

This is an Author's Accepted Manuscript of an article published in Political Studies:

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. DOI: doi:10.1111/1467-9248.12102

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

Abstract

There is a strong ongoing debate about the impact of higher education experiences on political attitudes and behaviours. While some authors assume a direct socialisation effect of educational experience, others have argued that education should be seen as a mere proxy variable for socio-economic status and pre-adult socialisation experiences. In this paper we use a five-year Belgian panel study (BPPS, 2006-2011, n= 1,634) that tracked respondents between the ages of 16 and 21. Using a hierarchical linear model of repeated measurements, we are able to demonstrate that differences with regard to political trust between future students and non-students are already present and stable at the age of 16. Significant determinants were school track and educational goal. The inclusion of actual educational status in the model (at age 21), however, rendered the relation with educational goal not significant. The results suggest that students already during secondary education anticipate for and acquire a value pattern that is congruent with their future status. Ultimately, however, this effect is dependent on the fact whether they actually enroll in higher education or not.

Keywords: higher education, political trust, repeated measurements, educational goal, school tracking, Belgian Political Panel Study (BPPS)

Introduction

There is little doubt that education is strongly correlated with political attitudes and behaviours in Western societies (Nie, *et al.*, 1996; Schlozman, *et al.*, 2012; Verba, *et al.*, 1995). Highly educated actors participate more intensively in politics, they have higher levels of political interest and knowledge (Hooghe and Dassonneville, 2011) and they are more tolerant and trusting (Bobo and Licari, 1989; Claes *et al.*, 2012). All the available evidence therefore suggests that education is, or has become, the main gateway to political involvement (Bovens and Wille, 2009). There is considerable disagreement, however, on how exactly this gateway operates (Berinsky and Lenz, 2011; Henderson and Chatfield, 2011; Kam and Palmer, 2008). While some authors argue that education has a direct impact on value patterns and skills, others claim that the importance attached to education experiences is overrated. Kam and Palmer (2008, p. 613), e.g., state that education should be considered as a mere proxy variable. They argue that specific sets of background variables such as parental and individual characteristics lead not only to more intense political involvement, but also allow for access to higher education. Privileged groups, or children from privileged parents are more likely to attain higher education levels, but according to these authors, it would be erroneous to ascribe any causal effect to these educational experiences. In this approach, education is little more than an indication for already existing patterns of stratification and social inequality.

Thus far, this debate about the exact nature of educational effects has not led to any final conclusion, partly because of a lack of data. The question whether college education experiences have an added effect, beyond the stratification that is already present upon entering higher education, requires panel data that are scarce in political science. Indeed, the entire debate that has followed the publication of the Kam and Palmer (2008) article (Henderson and Chatfield, 2011; Mayer, 2011; Kam and Palmer, 2011) is almost exclusively based on an analysis of panel data that by now are a few decades old. Since that period, patterns of access to higher education changed dramatically (Reynolds and Johnson, 2011; Torche, 2011). Furthermore, thus far the study of higher education effects is concentrated on political participation as a dependent variable, while we can assume that colleges and university campuses often serve as a recruiting ground for acts of participation, thus blurring lines of causality (McAdam and Paulsen, 1993). To

avoid this potential ground of contamination, we focus on a political attitude, i.e., political trust that is less dependent on this kind of context effects. We also build on new and recent panel data that were collected in Belgium, over the period 2006-2011 and these data allow us to determine how exactly higher education experiences are related to political attitudes.

Disentangling the Relation between Higher Education and Trust

Following Miller and Listhaug (1990, p. 358) we define political trust as ‘a summary judgement that the system is responsive and will do what is right even in the absence of constant scrutiny’. Political trust can be considered as one of the most important resources for a democratic political system. Citizens with higher levels of political trust are for instance more willing to comply with political decisions and to contribute to the public good (Hetherington, 2005; Tyler, 2011; Marien and Hooghe, 2011). Recently, a decline in political trust levels was documented in a number of countries, therefore, the question what factors determine citizens’ political trust has become all the more salient (Dalton, 2004).

In most of the available literature, there is a strong and positive relation between education levels and political trust (Schoon *et al.*, 2010). One can distinguish, however, at least three approaches to explain this strong relation.

A first approach builds on the *sorting function* of education: higher education provides access to more privileged positions in society, and these, in turn render it easier to express trust in the system (Campbell, 2009; Newton, 1997; *et al.*, 1996). If one has acquired a high level of education and does gain access to better jobs and housing, it is less likely that one is exposed to the ‘darker side of society’ (Huang, *et al.*, 2011; Newton, 1997). The sorting approach does not necessarily make any statements about the inherent effects of education and curriculum, but the main argument is that education will have an instrumental effect, as it enables pupils to gain access to more privileged positions later on in life.

A second approach can be labelled the *political sophistication* approach. Here it is assumed that educational experiences have cognitive effects that enable pupils to understand social and political life in a more profound manner (Hillygus, 2005). The information that is being transmitted to pupils helps them to play a meaningful role in political life. Education experiences increase pupils' knowledge about the political, economic and legal system and it helps them to interpret information about these systems. Because of this better understanding, they are more likely to support the system (Huang *et al.*, 2011).

Third, Kam and Palmer (2008) have challenged the claims about the effects of education as they consider higher education as a *proxy for socio-economic status*. Their main argument is that access to higher education is distributed very unequally across society, and that specific political attitudes and habits are already present at the moment students enter higher education. They list a whole range of pre-adult experiences that might be responsible for this a priori difference in political attitudes and behaviours, ranging from the high education and income levels of parents, over the example set by parents and the level of political discussion within the family, to cognitive skills and academic orientation during high school years (Kam and Palmer, 2008; Persson, 2012b). The Kam and Palmer article is based on an analysis of the Youth-Parent Socialisation Panel Study, 1965-1997 of Jennings *et al.* (1997). Using a process of propensity matching, they compared panel respondents who would most likely pursue higher education (based on the income and education level of their parents and their high school grades) but did not, with those who did attend higher education. Their main conclusion is that the experience of attending higher education was rendered not significant. The results of their analysis are supported by another analysis of the same data set by Jennings and Stoker (2008), showing that the difference between those that eventually would go on to college and those who would not was already clearly present in the 1965 wave of that study, when all the respondents were still enrolled in high school.

The results of this kind of analysis have been severely challenged on methodological grounds. Propensity matching techniques are highly dependent on the exact characteristics of the model being used to predict future attendance of higher education. A slightly different operationalization

renders the experience of higher education significant again (Mayer, 2011). The basic problem with this approach is that the propensity to enter higher education indeed is a very good predictor of attending college. A vast majority of all panel respondents that were predicted to attend college actually did, leaving only a limited number of respondents that, for some reason or another, did not. This limited pool of highly exceptional cases is subsequently used to compare with all the other respondents that did attend college (Henderson and Chatfield, 2011). The criticism is that these cases are so highly exceptional that they cannot be used for a valid comparison. Furthermore, it has to be remembered that this analysis is being conducted with data covering higher education experiences in the period 1965-1973, a historically exceptional period with quite some turmoil in student life across US campuses (Kam and Palmer, 2011). Since that period, patterns of access to higher education have changed dramatically (Reynolds and Johnson, 2011).

