondents. Table 1 reports the distribution of these types: 41.2 % of all adolescents have civic education that is below average and discuss politics less

Footnote 16 continued
(see also the more recent study by Little 2013). In any event, Prior (2010) and Neundorf et al. (2013) found that the growth of political engagement between ages 17-25 is linear and then flattens or stabilizes.

Table 1 Distribution of high and low parental socialization and civic education in 2006 (%)

Civic low; parent low	41.2
Civic high; parent low	31.7
Civic low; parent high	15.4
Civic high; parent high	11.8

Source Belgian Political Panel Survey(BPPS), 2006–2011

frequently than the mean. On the other side, 11.8 % have above average civic education *and* parental socialization.

In a next step, we plot the average development of political engagement for these four different types of respondents. Figure 2 illustrates the compensation hypothesis in an explorative way. We simply fitted a straight line of the growth in political engagement for these four types. The order of these different types of young adults in terms of the dependent variable is as expected—those who reported high levels of parental socialization and high levels of civic education in the first panel wave are also most politically engaged at all ages. Conversely, those with low parental socialization and low civic education are always least interested and politically active.

For our research, the important question is how parental socialization and civic education affect the *initial* level and subsequent *development* of political engagement as adolescents age. For this, we can compare the intercepts and slopes of the four types illustrated in Fig. 2. In terms of initial political engagement, children from political families are more engaged at an early age than those from family backgrounds that are less political regardless of the levels of civic education. However, Fig. 2 also confirms that civic education has a boosting effect in initial political engagement, as levels are higher among those that received civic courses in school, holding constant parental socialization.

Turning to developmental processes, those with low parental socialization but high civic education have the steepest development of political engagement over the age-span analyzed here. In other words, civic education seems to allow these students catch up with their peers from families with higher levels of parental socialization. This confirms the compensation hypothesis for this explorative analysis. It is further interesting to note that those with high parental socialization always show higher levels of political engagement, independent of whether they experience civic education in school. This confirms previous research that overall, the impact of parental socialization is very strong. The growth trajectory of those coming from families with high levels of parental socialization is less steep, which suggests the existence of a ceiling effect. Importantly, those with both low parental socialization and no civic education also increase their engagement, suggesting that other factors are also at work.

Latent Growth Curve Models

In the next step, we estimate latent growth curve models, which statistically test the descriptive results presented in Fig. 2. We thus model the slopes for each

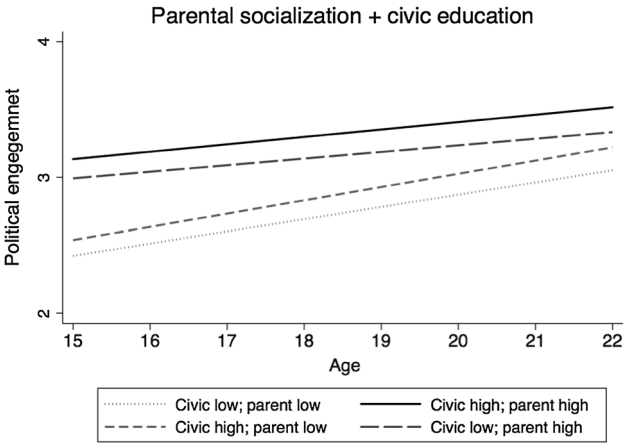

Fig. 2 Fitted trajectories of political engagement for four types of respondents (in Belgium). *Source* Belgian Political Panel Survey (BPPS), 2006–2011. *Lines* show fitted values of a linear regression of age on political engagement by respondent type. Low and high civic education is based on or below and above average (mean: 1.7) formal civic education. Low and high parental socialization is based on below and above average (mean: 2.1) political discussion with parents. Civic education and parental socialization are measured in the first wave of the panel in 2006

respondent (not just four types) and test whether the level and form of parental socialization and civic education affect the starting levels and growth in political engagement. The results are shown in Table 2,[17] which reports the results of three different models.[18] Model 1 includes only age and tells us the average starting levels of engagement at age 14 and the average growth rate of the dependent variable as our respondents age. In Model 2 we look at factors that influence the intercept, i.e., the starting level of political engagement, by including fixed-effect class-level indicators of civic education and fixed-effect parental socialization variables measured in the first wave of the panel study in 2006. This model—as well as the subsequent ones—also includes the control variables. As noted, however, we are interested not only in seeing which elements of the civic education curriculum and of parental socialization influence *starting levels* of political engagement; we also want to know how they influence the *development* of political engagement as respondents grow older. Therefore, in Model 3 we include random effects variables by interacting our indicators of civic education and parental socialization with age as the growth parameter.

Turning to the results, Model 1 shows that our 14 year old participants have a staggeringly low political engagement starting level of 1.27 on a scale of from 1 ‘never read or watch the news/not interested/never discusses politics’ to 5 ‘reads or

[17] Note that we include only respondents who answered all questions in our models. We report the results of the full sample in Appendix E in Supplementary Material. Reducing the sample to 6565 observations (i.e., 2190 respondents over three time points) does not change the results.

[18] We additionally estimated the models separately for parental socialization and civic education rather than estimating both sets of variables together. The results are generally the same and are available upon request from the authors.

