

# **Educational differences in euroscepticism: utilitarianism, values acquired at school or parental socialization?**

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## **Abstract**

Europeans with low levels of educational attainment have been shown to be more eurosceptic than highly educated individuals. While the effect of education is undisputed, the underlying mechanisms remain debated. High skilled individuals are thought to be less eurosceptic because they have acquired cognitive skills and cosmopolitan values in education, which foster open and progressive attitudes, and because they face less competition and insecurity on an international labour market. Another mechanism that influences both euroscepticism and the educational trajectory of their offspring—parental socialization—has so far received only scant attention. Thus, there may be self-selection into education. Indeed, previous work relied exclusively on cross-sectional analysis, which does not differentiate between education and selection effects. We use data from the Swiss Household Panel (SHP, 1999-2011) that allows examining the cross-sectional and longitudinal impact of Swiss young adults' educational attainment on euroscepticism from the age of 13 years onwards. Replicating previous cross-sectional research, we find strong educational differences between individuals with regard to euroscepticism. In contrast, using person fixed-effects models, our longitudinal analysis shows no change in support for joining the EU as individuals pass through education. Supporting the parental socialization hypothesis, we find a strong effect of parental EU support on youngsters' opinion toward joining the EU. The results suggest that differences between educational groups are mostly due to self-selection rather than to a genuine education effect.

## **Introduction**

A large body of research has documented an educational divide in euroscepticism: Lower educated Europeans tend to be more sceptical about European integration than people with high educational attainment (Hobolt and de Vries, 2016; Hooghe and Marks, 2005; Lubbers and Scheepers, 2010). This relationship is robust across countries and across time. In fact, a recent study covering over forty years in twelve European member states shows that the link between education and euroscepticism has even strengthened over time, especially since the signing of the Maastricht Treaty (Hakhverdian et al., 2013).

Researchers have proposed three main explanations for the link between education and euroscepticism: First, in education, students acquire the “skills necessary to cope with an extensive political community” (Inglehart, 1970: 47) and they develop cognitive sophistication that enables them to form their own opinion and shields them against the influence of populist parties or sensationalist news media (Bobo and Licari, 1989a; Schuck and De Vreese, 2006) Second, as European students go through education, they are exposed to school curricula that tend to emphasize cosmopolitan values and post-national models of society (Keating, 2009). Third, low educated individuals are more eurosceptic because they are the “losers” of European integration and globalization and are hence less competitive on an integrated labour market (Anderson and Reichert, 1995; Gabel, 1998).

While these arguments receive broad scholarly support, they rely on the assumption that attitudes towards European integration are formed while being in education, or shortly thereafter, when graduates enter the labour market and are confronted with international competition. However, because existing studies on the topic rely on cross-sectional survey data, it is not possible to distinguish what happens during education from what has happened prior to education. Differences in euroscepticism between highly and low educated individuals are interpreted as a

*consequence* of education, while they could in fact partly or entirely result from *selection* into education. Indeed, by relying on cross-sectional data, researchers cannot exclude the possibility that the educational effect is in fact explained by factors that occur prior to education, such as parental socialization (Lancee and Sarrasin, 2015; Persson, 2013). Parents are known to exert strong influence on the political attitudes and behaviour of their offspring (Dinas, 2014; Jennings and Niemi, 1968; Neundorf et al.), including their identification as Europeans (Agirdag et al., 2012; Quintelier et al., 2014). Parental background is also decisive in the educational choices and attainment of youngsters (Shavit and Blossfeld, 1993; Teachman, 1987). For these two reasons, educational differences in euroscepticism are likely to be the result of parental socialization and self-selection into different school trajectories rather than a consequence of education itself. Hence, to test the hypothesis that Europeans become less eurosceptic as they acquire higher levels of education, longitudinal analysis is necessary.