In line with the ‘proxy argument’, some authors have also argued that education experiences do not contribute to the formation of value patterns, but on the contrary, are even dependent on them. Serritzlew *et al.* (2011), e.g., showed that students already have higher levels of political trust upon entering college, and this attitude can be seen as contributing to successful education careers as trust in educational authorities contributes to the willingness to learn (Coleman, 1988).

Research design

The main goal of the current study is to investigate whether the attitudinal differences routinely found between adults who have pursued higher education and those who did not, can already be found during adolescence before the respondents can pursue higher education (Jennings and Stoker, 2008). In contrast to earlier articles, this analysis is conducted on recent data so we can be certain we do not study a specific historic situation, when access to higher education still was more restricted.¹ The Belgian Political Panel Study (BPPS, 2006-2011) we rely on includes information about respondents up to the age of 21. This is a moment in life when most of them have not entered professional life yet implying that they have not yet developed their own economic position, and this means the sorting mechanism already can be excluded. This leaves us

with two possible associations that can be tested: either the experience of higher education itself, or the existence of pre-adult socialisation experiences have a direct impact on political attitudes and simultaneously encourage the future enrolment in higher education.

The first reasoning is straightforward: in the 2011 wave of the panel study (with respondents at the age of 21) almost three quarters of all respondents pursued higher education, and this subgroup can be compared to the remaining quarter that left the school system already. If higher education has a direct impact, we should observe that the students in the sample have different political attitudes than the non-students.

In order to test the proxy argument, we include various measurements that capture the pre-adult socialisation experiences that are claimed to be responsible for the effects usually ascribed to education such as the socio-economic status of the parents and the civic education experiences of the respondents during high school (Kam and Palmer, 2008; Persson, 2012b). Moreover, we also include two variables that thus far have not received sufficient attention in this kind of research.

First, in the Belgian education system adolescents are sorted in educational tracks that are intended to lead either to the labour market or to higher education (Bauer and Riphahn, 2006; Gamoran and Mare, 1989). Especially in a school system with a strong tracking tradition, this practice predicts the odds that adolescents will be able to pursue higher education (Van Houtte, 2004). Therefore, it is essential to take into account in what school track the pupils are enrolled.

Second, we include the educational goal expressed by the pupil. There is a vast literature demonstrating that adolescents already have a strong and well-engrained expectation about the kind of education they will pursue and this education goal guides their school efforts. The decision to pursue higher education is not only dependent on achievement but also involves factors such as self-confidence, ambition or external constraints (Gambetta, 1987; Ashby and Schoon, 2010) and therefore, educational aspiration is a better measurement of the propensity to pursue higher education than the information obtained by test scores or intelligence. Previous empirical research showed that educational goal predicts completed years of education in an adequate manner (Sewell, *et al.*, 1969; Manski, 2004). Given these considerations, we can claim that the educational goal of the pupil at secondary school serves as an ideal proxy variable for the propensity of adolescents to pursue higher education.

In this study, we focus on education as a source of trust in political institutions. Within established democracies education is theorised to increase levels of political trust.² Within corrupt political systems, however, negative effects of education on political trust have been documented (Serritzlew *et al.*, 2011; Catterberg and Moreno, 2006). Also in established democracies, it has been claimed that higher educated citizens are more distrustful than lower educated citizens (Inglehart, 1999; Norris, 2011). However, most of the available studies show a positive relation between education and political trust levels within established democracies (Van der Brug and van Praag, 2007; Schoon and Cheng, 2011; Hooghe, *et al.*, 2012). In our analysis, we test two competing claims about the mechanism that could help us to explain this relation:

Hypothesis 1: Respondents who are enrolled in higher education will have significantly higher levels of political trust.

Hypothesis 2: The difference in political trust between students and non-students is rendered not significant when taking into account pre-adult socialisation experiences.

Data and Measures

These hypotheses will be investigated using the 2006-2011 Belgian Political Panel Study (BPPS). In this study, a representative sample of Belgian late adolescents and young adults was surveyed three times with regard to their political and social attitudes and behaviour (Hooghe *et al.*, 2011). Given that previous research shows that Belgium is not an exceptional case in Europe with regard to the level and the stability of political trust (Marien, 2011), we have no reason to assume that Belgium would offer a deviant case.

The first wave of the study was conducted in 2006, when respondents were 16 years old. Respondents were selected through a random sample of schools representative for the type and location of schools. For the first wave, adolescents were surveyed in class, although participating was not obligatory the class setting resulted in an almost universal response rate (99%) within the schools that agreed to participate (66%). As a result, the 2006 survey, in which 6,330 16-year

olds participated, was representative for region, school type, gender and educational track (Hooghe *et al.*, 2011). The respondents were surveyed again at school in 2008 and through regular mail in 2011 as they left high school by then. Respondents that had changed schools or dropped out of school received the 2008 survey by regular mail. In the second wave, 4,235 pupils (67 %) of the first wave participated and 3,025 respondents, or 71.4% of the panel participated again in the third wave (Hooghe *et al.* 2011).

For the current analysis we only make use of the subsample of Dutch-language respondents within the BPPS 2006-2011. We do so first because the impact of education is a central element in this analysis and education is a competence of the language communities in Belgium (Deschouwer, 2009). As a consequence, tracking practices in the two language communities cannot be directly compared. Secondly, response rates, from the first survey onwards already, were somewhat lower in the French language community (Hooghe *et al.* 2011). Limiting the focus to Dutch language respondents that took part in the three waves of the panel study, the sample for the current analysis consists of 1,926 respondents, which is 56% of the original 2006 sample (consisting of 3,455 Dutch language respondents). Missing values on some of the explanatory variables further reduces the dataset to 1,634 respondents for the multilevel analysis.³

Dependent Variable

We analyse (the evolution of) political trust between 2006 and 2011. Following Easton (1965), we can distinguish between trust in the political community, the regime and political authorities. The focus of this study is on the regime level and in particular on trust in political institutions. Political institutions play an important role in shaping a democratic society, and we can assume that trust in these institutions is strongly related to a more comprehensive evaluation of the political system. Moreover, while a critical attitude towards the current leaders can be seen as healthy for democracy, trust in democratic procedures and institutions is vital for democratic stability (Anderson, *et al.*, 2005; Dalton, 2004). Political trust was measured in exactly the same way in the three waves of the panel study. This was done by means of a measurement scale routinely used in research on political trust (Marien, 2011). Respondents were asked to rate their level of trust in six political institutions on a scale from zero to ten.⁴

Mean levels of trust were lowest for political parties in all survey years (Appendix 1). The adolescents had most in order institutions. The trust items produce a clear one-dimensional scale with high factor loadings for the full panel as well as for each of the three survey waves separately (Table 1). Because the six items load on a single variable, a zero to ten sum-scale is used as the dependent variable in the subsequent analyses. Although in some studies various dimensions of trust in political institutions have been distinguished, it is clear that for the current dataset only a one factor solution can be defended on methodological grounds.⁵ The mean score on the trust-scale was 5.31 in 2006, 5.52 two years later and 5.11 in the 2011 wave (Appendix 1).