Table 2 The effects of civic education and parental socialization on the development of political engagement (in Belgium)

	Model 1 b/(se)	Model 2 b/(se)	Model 3 b/(se)
Age	.091*** (.004)	.091*** (.004)	.136*** (.053)
Fixed-effects (measured in 2006)			
Girls		−.209*** (.023)	−.210*** (.023)
French-speaking		−.002 (.033)	−.003 (.033)
Educational goal: university		.130*** (.026)	.130*** (.026)
Educational track: highest		.152*** (.034)	.152*** (.034)
Class-level variables			
Formal civic education		.181*** (.049)	.474* (.261)
Open classroom climate		0.057 (.062)	0.23 (.292)
Active learning: volunteering		−0.064 (.072)	.527* (.276)
Active learning: visits		−0.019 (.082)	0.128 (.381)
Active learning: group projects		.091** (.036)	−.563*** (.166)
Parental variables			
Pol. info mainly from parents		−.184*** (.036)	−.438*** (.164)
Pol. discussion with parents		.321*** (.019)	.903*** (.100)
Books at home		.041*** (.009)	.044 (.041)
Parental mean education		−.008 (.017)	−.003 (.082)
Random-effects (with age)			
Formal civic education			−.016 (.014)
Open classroom climate			−.010 (.015)
Active learning: volunteering			−.034** (.015)
Active learning: visits			−.008 (.020)
Active learning: group projects			.037*** (.009)
Pol. info mainly from parents			.014 (.099)
Pol. discussion with parents			−.033*** (.005)
Books at home			.000 (.002)
Mean parental education			.000 (.004)
Intercept	1.267*** (.080)	−.211 (.205)	−.998 (.987)
Variance components			
Slope	.007*** (.001)	.006*** (.001)	.005*** (.001)
Intercept	2.302*** (.274)	1.967*** (.263)	1.723*** (.242)
N of observations	6565	6565	6565
N of respondents	2190	2190	2190
N of classes	314	314	314
Log-likelihood	−6368	−6007	−5967
BIC	12,788	12,180	12,181

Standard errors clustered by class. *Source* Belgian Political Panel Survey (BPPS), 2006–2011. The table reports the coefficients of a latent growth curve model, in which age is the growth process. The dependent variable is an index of political engagement ranging from 1 "not at all engaged" to 5 "absolutely engaged."

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

watches the news daily/very interested/always discusses politics'. Levels of political engagement on average grow .09 points with every year that passes. At this rate, we expect that political engagement at the age of 25 to be 2.36. This modest growth rate shows that political engagement is already relatively stable at an early age (see also Prior 2010; Neundorf et al. 2013). Nonetheless, the growth over, say, a five-year period is significant. Moreover, as the variance component of the slope parameter indicates, there is significant variation in the development in political engagement in our sample. It appears that the variance in the intercept (2.302) is much larger than in the slope coefficient (0.007), with both being significant at the 1 % level.

The fixed-effects of civic education and parental socialization in Model 2 explain the variance among respondents at the age of 14. Of the civic education variables only formal civic education and group projects influence starting levels of political engagement. Both coefficients are positive, so the more often socio-political issues and institutions are discussed in class and the more often students engage in group work, the higher are the starting levels of political engagement.

Turning to the socialization measures, we find that the number of books at home and the frequency of political discussion with parents positively influence the intercept of political engagement. In contrast, having one's parents as the only source of political information makes children have lower levels of political engagement at the age of 14. There is no direct effect of parents' education level. The significant drops in the log-likelihood[19] and the Bayesian Information Criterion (BIC) indicate that parental socialization and civic education explain variation in political engagement at the age of 14 very well.

In Model 3 the random effects variables show how our civic education and socialization measures influence both the starting level and the development of political engagement. Formal civic education still matters for the intercept at the age of 14. Being obliged by school to volunteer also has a weakly significant and positive effect on starting levels of political engagement, but the effect on the growth curve is negative. This implies that those who volunteer have a depressed growth rate as they age. The frequency of group work influences the starting level of political engagement negatively but has a positive and significant effect on the development of engagement as the respondents age. Thus, while those who engage in group work on average have lower starting levels, their levels of political engagement develop faster than those who did not engage in group work in their class.

As for the parental variables, having parents as the main source of political information is once again found to have a negative effect on the starting levels of political engagement, and the variable does not influence subsequent development. In contrast, a higher frequency of discussion of socio-political issues with parents heightens the level of political engagement at age 14. Yet while starting levels are higher when parental political discussion is frequent, the same variable has a

[19] We estimated a log-likelihood ratio test for all models. Including the fixed-effects on the intercept as well as including the random effects on the slope coefficients significantly improves the model compared to Model 1, which simply models the mean growth parameters for each respondent.

dampening effect on the development of engagement. This supports the ceiling effect of parental socialization.

Based on the results of Models 2 and 3 we can reject the expectation that an open classroom environment, active learning strategies such as school visits, or parental education have an impact on the initial level or the development of political engagement among young people. Turning lastly to the control variables presented in Table 2, we see that girls have lower average levels of political engagement than boys. Those who at the age of 14 aspire to go to university and those in the highest educational track have higher levels of political engagement. These results are all as expected. The differences between the two language communities are not statistically significant.