Table 1. Factor Analysis for Trust in Political Institutions

	Panel		Wave I (2006)		Wave II (2008)		Wave III (2011)	
	Factor load	Cronbach's α without item	Factor load	Cronbach's α without item	Factor load	Cronbach's α without item	Factor load	Cronbach's α without item
Police	0.69	0.88	0.70	0.90	0.71	0.89	0.65	0.86
Courts	0.75	0.87	0.75	0.89	0.75	0.88	0.74	0.84
Federal parliament	0.88	0.84	0.90	0.86	0.88	0.85	0.85	0.82
Regional parliament	0.89	0.84	0.90	0.86	0.89	0.85	0.86	0.81
European parliament	0.82	0.86	0.84	0.87	0.81	0.87	0.80	0.83
Political parties	0.74	0.87	0.77	0.88	0.77	0.88	0.69	0.85
Eigen value	3.81		3.97		3.89		3.55	
Explained variance	0.63		0.66		0.65		0.59	
Cronbach's alpha	0.88		0.89		0.89		0.86	
N	4784		1588		1611		1585	

Entries are the result of three principal component analyses. Source: BPPS 2006-2011.

Independent Variables

The independent variables included are located at different levels within the multilevel framework of the analysis. At the first level, variables that change over time are included, hence, these variables were measured multiple times. We include the year of the survey as a dummy variable in the analysis. Since all respondents were about the same age this time variable also refers to the age of the respondents. On average, they were 16 in 2006, 18 in 2008 and 21 in 2011. Political interest is based on the respondents' self-rated interest in politics on a 1 (not interested) to 4 (very interested) scale. News consumption refers to respondents' self-assessment of how often they read, watch or listen to the news (including on-line) on a 1 (never) to 5 (every day) scale.

At the second level, individual variables are included that were measured once and can be expected to be –or are operationalized as– stable over time (Singer and Willett, 2003). We include a number of demographic variables, which can be assumed to be related to respondents' level of political trust such as gender, religious denomination and religious practice. The latter refers to how often the respondent attended religious services over the past year (1=never to 5= more than once a week). Furthermore, an estimate of the number of books at home was included (1=none to 7=over 500 books). This proxy variable of the respondents' socio-economic status was used because it is difficult to question adolescents directly about their parents' level of income or social class (Claes *et al.*, 2012). The number of books at home was shown to be a good proxy for the socio-economic status of a household and therefore is routinely included in this kind of research (Hahn, 2003). As an additional control for the socio-economic situation of the parental household we include dummy variables for whether or not respondents' mother and their father pursued higher education. Furthermore we include respondents' rating of how often they discuss politics with their parents, measured on a 1 (never) to 4 (always) scale. All these variables are included in the first wave of the panel study. Although minor shifts in these variables might occur, we assume that the variables and their impact on political trust remain largely stable over the period of observation.

Since we are especially interested in the correlates of educational transitions respondents experience between the age of 16 and 21, we include a number of variables measuring educational status. First, we include educational goal at the age of 16. We distinguish between the goal to pursue higher education and not aiming to enrol in higher education. Second, we include respondents' high-school education, referring to the school track respondents were in at the age of 16. We distinguish a general or art education, a technical and a vocational track. Third, we investigate the educational status at the age of 21. This variable refers to the education respondents are in at the time of the 2011 survey. For this variable, as for educational goal, we include a dichotomous variable: we distinguish between respondents that are still enrolled in the school system at the age of 21 (university or non-university) and the respondents that are already on the job market (whether they have a job or not). These variables are included at the individual level as well, since they are only measured once. School track and educational goal were measured in 2006, the educational outcome was measured in 2011.

Since pupils in the same class can be expected to be more alike than respondents in different classes, we should also control for the class the respondents were in at the time of the survey. Therefore, we take into account a third class level in the analysis. At this level, we include classroom instruction i.e. whether six different items had been discussed in courses at school over the past school year. The topics included were the functioning of Parliament, the United Nations, the European Union, federalism, elections and recent political events. Because the items are strongly related and load on a single dimension (Cronbach's α : 0.83; Eigenvalue: 3.30; Explained Variance: 55.00) they were included in a 1 to 4 sum-scale of classroom instruction. Second, respondents' perception of an open classroom climate was included measured by means of a traditional three-item scale (Torney-Purta, 2002). The most characteristic item is 'students are encouraged to make up their own minds about issues'. These items as well were strongly correlated (Cronbach's α : 0.62; Eigenvalue: 1.71; Explained Variance: 56.94) and were therefore used to construct a 1 to 4 sum-scale of the open classroom climate. Since, depending on their level of interest in politics, respondents can be expected to recall experiences with civic education differently, these two civic education variables were aggregated to the classroom level. Descriptives for all the independent variables are provided in Table 2.

Table 2. Descriptives of independent variables in the analysis

	Mean	Std. Dev.	Min	Max
Level 1 (time varying)				
Time				
2006	0.33	0.47	0	1
2008	0.34	0.47	0	1
2011	0.33	0.47	0	1
Political interest	2.24	0.83	1	4
News consumption	3.92	1.03	1	5
Level 2 (individual)				
Gender	0.52	0.50	0	1
Religious denomination				
None	0.18	0.39	0	1
Catholic	0.77	0.42	0	1
Other	0.05	0.22	0	1
Religious practice	1.70	0.71	1	5
Books at home	3.78	1.52	1	7
Discussions about politics with parents	2.07	0.62	1	4
Mother higher educated	0.48	0.50	0	1
Father higher educated	0.45	0.50	0	1
Educational track (2006)				
General	0.59	0.49	0	1
Technical	0.28	0.45	0	1
Vocational	0.13	0.33	0	1
Goal higher education	0.80	0.40	0	1
Outcome higher education	0.72	0.45	0	1
Level 3 (class)				
Classroom instruction	1.79	0.29	1	2.83
Open classroom climate	2.69	0.21	2	3.43

Source: BPPS 2006-2011. N is 4,784 observations for 1,634 respondents in three waves (2006, 2008, 2011).

Method

Because we analyse the evolution of political trust over time, it is essential that we have at least three measurements of trust. Not only are estimates more precise with three points of observation (Willett, 2004), three measurements also allow other than linear specifications of change (Ployhart and Vandenberg, 2010; Singer and Willett, 2003). The analysis takes the form of a hierarchical linear model of repeated measurements. In such a design, the measures are specified as nested within individuals. This hierarchical model allows to include observations of which the dependent variable is not measured each time.⁶ Although we focus on the panel respondents of the BPPS for the current analysis, this implies that we can include respondents that have no full measurement of political trust in one or two of the survey waves included (Maas and Snijders, 2003; Snijders, 1996). The analysis takes the form of a three-level multilevel model for change,

with observations nested in individuals and individuals nested in classes (Singer and Willett, 2003; Tasca *et al.*, 2009).

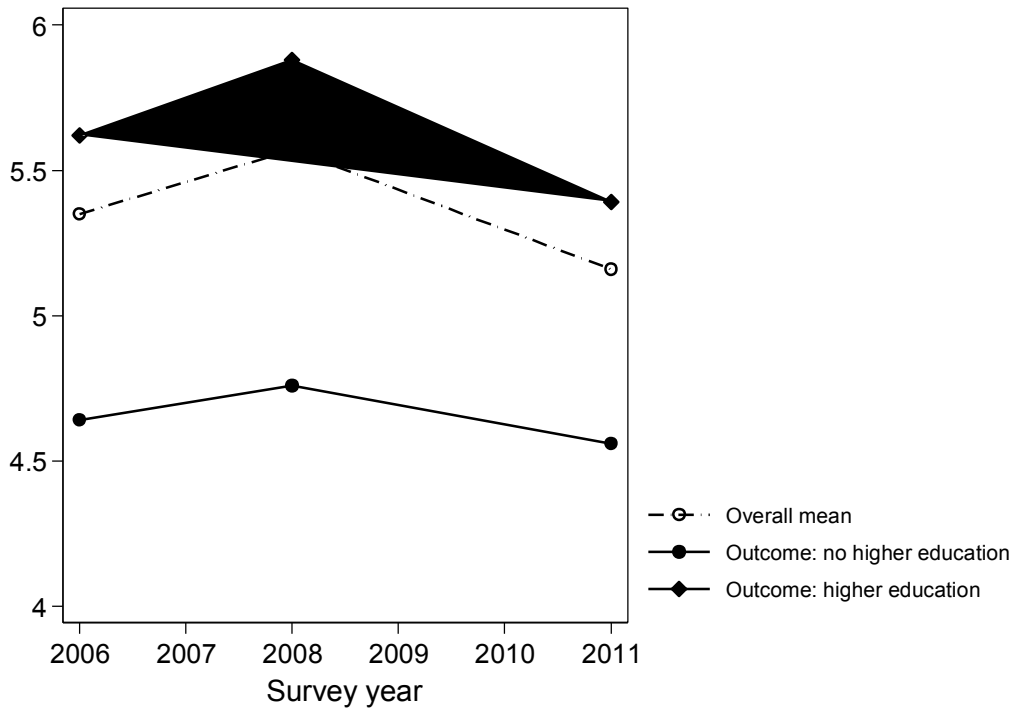
The hierarchical design of the analysis allows to investigate not only differences in levels of trust and the evolution of political trust over time, but also differences between individuals in this change over time (Ployhart and Vandenberg, 2010). We not only investigate whether the level of political trust is different between individuals depending on their type of education, but also whether the evolution of trust differs for respondents in, e.g., different types of education.

For the analysis we follow the approach presented by Singer and Willett (2003) and present a number of models. A first, unconditional means model allows to estimate the amount of variance at the different levels. By means of this base model we can calculate the amount of variance explained by adding more explanatory variables in subsequent models. In a second step, the effect of time is added and time is specified as random. By means of this unconditional growth model, we can assess whether there are significant differences in the trajectories of political trust between individuals. In a third model the other time varying predictors are added and in the following models we also include level 2 (individual) and level 3 (class) variables.

Results

Before proceeding with the multivariate analyses, we present some descriptive analyses looking at the evolution of political trust by respondents' educational outcome, i.e. whether or not respondents were effectively pursuing higher education in 2011. Figure 1 indicates substantial differences in the level of trust of the two groups. More importantly, these differences appear to be present in 2006 already and therefore long before respondents effectively entered higher education. As a result, the figure provides suggestive support for both of our hypotheses; first there are substantial differences in trust depending on levels of education. Second, these differences are already present before adulthood, hinting at the importance of pre-adult socialisation processes.

Figure 1. The evolution of political trust by level of education (2011)



Source: BPPS 2006-2011. Mean levels of political trust for different groups, N=1,634.

Supported by the descriptive results in Figure 1, we now proceed with the multivariate analyses. The first model, the ‘unconditional means’ model, shows significant variance between individuals in the initial state of political trust (Model I in Table 3). Additionally there is significant variance within persons and therefore there are significant differences in the level of trust of the respondents over time. This base model also reveals that 12% of the variance in political trust is situated at the class level and, therefore, it is necessary to include this third level into the analysis.

In Model II, the unconditional growth model, we include the effect of time by means of the year dummies. The level of political trust was significantly higher in 2008 compared to the 2006 level, but significantly lower in 2011. Furthermore we add the random effect of time in this model, in order to assess whether there is significant variance in the evolution of political trust between

individuals. The variance component of this rate of change however is not statistically significant, hence there are no significant differences between respondents in the trajectories of political trust from 2006 to 2011. Despite that during the period observed, a lot of changes occurred in respondents' life, the trajectories of political trust of respondents appear to be largely similar. It is likely that especially the decrease in trust between 2008 and 2011 is a period effect, as during this period, Belgium was confronted with a long political crisis (Hooghe, 2012). Even so, this might also be an age effect. For the sake of our argument, however, what causes this decline is not relevant given the fact that all groups reacted in exactly the same manner. Hence, this does not invalidate our research design, and in the remainder of the analysis we will focus on differences between groups, not on aggregate changes in the level of trust in society or among age cohorts.

In Model III we add the time varying variables to the model. As can be seen in Table 3, the more interested a respondent is in politics, the higher his/her level of political trust. Also following the news is positively related to political trust, although the effect is rather small. Adding these time-varying effects has only a marginal impact on explaining the variance at the person level. The ICC at the class level decreases which indicates that there are strong differences in interest in politics and news consumption between different classes.

Subsequently, we include a number of demographic variables at the second - individual - level (Model IV). As the results show, women, respondents with a Catholic background and respondents with a higher religious practice have significantly more trust in political institutions. Also the level of education of the father and discussing politics with parents positively affects political trust. However, the number of books at home, our proxy for respondents' socio-economic status, is not significantly related to political trust. As expected, these socio-structural variables are fairly stable and therefore do not explain changes over time. We do see that adding demographic variables to the model slightly decreases the variance at the initial level of trust. Additionally, the ICC at the class level drops by including the socio-structural variables, indicating that class groups are quite homogeneous with regard to background variables.

Model V additionally includes the educational goal of the respondents in 2006. Respondents who intend to enrol in higher education have a significantly higher level of political trust.⁷

Furthermore, classroom instruction about politics has no significant relation with levels of political trust. Experience with an open classroom climate, on the other hand, strongly increases respondents' level of political trust. Including these civic education variables and respondents' educational goal into the analysis causes a strong drop in the ICC at the class level (from 5% to 2%), as could be expected.

One might question, however, whether the relation with respondents' educational goal is not a mere reflection of the school track they are in. In order to take this possibility into account, we include both the school track of respondents in 2006 and their educational goal in Model VI. As is clear from the results, there is indeed a strong and significant association with the school track. Respondents in a technical track have significantly less political trust compared to those in a general track. Those that are in a vocational track have even lower levels of political trust. Even when including these school tracks, the educational goal of the pupil remains significant, although the effect size is clearly reduced.