A remaining question is how much of the intra- and inter-individual variation is explained by our models. The variance components in Table 2 provide us with answers to this question. The variance component for the intercept tells us how much variation there is in the starting levels of political engagement at the age of 14. Model 1 shows significant variation in starting levels and this variation remains significant, but lower, once covariates are included in the model. The variance component for the slope indicates the extent to which there is variation in the development or growth of engagement as our respondents age. Model 1 confirms that there is significant variation in the growth curves. While the amount of variation decreases substantially with the inclusion of covariates, not surprisingly we do not manage to explain away all between-respondent differences in growth trajectories. Clearly there are other factors driving the development in political engagement in young adulthood that go beyond parental socialization and civic education.

Testing the compensation hypothesis

While Models 2 and 3 in Table 2 help us understand which measures of civic education and parental socialization matter more or less when it comes to explaining variation in the starting levels and subsequent growth of political engagement, the results presented in Table 3 assess the compensation hypothesis more specifically. In these models we include an interaction effect between civic education and parental socialization.

The results presented in Table 3 report the nine possible combinations of parental socialization (measured by political discussions at home, parents as the main source of political information, and books at home) and civic education (measured as formal civic education, group work, and volunteering) that were found to be relevant in Table 2. In order to test the compensation hypothesis, we include two interaction terms. First, we include the interaction effect of parental socialization and civic education to show how they affect the initial level of political engagement. A positive coefficient suggests that young people who are exposed to high parental socialization as well as high civic education are more likely to have a higher starting level in political engagement. Second, the models include a cross-level interaction term, which captures how parental socialization and civic education jointly affect the development of political engagement as young people age. A positive coefficient suggests that young people who are exposed to high parental socialization as well as

Table 3 Testing the compensation hypothesis: Interaction effects of parental socialization and civic education on the initial level (intercept) and development (slope) of political engagement

MODEL	M1	M2	M3	M4	M5	M6	M7	M8	M9
Civic education	Formal political education			Volunteering			Group projects		
Parental socialization	Pol. disc.	Pol. info	Books	Pol. disc.	Pol. info	Books	Pol. disc.	Pol. info	Books
Age	0.188*	0.075**	0.115*	0.154***	0.099***	0.102***	0.015	0.011	0.013
Fixed-effects (at 2006)									
Girls	−0.206***	−0.206***	−0.207***	−0.206***	−0.206***	−0.206***	−0.206***	−0.205***	−0.206***
Educ. goal: university	0.131***	0.130***	0.131***	0.129***	0.129***	0.129***	0.131***	0.131***	0.130***
Educ. Track: highest	0.151***	0.152***	0.149***	0.154***	0.150***	0.153***	0.151***	0.151***	0.148***
Class-level variables									
Formal civic education	**0.621**	**0.021**	**0.357**	0.179***	0.181***	0.176***	0.182***	0.180***	0.181***
Active learning: volunteering	−0.058	−0.059	−0.060	**−0.426**	**0.869*** **	**−0.426**	−0.061	−0.061	−0.060
Active learning: group projects	0.091**	0.091**	0.094**	0.092**	0.094**	0.092**	**−0.973**	**−0.503****	**−0.562**
Parental variables									
Pol. discussion with par.	**1.288***	0.321***	0.320***	**0.773*** **	0.321***	0.321***	**0.426**	0.321***	0.320***
Pol. info mainly from par.	−0.188***	**−1.549***	−0.187***	−0.187***	**−0.168**	−0.187***	−0.187***	**−1.077**	−0.185***
Books at home	0.042***	0.041***	**0.242**	0.042***	0.042***	**0.059**	0.041***	0.041***	**0.053**
Parental mean education	−0.009	−0.009	−0.009	−0.009	−0.008	−0.009	−0.009	−0.008	−0.008
Random-effects (with age)									
Civic education	−0.017	0.009	−0.005	0.017	−0.049**	0.015	0.063*	0.033***	0.040*
Parental socialization	−0.049	0.080	−0.008	−0.026***	0.003	−0.001	−0.002	0.051	0.002
Interaction effects (civics * parents)									
On intercept	−0.241	0.749	−0.063	0.466	−0.781	0.306	0.211	0.326	0.036
On slope	0.010	−0.044	0.002	−0.024	0.025	−0.016	−0.014	−0.019	−0.003

Table 3 continued

MODEL	M1	M2	M3	M4	M5	M6	M7	M8	M9
Civic education	Formal political education			Volunteering			Group projects		
Parental socialization	Pol. disc.	Pol. info	Books	Pol. disc.	Pol. info	Books	Pol. disc.	Pol. info	Books
Intercept	−2.011	0.228	−0.653	−1.148***	−0.219	−0.234	1.158	1.368**	1.197

Source Belgian Political Panel Survey (BPPS), 2006–2011. Estimates are based on a latent growth curve model. Each model reports the results of an interaction effect between one aspect of civic education and one aspect of parental socialization. In each model, the main effects on the starting levels of political engagement are highlighted in bold. For scarcity reasons, we did not report the standard errors, but they are available upon request

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

high civic education are more likely to have a steeper growth level in political engagement.