Our first hypothesis, however, states that the experience of being in higher education is positively associated with political trust. To control for this effect, in a subsequent model (Model VII) we also add the relation with the educational outcome measured in 2011.⁸ As the results indicate, educational goal is no longer significantly associated with political trust in Model VII. Respondents in a technical or vocational track still have significantly lower levels of political trust. Furthermore, those that eventually enrol in higher education have significantly more trust. The model suggests that while initially educational goal is positively associated with political trust, including information from the third wave of the panel study shows that the association with being in higher education absorbs this difference. Results therefore suggest that respondents' educational goal is strongly associated with the experience of higher education. This is also clear from the table in Appendix 2: about 80% of the respondents who did not have the intention to pursue higher education indeed was not enrolled in higher education in 2011. Of the respondents who indicated their plan to pursue higher education, over 86% effectively does so at the age of 21.⁹

This does not mean, however, that the students in higher education only start to differ from other respondents at the moment they enter college. In Model VIII we add a cross-level interaction between education in 2011 (whether or not respondents are in higher education) and the time variable (Snijders and Bosker, 1999). If pursuing higher education, independent of previous socialisation and schooling experiences, would be positively associated with political trust, we would expect the gap between those in higher education and those not pursuing higher education to increase over time (Persson, 2012a). As the results make clear, the opposite can be observed; while the main effect of being enrolled in higher education is positive, the interaction term for 2011 is negative and not significant. This suggests that while respondents in higher education do have a higher level of trust in politics, the gap between the two groups has not widened in 2011. The experience of higher education thus absorbs the effect of educational goal expressed during secondary education, but it is not associated with a widening of the gap between students and non-students.

Table 3. Multilevel model for change with repeated measures nested in individuals and individuals nested in classes

	Model I Unconditional Mean	Model II Unconditional growth	Model III Time varying	Model VI Socio-structural	Model V Educational goal	Model VI Educational track	Model VII Higher education	Model VIII Interaction
Female				0.19** (0.07)	0.11 (0.07)	0.07 (0.07)	0.05 (0.07)	0.05 (0.07)
Rel. denomination (ref: none)								
Catholic				0.42*** (0.09)	0.43*** (0.08)	0.43*** (0.08)	0.40*** (0.08)	0.40*** (0.08)
Other				0.32 (0.16)	0.26 (0.16)	0.27 (0.16)	0.28 (0.16)	0.28 (0.16)
Religious practice				0.11* (0.05)	0.10* (0.05)	0.09* (0.05)	0.10* (0.05)	0.10* (0.05)
Books at home				0.01 (0.02)	0.01 (0.02)	0.00 (0.02)	0.00 (0.02)	0.00 (0.02)
Discussion about politics with parents				0.15** (0.06)	0.11* (0.06)	0.09 (0.05)	0.10 (0.05)	0.09 (0.05)
Mother higher educated				-0.03 (0.07)	-0.07 (0.07)	-0.12 (0.07)	-0.13 (0.07)	-0.13 (0.07)
Father higher educated				0.22** (0.08)	0.18* (0.08)	0.15* (0.07)	0.14 (0.07)	0.14 (0.07)
Goal higher education					0.51*** (0.09)	0.24* (0.10)	0.10 (0.11)	0.10 (0.11)
Educational track (ref: general)								
Technical						-0.40*** (0.09)	-0.31** (0.09)	-0.31** (0.09)
Vocational						-0.77*** (0.13)	-0.57*** (0.13)	-0.57*** (0.13)
Outcome higher education							0.40*** (0.09)	0.43*** (0.11)
Higher education * 2008								0.13 (0.10)
Higher education * 2011								-0.20 (0.10)
Classroom instruction					0.10 (0.13)	-0.10 (0.12)	-0.10 (0.12)	-0.10 (0.12)
Open classroom climate					0.49** (0.17)	0.48** (0.16)	0.47** (0.16)	0.47** (0.16)
Year (ref: 2006)								
2008		0.22*** (0.05)	0.14** (0.05)	0.14** (0.05)	0.15** (0.05)	0.15** (0.05)	0.15** (0.05)	0.06 (0.09)

2011		-0.20*** (0.05)	-0.38*** (0.05)	-0.38*** (0.05)	-0.36*** (0.05)	-0.36*** (0.05)	-0.35*** (0.05)	-0.21* (0.09)
Political interest			0.35*** (0.03)	0.34*** (0.03)	0.32*** (0.03)	0.30*** (0.03)	0.29*** (0.03)	0.29*** (0.03)
News consumption			0.06* (0.02)	0.06* (0.02)	0.05* (0.02)	0.05* (0.02)	0.05* (0.02)	0.05* (0.02)
Intercept	5.22*** (0.06)	5.20*** (0.06)	4.33*** (0.11)	3.34*** (0.18)	1.66** (0.53)	2.69*** (0.51)	2.55*** (0.51)	2.53***
Within person	1.73***	1.68***	1.67***	1.67***	1.67***	1.66***	1.66***	1.66***
Within class	0.38**	0.38***	0.25***	0.14**	0.06	0.02	0.02	0.02
In initial status	1.03***	1.05***	0.99***	0.97***	0.99***	0.99***	0.97***	0.97***
In rate of change		0.00	0.00	0.00	0.00	0.00	0.00	0.00
ICC Class	0.120	0.121	0.085	0.051	0.021	0.008	0.007	0.007
LL	-9015	-8974	-8906	-8875	-8855	-8837	-8828	-8823
N _{observations}	4784	4784	4784	4784	4784	4784	4784	4784
N _{individuals}	1634	1634	1634	1634	1634	1634	1634	1634

Entries are the result of a hierarchical linear model with repeated measurements. Source: BPPS 2006-2011. Significance levels: *:p<0.05; **:p<0.01; ***:p<0.001.

Discussion

The goal of the present study was to arrive at a better understanding of the positive relation between education and political trust. Since we only have data for respondents up to the age of 21, we cannot provide any insights on the sorting mechanism. As the respondents in the BPPS mostly have not yet acquired an independent socio-economic position, access to privileged positions in society cannot be a distinct factor in this analysis. This leaves us with two mechanisms to explore: either the association is a result of the actual experience of higher education, or it can be attributed to pre-adult socialisation experiences that simultaneously have an effect on the odds that one will pursue higher education. At first sight, our findings only seem to add to the confusion in this regard. The analysis shows that at the age of 16, adolescents can already be distinguished clearly, and these differences remain constant. Even if we distinguish between those enrolling in higher education and those who do not pursue higher education (information that is only available five years later on), at the age of 16 these groups have distinct and stable patterns of political trust. So here we side with Jennings and Stoker (2008): students in higher education already differ significantly from non-students long before they enter higher education. Two elements were shown to be important in this regard: the school track and the student's educational goal. Already at the age of 16 adolescents not only have a clear idea about their future role in life, the school system, at least in Belgium has already sorted them according to their most likely future outcome.

Do our findings support the sceptical view that higher education should be regarded as a mere proxy variable for higher socio-economic status (Kam and Palmer, 2008)? Not necessarily, as educational goal in Model VI and the current enrolment in higher education in Model VII are significant predictors of levels of political trust. Being a student or not by itself does make a difference. Hypothesis 1 was thus supported: there is a significant difference between students and non-students. Hypothesis 2, however, needs to be rejected: this difference between students and non-students does remain significant even when including a full battery of controls.