All parental and school variables are included as control variables on the intercept. However, for reasons of parsimoniousness, we only include one measure for parental socialization and one measure of civic education at a time to affect the growth process of political engagement.

For example, the results of Model 1 in Table 3 present the interaction model between political discussion with the parents (as a form of parental socialization) and formal political education (as a measure of civic education). Both variables are included as main effects on the intercept (bold cells), as main random effects on the slope and the interaction effect of these two variables on the starting level ($b = -0.241$) and the development ($b = 0.010$). Neither the interaction term for the intercept, nor the interaction term for the slope are statistically significant.

Looking at the general pattern of these interaction models, the results confirm the consistent strong positive effect of parental socialization on the starting levels of political engagement of their children. Discussing politics with one's parents and having many books at home, boost initial political engagement. Also, consistently for those who see parents as the main source of political information, political engagement is lower, which is somewhat surprising and might suggest that this variable does not fully capture political socialization. When it comes to civic education, we also find that formal education and group work increase initial political engagement. Once we take into account the effect of group work on the development of political engagement (Models 7–9 in Table 3), we find the same pattern already presented in Model 3 in Table 2. Group work initially suppresses political engagement, but has a strong positive effect on the growth process ($b = 0.033$–0.063).

The key to the results of Table 3 is of course in the interpretation of the interaction effects. In each instance, the signs of the two interaction effects flip between negative and positive effects. In all cases in which the initial interaction is positive, the growth process is negative (and vice versa). This pattern disconfirms the acceleration effect. Civic education—if anything—does not increase the civic empowerment gap based on parental socialization. Overall, however, the interaction effects are not significant.

However, the overall significance of these coefficients is somewhat misleading, as the effects can still be significant at certain values of the variables. In order to interpret this complex interaction model within the LGC model, it is necessary to plot the predicted values. Figure 3 plots the predicted values for four different types of respondents for two of the possible nine combinations of variables,[20] similar to Fig. 2. However, in this instance these values are not descriptive, but predictions based on the results of the LGC model presented in Table 3, with important control variables held constant. The figures present separate predictions of the trajectories of political engagement. The solid lines represent respondents from non-politicized families (no political discussion with parents) and the dashed lines represent

[20] All nine corresponding figures of predicted values based on the results in Table 3 are presented in Appendix D in Supplementary Material.

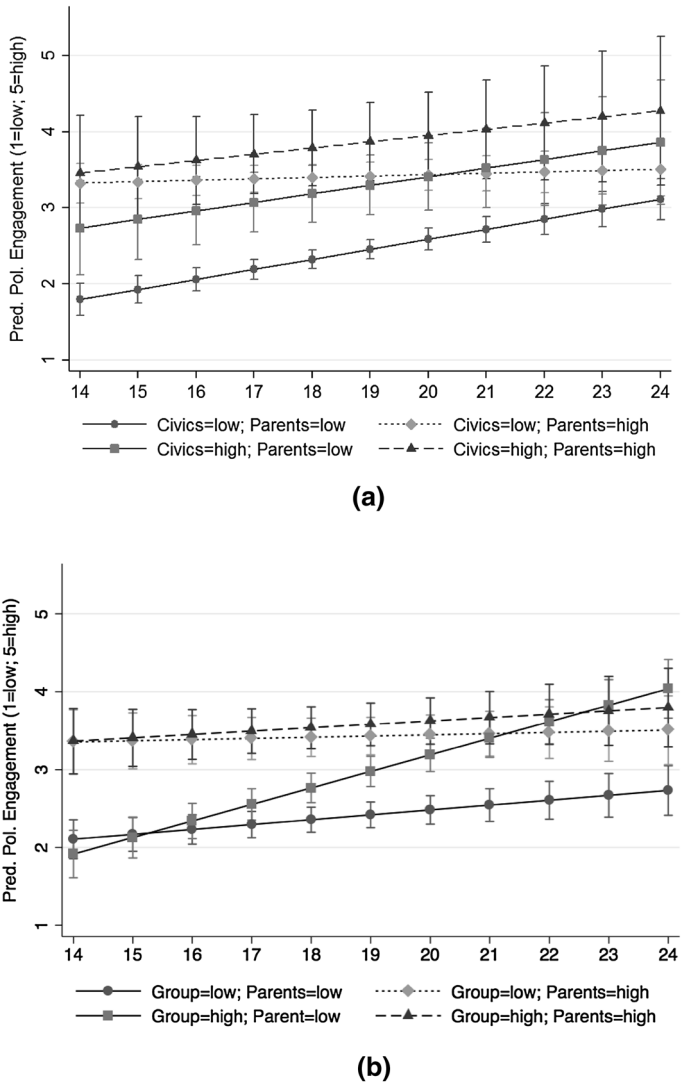

Fig. 3 Predicted values of political engagement by parental socialization and formal civic education (in Belgium). *Source* Belgian Political Panel Survey (BPPS), 2006–2011. The figure is based on the results presented in Table 3. High parental socialization are those that very often discuss politics with their parents and those never discussing politics are classified as low parental socialization. **a** Formal civic education: high = very often discuss political topics in class; low = no formal education. **b** Group-work: High = regularly; low = never. The figure was created using the command "margins" in Stata 13. **a** Civics = Formal; Parents = pol. Discussion. **b** Civics = Group; Parents = pol. Discussion

respondents from very political families (frequent political discussions with the parents). We further divide the respondents in Fig. 3a, based on Model 1 in Table 3, into those frequently discussing political issues in school (civics = high) and those not receiving very good formal civic education (civics = low). Based on Model 7 in

Table 3, Fig. 3b plots the predicted political engagement for those that participated in group work in school (group = high) and those not doing any group-work in school (group = low).