The analysis makes clear that students are more trusting in politics compared to non-students. What is not found, however, is an additional association with pursuing higher education. For the most part, the differences between students and non-students already exist at the age of 16. This means our problem is the same as in previous research: educational goal happens to be a very good

predictor of one's future academic career (Henderson and Chatfield, 2011). There is, inevitably, a very high degree of self-selection present in higher education and based on these selection mechanisms, it can be demonstrated that secondary school students already have the value patterns that are congruent with their future role. Results of the analysis, however, suggests that education goal is not much more than what it pertains to be, i.e., a future goal orientation. Once the high school students are able to do what they aimed to do, this real life behaviour takes over with regard to explanatory power. The impact of education goal therefore is dependent on actual behaviour and this can be interpreted as a regular selection and adaptation effect. Already during secondary education, students anticipate their future role as students in higher education and the current analysis even suggests that they already acquire the value pattern that is in accordance with their future status. This anticipation process, however, does not make any sense if they are not able to pursue their goals and once they have the appropriate age, enrolment becomes more important.

The debate about the effect of higher education on value patterns, therefore should take into account basic sociological processes of selection and adaptation (Brand, 2010). The effect of higher education is not just limited to being in college for four or five years. During a large part of their secondary school career, future students actively prepare themselves, and they are being prepared by the school system, for their future role as college students. Teachers help them acquire the skills they will need in the future to pursue higher education in a successful manner. The students themselves further develop their attitude in a way that is supportive of their future goal in life. This entire preparation and self-selection process is part and parcel of the meaning of higher education. While it might sound good to label higher education as a 'mere proxy variable', one might wonder how secondary schools would function if there was no higher education, or if access to colleges was highly restricted. Secondary schools would function completely differently, they would stress different goals, and students would prepare themselves for a different role in life. Therefore, our suggestion would be that the two proposed associational mechanisms do not exclude one another, but are dependent on one another: the pre-adult socialisation experiences that these adolescents are being affected by, to a large extent are designed as to make their future access to higher education possible.

Appendix 1.

Descriptives for Political Trust Items

	N	Minimum- Maximum	Mean	Std. Dev.
2006				
Police	1,917	0-10	5.59	2.41
Courts	1,912	0-10	5.92	2.30
Federal Parliament	1,896	0-10	5.02	2.28
Regional Parliament	1,902	0-10	5.14	2.22
European Parliament	1,899	0-10	5.67	2.36
Political Parties	1,908	0-10	4.48	2.28
Political Trust 2006 (sum-scale)	1,877	0-10	5.31	1.87
2008				
Police	1,917	0-10	5.99	2.35
Courts	1,916	0-10	6.33	2.17
Federal Parliament	1,915	0-10	4.99	2.24
Regional Parliament	1,915	0-10	5.37	2.19
European Parliament	1,913	0-10	5.91	2.24
Political Parties	1,919	0-10	4.49	2.15
Political Trust 2008 (sum-scale)	1,902	0-10	5.52	1.79
2011				
Police	1,904	0-10	5.88	2.21
Courts	1,899	0-10	5.83	2.13
Federal Parliament	1,886	0-10	4.54	2.14
Regional Parliament	1,895	0-10	5.02	2.19
European Parliament	1,891	0-10	5.57	2.27
Political Parties	1,896	0-10	3.72	2.10
Political Trust 2011 (sum-scale)	1,874	0-9.33	5.11	1.67

Source: BPPS 2006-2011.

Appendix 2.

Predictive power of educational goal.

	Outcome: No higher education	Outcome: Higher education	Total
Goal: No higher education	80.41% (780)	19.59% (190)	100% (970)
Goal: Higher education	14.34% (547)	85.66% (3,267)	100% (3,7814)
Total	27.74% (1,327)	72.26% (3,457)	4,784

Source: BPPS, 2006-2011.

Appendix 3 ONLINE APPENDIX, NOT AS PART OF THE MANUSCRIPT IN PRINT.

Multilevel model for change with repeated measures nested in individuals and individuals nested in classes (Model VIII) – items of trust looked at separately

	Political trust (sum scale)	Trust in police	Trust in courts	Trust in federal parl.	Trust in regional parl.	Trust in European parl.	Trust in political parties
Year (ref: 2006)							
2008	0.06 (0.09)	0.23 (0.12)	0.36** (0.12)	-0.18 (0.12)	0.07 (0.12)	-0.00 (0.12)	-0.12 (0.12)
2011	-0.21* (0.09)	0.41** (0.12)	-0.02 (0.12)	-0.43*** (0.12)	-0.13 (0.12)	-0.33** (0.12)	-0.79*** (0.12)
Political interest	0.29*** (0.03)	0.14** (0.05)	0.19*** (0.04)	0.24*** (0.04)	0.44*** (0.04)	0.30*** (0.04)	0.48*** (0.04)
News consumption	0.05* (0.02)	0.08* (0.03)	0.10** (0.03)	0.04 (0.03)	0.07* (0.03)	0.06 (0.03)	-0.01 (0.01)
Female	0.05 (0.07)	0.19* (0.09)	0.24** (0.08)	0.12 (0.08)	-0.14 (0.08)	-0.12 (0.08)	0.03 (0.08)
Rel. denomination (ref: none)							
Catholic	0.40*** (0.08)	0.53*** (0.11)	0.24* (0.10)	0.40*** (0.10)	0.46*** (0.10)	0.42*** (0.10)	0.34** (0.10)
Other	0.28 (0.16)	0.13 (0.22)	0.14 (0.20)	0.24 (0.20)	0.27 (0.19)	0.68** (0.20)	0.21 (0.19)
Religious practice	0.10* (0.05)	0.11 (0.06)	0.13* (0.06)	0.05 (0.06)	0.10 (0.05)	0.07 (0.06)	0.12* (0.06)
Books at home	0.00 (0.02)	-0.01 (0.03)	0.03 (0.03)	0.01 (0.03)	-0.00 (0.03)	0.02 (0.03)	-0.03 (0.03)
Discussion about politics with parents	0.09 (0.05)	0.09 (0.07)	0.03 (0.07)	0.13 (0.07)	0.08 (0.06)	0.13 (0.07)	0.08 (0.07)
Mother higher educated	-0.13	-0.09	-0.11	-0.17	-0.10	-0.11	-0.22*