The first striking result presented in Fig. 3a, b is the sharp difference in the initial level of political engagement. Parental socialization clearly has a positive effect on their children's political engagement at an early age. We further find support for the expected ceiling effect, which is evident from the flat trajectories (in three of four instances) for children from political homes. Especially for those that do not profit from good civic education—whether formally or informally through group-work—political engagement virtually does not develop after the age of 14/15.

We find strong evidence for a compensation effect for children from non-political homes who engage in group-work in school. They start off being significantly less politically engaged than those from political homes until the age of 20, when their political engagement has caught-up. The compensation effect is less strong for formal education. However, here too trajectories seem to be slightly steeper for those from a-political homes who profit from good formal civic education. These respondents are clearly developing political engagement more strongly than those from political homes but who do not have formal civics courses in school. Moreover, Fig. 3a clearly confirms that those that profited from good civic courses in school have a boost in their initial level of political engagement.

Lastly, Fig. 3 presents evidence of the left-behind effect. Levels of engagement of the group of children that neither has a political environment at home nor profits from a good civic education clearly stays behind. They remain consistently (also in the other possible interactions; see Appendix D in Supplementary Material) and significantly below the levels of political engagement of the other groups. We further find that the left-behind group would need much longer to catch-up to levels of political engagement comparable to the other groups.

Robustness Test: The Long-term Effects of Civic Education

Our results presented above are based on data from one country only at a specific time in history. We investigated the development of political engagement for the crucial formative years between 14 and 24 (Bartels and Jackman 2014). Our conclusions based on this data are hence limited to the case, time, and age. To make our conclusion more generalizable, we replicated the models presented above using the Youth-Parent Socialization Panel Study (YPSPS; Jennings et al. 2005),[21] which is based on a nationally representative sample of 1669 United States high school seniors from the graduating class of 1965. Subsequent waves conducted in 1973, 1982, and 1997 resulted in a panel of 935 respondents who participated in all four waves. Similar to the BPPS, the YPSPS includes information on political engagement in each wave as well as information about school curriculum and political discussions with parents in the first wave. The questions are comparable to

[21] Jennings and Niemi (1968) and Jennings et al. (2009) provide more information about the data.

the ones used in the models above.[22] However, the measure for civic education is limited to an indicator capturing whether respondents had any civics courses (rather than the type of civics courses), which 70 % reported they had.

The advantage of using the YPSPS data is that it covers a much longer time period. While the Belgian panel data only cover the ages 14 to 24, the U.S. data allow us to follow individuals between the ages 17 and 50. We are hence able to track the long-term effects of parental socialization and civic education as well as their interaction. Table 4 reports the results of the latent growth curve model, parallel to the Belgian results presented in Tables 2 and 3. Model 4 in Table 4 assesses the compensation hypothesis in the U.S. case. We generally find a small positive growth process of political engagement. Every year respondents age, they become 0.014 points more engaged—on a scale from 1 to 4. Independently, civics courses in school ($b = 0.554$; $p < 0.05$) as well as discussion about political affairs with the parents ($b = 0.289$; $p < 0.01$) boost the initial level of political engagement. The negative interaction term ($b = -0.120$; $p < 0.1$), however, shows that jointly, there is no acceleration effect in the U.S. either. For children from very politicized homes, civic courses in school do not seem to matter much. We further find support for the ceiling effect, as high parental socialization dampens the growth in political engagement as the children age ($b = -0.003$; $p < 0.1$). There is further a small, insignificant direct negative impact of civics courses on the growth process. The interaction between parental socialization and civic education on the development of political engagement is—as it is in the Belgian case—insignificant.

Again, due to the complexity of this interaction effect in the LGC model it is necessary to plot the predicted values. Figure 4 plots the development of political engagement dividing the 1965 high school graduating cohort into four distinct groups, parallel to the ones presented in Fig. 3. The figure shows the respondents having or not having civic courses in school as well as those with below and above average (mean: 3.1) political discussion with parents.[23]

The most striking result of Fig. 4 is the stability of political engagement, especially for those who profited from a strong parental political socialization, confirming again the ceiling effect hypothesized above. The respondents who grew up in less politicized families need a considerable length of time to catch up with the levels of political engagement of the former group. Respondents who had a civics course in high school seem to get an initial boost in political engagement, shifting

[22] The exact question wording of the variables is reported in Appendix J in Supplementary Material. To measure political engagement, we used political interest and news consumption only. Unlike in the BPPS, there was no comparable measure for political discussion over time, which was hence not included in the index. We measure parental socialization using frequency of discussion with family about public affairs. We did not include parental education, which did not prove to be of significance in the Belgian or the U.S. models. There was no question about the number of books in the home.