Father higher educated	0.14 (0.07)	0.01 (0.10)	0.06 (0.09)	0.23* (0.09)	0.12 (0.09)	0.22* (0.09)	0.21* (0.09)
Educational track (ref: general)							
Technical	-0.31** (0.09)	-0.42** (0.13)	-0.28* (0.11)	-0.29** (0.11)	-0.36** (0.10)	-0.41*** (0.11)	-0.08 (0.11)
Vocational	-0.57*** (0.13)	-0.77*** (0.18)	-0.56** (0.17)	-0.43** (0.16)	-0.60*** (0.16)	-0.98*** (0.17)	-0.08 (0.16)
Goal higher education	0.10 (0.11)	0.05 (0.14)	0.13 (0.13)	0.06 (0.13)	0.19 (0.12)	0.00 (0.13)	0.17 (0.13)
Outcome higher education	0.43*** (0.11)	0.42** (0.15)	0.34* (0.14)	0.54*** (0.14)	0.51*** (0.14)	0.28 (0.14)	0.45** (0.14)
Higher education * 2008	0.13 (0.10)	0.11 (0.14)	-0.02 (0.14)	0.16 (0.14)	0.14 (0.14)	0.30* (0.14)	0.08 (0.14)
Higher education * 2011	-0.20 (0.10)	-0.38** (0.14)	-0.28* (0.14)	-0.25 (0.14)	-0.23 (0.14)	0.17 (0.14)	-0.23 (0.14)
Classroom instruction	-0.10 (0.12)	-0.42* (0.17)	-0.18 (0.15)	-0.01 (0.14)	-0.08 (0.14)	-0.07 (0.15)	0.15 (0.15)
Open classroom climate	0.47** (0.16)	0.39 (0.22)	0.40* (0.19)	0.69*** (0.19)	0.43* (0.18)	0.45* (0.19)	0.45* (0.19)
Intercept	2.53*** (0.51)	3.88*** (0.71)	3.59*** (0.62)	1.50* (0.61)	2.04*** (0.58)	2.98*** (0.63)	1.12 (0.61)
Within person	1.66	3.08	3.03	3.14	2.93	3.09	3.04
Within class	0.02	0.06	0.02	0.01	0.01	0.02	0.02
In initial status	0.98	1.71	1.37	1.26	1.03	1.37	1.16
In rate of change	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LL	-8823	-10282	-10135	-10165	-9985	-10171	-10068
N _{observations}	4784	4784	4784	4784	4784	4784	4784
N _{individuals}	1634	1634	1634	1634	1634	1634	1634

Data: BPPS 2006-2011. Coefficients of a hierarchical linear model with repeated measurements. Significance levels: * p<0.05; ** p<0.01; *** p<0.001

References

- Alexander, K., Bozick, R. & Entwisle, D. (2008) 'Warming Up, Cooling Out, or Holding Steady? Persistence and Change in Educational Expectations after High School', *Sociology of Education*, 81 (4), 371-96.
- Almond, G. A. & Verba, S. (1963) *The Civic Culture. Political Attitudes and Democracy in Nations*. Princeton: Princeton University Press.
- Andrew, M., & Hauser, R. M. (2011) 'Adoption? Adaptation? Evaluating the Formation of Educational Expectations', *Social Forces*, 90 (2), 497-520.
- Ashby, J. S., & Schoon, I. (2010) 'Career Success: The Role of Teenage Career Aspirations, Ambition Value and Gender in Predicting Adult Social Status and Earnings', *Journal of Vocational Behavior*, 77 (3), 350-360.
- Bauer, Ph. & R. Riphahn (2006), 'Timing of Schooltracking as a Determinant of Intergenerational Transmission of Education', *Economic Letters*, 91 (1), 90-97.
- Berinsky, A. & Lenz, G. (2011) 'Education and Political Participation. Exploring the Causal Link', *Political Behavior*, 33 (3), 357-373.
- Bobo, L. & Licari, F. (1989) 'Education and Political Tolerance. Testing the Effects of Cognitive Sophistication and Target Group Affect', *Public Opinion Quarterly*, 53 (3), 285-308.
- Bovens, M. & Wille, A. (2009). *Diploma Democracy. On the Tensions between Meritocracy and Democracy*. Utrecht: University of Utrecht.
- Brand, J. E. (2010) 'Civic Returns to Higher Education: A Note on Heterogeneous Effects', *Social Forces*, 89 (2), 417-434.
- Campbell, D. E. (2009) 'Civic Engagement and Education: An Empirical Test of the Sorting Model', *American Journal of Political Science*, 53 (4), 771-786.
- Catterberg, G. & Moreno, A. (2006) 'The Individual Bases of Political Trust: Trends in Newly Established Democracies', *International Journal of Public Opinion Research*, 18 (1), 34-48.
- Claes, E., Hooghe, M. & Marien, S. (2012) 'School Experiences, Classroom Climate and Political Trust. A Two-Year Panel Study among Belgian Late Adolescents on the Impact of School Environment Characteristics on Political Trust', *International Journal of Public Opinion Research*, 24 (2), 208-224.
- Coleman, J. (1988) 'Social Capital in the Creation of Human Capital', *American Journal of Sociology*, 94 (Supplement), 95-120.
- Correll, S.J. (2001) 'Gender and the Career Choice Process: The Role of Biased Self-Assessments', *American Journal of Sociology*, 106 (6), 1691-730.
- Dalton, R.J. (2004) *Democratic Challenges, Democratic Choices. The Erosion of Political Support in Advanced Industrial Democracies*. Oxford: Oxford University Press.
- Deschouwer, K. (2009) *The Politics of Belgium*. Basingstoke: Palgrave Macmillan.
- Gambetta, D. (1987) *Were They Pushed or Did They Jump? Individual Decision Mechanisms in Education*. Cambridge: Cambridge University Press.
- Gamoran, A. & Mare, R. (1989) 'Secondary-school Tracking and Education Inequality. Compensation, Reinforcement or Neutrality', *American Sociological Review*, 94 (5), 1173-1183.
- Hahn, C. L. (2003) 'Democratic Values and Citizen Action: A View from US Ninth Graders', *International Journal of Education Research*, 39 (6), 633-642.

- Henderson, J. & Chatfield, S. (2011) 'Who Matches? Propensity Scores and Bias in the Casual Effects of Education on Participation', *Journal of Politics*, 73, 646-658.
- Hetherington, M. J. (2005) *Why Trust Matters*. Princeton: Princeton University Press.
- Hillygus, S. (2005) 'The Missing Link: Exploring the Relationship Between Higher Education and Political Engagement', *Political Behavior*, 27 (1), 25-47.
- Hooghe, M. (2011) 'Why there is Basically only one Form of Political Trust', *British Journal of Politics and International Relations*, 13 (2), 269-275.
- Hooghe, M. (2012) 'The Political Crisis in Belgium (2007-2011): A Federal System without Federal Loyalty', *Representation, Journal of Representative Democracy*, 48 (1), 131-138.
- 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., Havermans, N., Quintelier, E., Dassonneville, R. (2011) *Belgian Political Panel Survey (BPPS), 2006-2011*. Technical Report. Leuven: University Leuven.
- Hooghe, M., Marien, S., De Vroome, Th. (2012) The cognitive basis of trust. The relation between education, cognitive ability, and generalized and political trust. *Intelligence*, 40(6), 604-613.
- Huang, J., van den Brink, H. M., & Groot, W. (2011) 'College Education and Social Trust: An Evidence-Based Study on the Causal Mechanisms', *Social Indicators Research*, 104 (2), 287-310.
- Inglehart, R. (1999) 'Postmodernization Erodes Respect for Authority, but Increases Support for Democracy', in P. Norris (ed.), *Critical Citizens*. Oxford: Oxford University Press, pp. 236-256.
- Jennings, M. K., Markus, G.B., Niemi, R. & Stoker, L. (1997) *Youth-Parent Socialization Panel Study, 1965-1997: Four Waves Combined*. Ann Arbor: Inter-university Consortium for Political and Social Research.
- Jennings, M. K. & L. Stoker (2008) 'Another and Longer Look at the Impact of Higher Education on Political Involvement and Attitudes'. Paper presented at the 67th Annual Meeting of the Midwest Political Science Association, Chicago, April.
- Kam, C. & Palmer, C. (2008) 'Reconsidering the Effects of Education on Political Participation', *Journal of Politics*, 70 (3), 612-631.
- Kam, C. & Palmer, C. (2011) 'Rejoinder: Reinvestigating the Causal Relationship Between Higher Education and Political Participation', *Journal of Politics*, 73 (3), 659-663.
- Maas, C. J. & Snijders, T.A.B. (2003) 'The Multilevel Approach to Repeated Measures for Complete and Incomplete Data', *Quality and Quantity*, 37 (1), 71-89.
- Manski, C. (2004) 'Measuring Expectations', *Econometrica*, 72 (5), 1329-1376.
- Marien, S. (2011) 'Measuring Political Trust Across Time and Space', in: S. Zmerli & M. Hooghe (eds.), *Political Trust. Why Context Matters*. Colchester: ECPR Press, pp. 13-46.
- Marien, S. & Hooghe, M. (2011) 'Does Political Trust Matter? An Empirical Investigation into the Relation between Political Trust and Support for Law Compliance', *European Journal of Political Research*, 50 (2), 267-291.
- Mayer, A. (2011) 'Does Education Increase Political Participation?', *Journal of Politics*, 73 (3), 633-645.
- McAdam, D. & R. Paulsen (1993) 'Social Ties and Recruitment: Toward a Specification of the Relationship', *American Journal of Sociology*, 99 (3), 640-667.