[23] Note that the average political discussion with the parents in the U.S. in 1965 is much higher than in Belgium in 2006 (mean: 1.7). Both variables are measured on a scale 1 to 4, where 4 represents almost daily political discussions at home. Similarly, the average political engagement in the U.S. in 1965 among high school seniors is 3.15 (on a scale of 1 to 4), compared to 2.65 (on a scale 1 to 5) in Belgium in 2006. Based on these and other comparable measures, it appears that generally today's youth in numerous countries is much less political than previous generations were, at least on conventional activities (e.g., Howe 2010, Wattenberg 2012).

Table 4 The effects of civic education and parental socialization on the development of political engagement (in US) (YPSPS, 1965–1997)

	Model 1 b/(se)	Model 2 b/(se)	Model 3 b/(se)	Model 4 b/(se)
Age	.000 (.001)	.000 (.001)	.010*** (.003)	.014*** (.005)
Fixed effects (at 1965)				
Girls		−.180*** (.030)	−.180*** (.030)	−.181*** (.030)
Civics classes		.056* (.033)	.184*** (.057)	.554** (.191)
Parents: pol. discussion		.145*** (.016)	.206*** (.027)	.289*** (.049)
Random-effects (with age)				
Civics classes			−.005*** (.002)	−.010 (.006)
Parents: pol. discussion			−.002*** (.001)	−.003* (.001)
Interaction effects (civic edu * par. disc.)				
Intercept				−.120* (.059)
Slope				.002 (.002)
Intercept	3.196*** (.027)	2.799*** (.061)	2.523*** (.097)	2.266*** (.160)
Variance components				
Slope	.000*** (.000)	.000*** (.000)	.000 (.000)	.000 (.000)
Intercept	.175*** (.035)	0.139*** (.034)	0.133*** (.033)	.133*** (.033)
N of obs	3723	3723	3723	3723
N of respondents	931	789	789	789
Log-likelihood	−3375	−3319	−3312	−3312

Source Youth-Parent Socialization Panel Study, 1965–1997. The table reports the coefficients of a latent growth curve model, in which age is the growth process. The dependent variable is a political engagement index

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

the intercept, and also stabilize relatively early in their level of political engagement. This is evidence of the compensation effect. In line with the left-behind effect, respondents who neither had politically active parents nor civic education in school need the longest to become politically engaged. It takes them until the age of 30 to close the gap with those from similar family backgrounds that profited from school civic education. Both groups only caught-up with those from very political families at the age of 50, when no significant differences in political engagement levels exist anymore.

These findings are in line with previous research on the development of political interest that showed that political interest generally stabilizes around the age of 25 (Prior 2010; Neundorf et al. 2013). But it appears that there is some heterogeneity, depending on parental socialization (high = stabilization appears earlier) and civic education (low = stabilization appears later). Based on Fig. 4, we conclude that civic education helps to compensate for missing parental socialization, as respondents get an initial boost in political engagement. Those not exposed to politics in their youth at all—whether at home or in school—need the longest to catch up and only gradually become relatively politically engaged. These additional

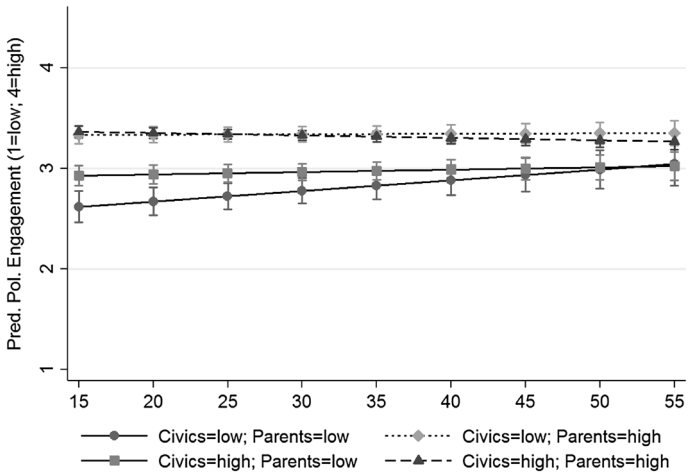

Fig. 4 Predicted political engagement for four types of respondents (in US). *Source* Youth-Parent Socialization Panel Study (YPSPS), 1965–1997. Results are based on estimates reported in Table 4. Low and high civic education are based on having or not having civic courses in school (70 % do). Low and high parental socialization are based on below and above average (mean: 3.1) political discussion with parents. Civic education and parental socialization were measured in the first wave of the panel in 1965

analyses furthermore strengthen the generalizability of our conclusions, as we can replicate the same patterns across very different countries and time periods.

Conclusion and Discussion

The literature on political socialization increasingly recognizes that both parents and schools—the latter in the form of civic education—influence the political attitudes and behavior of children, including teens. Of course, not all family and school effects are equal. The principal objective of our study was thus to understand whether civic education could compensate for a lack of parental political socialization. If one of the goals of civic education is to create and maintain civic equality, one might hope that schools, at least to some degree, make up for the considerable inequalities that originate in the family.