- Miller, A. H. & Listhaug, O. (1990) 'Political parties and Confidence in Government. A Comparison of Norway, Sweden and the United States', *British Journal of Political Science*, 20 (3), 357-386.
- Morgan, S. L. (2005) *On the Edge of Commitment: Educational Attainment and Race in the United States*. Stanford: Stanford University Press.
- Newton, K. (1997) 'Social capital and democracy', *American Behavioral Scientist*, 40 (5), 575-586.
- Nie, N., J. Junn & K. Stehlik-Barry (1996) *Education and Democratic Citizenship in America*. Chicago: University of Chicago Press.
- Norris, P. (2011) *Democratic Deficits. Critical Citizens Revisited*. Cambridge: Cambridge University Press.
- Persson, M. (2012a) 'Does Type of Education Affect Political Participation? Results from a Panel Survey of Swedish Adolescents', *Scandinavian Political Studies*, 35 (3), 198-221.
- Persson, M. (2012b) 'Education Does not Cause Political Participation: Evidence from British Cohort Studies'. Paper Presented at the annual meeting of the Midwest Political Science Association, Chicago, October.
- Ployhart, R. E. & Vandenberg, R.J. (2010) 'Longitudinal Research: The Theory, Design, and Analysis of Change', *Journal of Management*, 36 (1), 94-120.
- Reynolds, J. & M. K. Johnson (2011) 'Change in the Stratification of Educational Expectations and Their Realization', *Social Forces*, 90 (1), 85-109.
- Schlozman, K. L., Verba, S. & H. Brady (2012) *The Unheavenly Chorus. Unequal political voice and the broken promise of American Democracy*. Princeton: Princeton University Press.
- Schoon, I., & Polek, E. (2011) 'Teenage Career Aspirations and Adult Career Attainment: The Role of Gender, Social Background and General Cognitive Ability', *International Journal of Behavioral Development*, 35 (3), 210-217.
- Schoon, I. & Cheng, H. (2011) 'Determinants of Political Trust: a Lifetime Learning Model', *Developmental psychology*, 47 (3), 619-31.
- Schoon, I., Cheng, H., Gale, C. R., Batty, G. D., & Deary, I. J. (2010) 'Social Status, Cognitive Ability, and Educational Attainment as Predictors of Liberal Social Attitudes and Political Trust', *Intelligence*, 38 (1), 144-150.
- Singer, J. D. & Willett, J.B. (2003) *Applied Longitudinal Data Analysis: Modeling Change and Event Occurrence*. New York: Oxford University Press.
- Serritzlew, S. & Svendsen, G. T. (2011) 'Does Education Produce Tough Lovers? Trust and Bureaucrats', *Journal of Comparative Policy Analysis*, 13 (1), 91-104.
- Sewell, W. H., Haller, A.O. & Portes, A. (1969) 'The Educational and Early Occupational Attainment Process', *American Sociological Review*, 34 (1), 82-92.
- Snijders, T. (1996) 'Analysis of Longitudinal Data Using the Hierarchical Linear Model', *Quality and Quantity*, 30 (4), 405-426.
- Snijders, T. & Bosker, R. (1999) *Multilevel Analysis: An Introduction to Basic and Advanced Multilevel Modeling*. London: Sage.
- Tasca, G. A., Illing, V., Joyce, A.S., Ogrudniczuk, J.S. (2009) 'Three-Level Multilevel Growth Models for Nested Change Data: A Guide for Group Treatment Researchers', *Psychotherapy Research*, 19 (4-5), 453-461.

- Torche, F. (2011) 'Is a College Degree Still the Great Equalizer? Intergenerational Mobility across Levels of Schooling in the United States', *American Journal of Sociology*, 117 (3), 763-807.
- 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.
- Tyler, T. R. (2011) *Why People Cooperate. The Role of Social Motivations*. Princeton: Princeton University Press.
- van der Brug, W. & van Praag, P. (2007) 'Erosion of Political Trust in the Netherlands: Structural or Temporarily? A Research Note', *Acta Politica*, 42 (4) 443-458.
- Van Houtte, M. (2004) 'Tracking Effects on School Achievement. A Quantitative Explanation in Terms of the Academic Culture of School Staff', *American Journal of Education*, 110 (4), 354-388.
- Verba, S., Schlozman, K. L. & Brady, H. E. (1995) *Voice and Equality. Civic Voluntarism in American Politics*. Cambridge: Harvard University Press.
- Willett, J. B. (2004) 'Investigating Individual Change and Development: The Multilevel Model for Change and the Method of Latent Growth Modeling', *Research in Human Development*, 1 (1-2), 31-57.

Endnotes

- ¹. An exception is the study of Persson (2012a), also using recent panel data. This study, however, does not cover higher education experiences.
- ². When using participation as a dependent variable, the relatively low frequency of political participation acts among this age group, require poisson regression techniques. However, also this analysis leads to the same conclusions with regard to the impact of higher education.
- ³. Missing data analysis indicated that there is some systematic attrition bias. Weighting as a strategy to cope with attrition does not significantly affects the results, however.
- ⁴. The exact wording was: 'For each of the following institutions, can you indicate on a 0 to 10 scale how much trust you have in them?'
- ⁵. To be certain about this effect, we also conducted the entire analysis again for every item in this scale separately. All these analyses, however, did confirm the overall result.
- ⁶. While this is a valuable property of the method chosen, the current analyses includes only few respondents for which information on time-varying variables is missing (for 1,523 respondents complete information is used, so for only 7% of the individuals included some information on level 1 is missing).
- ⁷. Differentiating between respondents intending to go to university and those planning on enrolling in non-university higher education did not point to significant differences.
- ⁸. We additionally ran a fixed-effects OLS regression in order to assess whether including all these variables into a single model does not cause multicollinearity problems. The highest VIF was 2.02 and the lowest tolerance statistic 0.50, which does not indicate too much collinearity.
- ⁹. An additional test on whether respondents were able to predict correctly their participation in higher education did not lead to significant results.