The answer found in our analysis is positive: the compensation effect exists for political engagement. While our findings suggest that high levels of parental socialization and civic education boost starting levels of political engagement at the age of 14, civic education—especially in form of group-work—affects the development of political engagement for respondents from less political families more. Across different cases and periods, we consistently find that respondents who are both disadvantaged by their family background and who do not profit from civic education in school are left behind. This group needs much longer to develop similar levels of political engagement than those from political families and, importantly, those that are exposed to good civic education. Here we find that civic

education in school—formal and informal—can boost the level of political engagement early in life. This substantially reduces the empowerment gap caused by family background.

The importance of this result can hardly be overestimated. In Campbell's (2008, p. 451) words, "it is particularly significant that civic education in school appears to have the potential to partially compensate for the persistent class bias in political engagement." To the extent that one of the historic goals of schools (at least in the U.S.) has been to assist immigrants and marginalized groups in general to participate effectively in the political system, it appears as if they are achieving what they were designed to do.

That we have found evidence of compensation in two countries at very different historical times (cohorts of young people from the 1960s and 2000s) and for varying lengths of observations (youth to old and impressionable years only) is especially encouraging. Widespread (though not universal) supportive evidence indicates that compensation effects now have to be considered a leading hypothesis of the role civic education plays in the development of youthful political orientations.

Beyond our findings regarding compensation as such, the details of our more extended analysis of the Belgian Panel Study are also worth noting. Utilizing three waves from 2006 to 2011, we estimated latent growth curve models, making a distinction between factors that influence the starting levels of engagement and participation at the age of 14 and factors that influence the development or growth as respondents age. Formal civic education, volunteering, and political discussion with parents affected starting levels of political engagement positively. Group projects turned out to have a negative effect on starting levels; however, the frequency of group projects was the only school variable to positively affect the growth rate of political engagement. The other statistically significant variables—volunteering and acquiring political information mainly from parents—lead to a flatter growth rate. Overall, these findings are encouraging in the sense that civic education classes are found to have an impact on the political engagement of young citizens even after they leave the secondary educational system. Most important, however, is that civic education appears not only to have an important socializing effect on young people, but it as well contributes to the democratic goal of making citizen involvement more equal as well.

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References

Alford, J. R., Funk, C. L., & Hibbing, J. R. (2005). Are political orientations genetically transmitted? *American Political Science Review, 99*(2), 153–167.

Ansolabehere, S., Rodden, J., & Snyder, J. M, Jr. (2008). The strength of issues: using multiple measures to gauge preference stability, ideological constraint, and issue voting. *American Political Science Review, 102*(2), 215–232.

Bartels, L. M., & Jackman, S. (2014). A generational model of political learning. *Electoral Studies, 33*, 7–18.

Bollen, K. A., & Curran, P. J. (2006). *Latent curve models. A structural equation perspective*. Hoboken, NJ: Wiley.

Campbell, D. (2008). Voice in the classroom: How an open classroom climate fosters political engagement among adolescents. *Political Behavior, 30*(4), 437–454.

Campbell, D. (2009). Civic engagement and education: An empirical test of the sorting model. *American Journal of Political Science, 53*(4), 771–786.

Campbell, A., Converse, P. E., Miller, W. E., & Stokes, D. E. (1960). *The American voter*. New York: Wiley.

Campbell, D., & Niemi, R. G. (2015). Teaching citizenship: State-level civic education requirements and political knowledge. *American Political Science Review*, forthcoming.

Chaffee, S. H., Morduchowicz, R., & Galperin, H. (1998). Education for democracy in Argentina: Effects of a newspaper-in-school program. In O. Ichilov (Ed.), *Citizenship and citizenship education in a changing World*. London: Woburn.

Commission, European. (2014). *The structure of the European education systems 2014/15: Schematic diagrams*. Brussels: The European Commission.

Dassonneville, R., Quintelier, E., Hooghe, M., & Claes, E. (2012). The relation between civic education and political attitudes and behavior: A two-year panel study among Belgian late adolescents. *Applied Developmental Science, 16*(3), 140–150.

Evans, M. D. R., Kelley, J., Sikora, J., & Treiman, D. J. (2010). Family scholarly culture and educational success: Evidence from 27 nations. *Research in Social Stratification and Mobility, 28*(2), 171–197.

Finlay, A., Wray-Lake, L., & Flanagan, C. A. (2010). Civic engagement during the transition to adulthood: Developmental opportunities and social policies at a critical juncture. In L. Sherrod, J. Torney-Purta, & C. A. Flanagan (Eds.), *Handbook of research on civic engagement in youth*. Hoboken, NJ: Wiley.

Gainous, J., & Martens, A. M. (2012). The effectiveness of civic education: Are "good" teachers actually good for students? *American Politics Research, 40*(2), 232–266.

Galston, W. A. (2001). Political knowledge, political engagement, and civic education. *Annual Review of Political Science, 4*, 217–234.

Guardian of democracy: The civic mission of schools. (2011). Retrieved from www.civicmissionofschools.org.

Händle, C., Oesterreich, D., & Trommer, L. (1999). Concepts of civic education in Germany based on a survey of expert opinion. In J. Torney-Purta, J. Schwille, & J. Amadeo (Eds.), *Civic education across countries: Twenty-four national case studies from the IEA civic education project*. Amsterdam: International Association for the Evaluation of Educational Achievement.

Hooghe, M., & Dassonneville, R. (2011). The effects of civic education on political knowledge. A two year panel survey among Belgian adolescents. *Educational Assessment, Evaluation and Accountability, 23*(4), 321–339.

Hooghe, M., Dassonneville, R., & Marien, S. (2015). The impact of education on the development of political trust. Results from a five year panel study among late adolescents and young adults in Belgium. *Political Studies, 63*(1), 123–141.

Hooghe, M., Havermans, N., Quintelier, E., & Dassonneville, R. (2011). *Belgian political panel survey (BPPS), 2006–2011 Technical Report*. Leuven: K.U. Leuven.

Howe, P. (2010). *Citizens adrift: The democratic disengagement of young Canadians*. Vancouver: UBC Press.

Humphries, M., Muller, C., & Schiller, K. S. (2013). The political socialization of adolescent children of immigrants. *Social Studies Quarterly, 94*(5), 1261–1280.

Hyman, H. (1959). *Political socialization*. New York: Free Press.

Jennings, M. K., Markus, G. B., Niemi, R. G., & Stoker, L. (2005). Youth-parent socialization panel Study, 1965–1997: Four waves combined. ICPSR04037-v1. Ann Arbor, MI: Inter-university Consortium for Political and Social Research, 2005-11-04. doi:10.3886/ICPSR04037.v1.

Jennings, M. K., & Niemi, R. G. (1968). The transmission of political views from parent to child. *American Political Science Review, 62*(1), 169–181.

Jennings, M. K., & Niemi, R. G. (1981). *Generations and politics: A panel study of young adults and their parents*. Princeton: Princeton University Press.

Jennings, M. K., Stoker, L., & Bowers, J. (2009). Politics across generations: Family transmission reexamined. *Journal of Politics, 71*(3), 782–799.

Kisby, B., & Sloam, J. (2012). Citizenship, democracy and education in the UK: Towards a common framework for citizenship lessons in the four home nations. *Parliamentary Affairs, 65*(1), 68–89.

Kroh, M., & Selb, P. (2009). Inheritance and the dynamics of party identification. *Political Behavior, 31*(4), 559–574.

Langton, K. P., & Jennings, M. K. (1968). Political socialization and the high school civics curriculum in the United States. *American Political Science Review, 62*(3), 852–867.

Levine, P. (2007). *The Future of democracy: Developing the next generation of American citizens*. Lebanon, NH: University Press of New England.

Levinson, M. (2012). *No citizen left behind*. Cambridge: Harvard University Press.

Little, T. D. (2013). *Longitudinal structural equation modelling*. New York: Guilford.

Martens, A. M., & Gainous, J. (2013). Civic education and democratic capacity: How do teachers teach and what works? *Social Science Quarterly, 94*(4), 956–976.

Neundorf, A., Smets, K., & García Albacete, G. M. (2013). Homemade citizens: The development of political interest during adolescence and young adulthood. *Acta Politica, 48*(1), 92–116.

Nie, N. H., & Hillygus, D. S. (2001). Education and democratic citizenship. In D. Ravitch & J. P. Viteritti (Eds.), *Making good citizens: education and civil society*. New Haven: Yale University Press.

Nie, N. H., Junn, J., & Stehlik-Barry, K. (1996). *Education and democratic citizenship in America*. Chicago: University of Chicago Press.

Niemi, R. G., & Junn, J. (1998). *Civic education: What makes students learn*. New Haven: Yale University Press.

Persson, M. (2014). Testing the relationship between education and political participation using the 1970 British cohort study. *Political Behavior, 36*(4), 877–897.

Persson, M. (2015). Classroom climate and political learning: Findings from a Swedish panel study and comparative data. *Political Psychology, 36*(5), 587–601.

Preacher, K. J., Wichman, A. L., & MacCallum, R. C. (2008). *Latent growth curve modeling. Quantitative Applications in the Social Sciences* (Vol. 07-157). Thousand Oaks, CA: Sage.

Prior, M. (2010). You either got it or you don't? The stability of political interest over the life-cycle. *Journal of Politics, 72*(3), 747–766.

Sears, D., & Valentino, N. (1997). Politics matters: Political events as catalysts for preadult socialization. *American Political Science Review, 91*(1), 45–65.

Torney-Purta, J. (2002). The school's role in developing civic engagement: A study of adolescents in twenty-eight countries. *Applied Developmental Science, 6*(4), 203–212.

Van Ingen, E., & van der Meer, T. (2016). Schools or pools of democracy? A longitudinal test of relation between civic participation and political socialization. *Political Behavior, 38*(1), 83–103.

Wattenberg, M. (2012). *Is voting for young people?* (3rd ed.). New York: Pearson.

Westholm, A., & Niemi, R. G. (1992). Political institutions and political socialization: A cross-national study. *Comparative Politics, 25*(1), 25–41.

Zuckerman, A. S., Dasović, J., & Fitzgerald, J. (2007). *Partisan families: The social logic of bounded partisanship in Germany and Britain*. Cambridge: Cambridge University Press.

Zukin, C., Keeter, S., Andolina, M., Jenkins, K., & Delli Carpini, M. X. (2006). *A new engagement? Political participation, civic life, and the changing American citizen*. New York: Oxford University Press.