This paper addresses this research lacuna by analysing data of the Swiss Household Panel Survey (1999-2011), the only longitudinal dataset that repeatedly surveys euroscepticism among adolescents and young adults as well as their parents. Examining euroscepticism in Switzerland is relevant since joining the European Union has been a topic of heated political debates over the past few decades. While Switzerland is not a member state of the European Union, public opinion towards EU membership is structured in a similar way as in EU member states: Swiss citizens with tertiary education and with higher incomes tend to be more pro-European (Kriesi et al., 1993; Sarrasin et al., forthcoming), while voters of the populist right-wing party SVP (Schweizerische Volkspartei) are more eurosceptic (Bornschieer, 2010; Skinner, 2013). As in EU member states, Swiss citizens consider their own economic costs and benefits when evaluating EU membership (Christin and Trechsel, 2002; Schraff, 2017).

Furthermore, Swiss individuals who perceive the EU as a threat to their national identity are opposed to joining the EU (Christin and Trechsel, 2002).

We estimate hybrid models and compare between-individual effects and within-individual effects of education on Eurosceptic attitudes. To study the change in euroscepticism as respondents aged 13 to 30 years go through education and enter the labour market, we estimate person fixed-effects models.

We proceed as follows. We first review the existing literature on education, parental socialization, and euroscepticism to develop our hypotheses. We then discuss the data and modelling strategy before presenting results of hybrid and fixed effects models.

### **Euroscepticism and education: Cognitive skills, values, and competition**

The European Union might be a moving target in that its institutional setup, political impact, and geographic scope have changed significantly over the past decades, but one thing has remained the same: it is above all the highly educated Europeans that endorse European integration, whereas citizens with low levels of education have always tended to be sceptical towards European integration (Anderson and Reichert, 1995; Hooghe and Marks, 2005; Inglehart, 1970; Lubbers and Scheepers, 2010; McLaren, 2002). An analysis of 81 waves of the Eurobarometer survey in twelve member states shows that the impact of educational attainment on euroscepticism has increased over the past four decades, especially since the Maastricht Treaty (Hakhverdian et al., 2013). Studying nearly the same period of time, Kuhn and colleagues (2016) show that increasing income inequality in West European countries has boosted euroscepticism especially among the lower educated. Most recently, in the ‘Brexit’ referendum, lower educated voters were more likely to vote to leave the European Union than higher educated Britons (Hobolt, 2016).

However, while the negative association between education and euroscepticism is undisputed, it is unclear what causes educational differences in eurosceptic attitudes. Existing research on education and euroscepticism can be grouped into three sets of explanations: cognitive skills, cosmopolitan values and individual cost-benefit considerations (Hakhverdian et al., 2013).

The cognitive skills argument posits that education has a strong liberalizing effect on students' state of mind by improving cognitive skills (Bobo and Licari, 1989b; Hainmueller and Hiscox, 2006; Hyman and Wright, 1979; Weakliem, 2002). For example, in a cross-national study, Verhaegen and colleagues (2013) find that cognitive learning opportunities are linked to stronger European identification among pupils. Low cognitive skills have been repeatedly linked to less open social and political attitudes, partly because they relate to a higher endorsement of conservative ideologies (Hodson and Busseri, 2012). In education, students acquire cognitive skills and increase their political awareness, which fosters the ability to form their own opinion instead of following simplistic cues of eurosceptic and populist parties and news media. Moreover, cognitive skills increase reflexivity and help to detect oversimplification in stereotyping. This renders citizens less prone to nationalist and anti-immigrant attitudes, which are motivations to feel eurosceptic (De Vreese and Boomgaarden, 2005; Halikiopoulou et al., 2012; McLaren, 2006). These different factors may explain why highly educated individuals tend to be more tolerant and appreciative towards transnational projects, such as, for example, the European Union. One of the first scholars to study public opinion on European integration, Inglehart (1970) indeed argued that educational expansion would give rise to cognitive mobilization, i.e. the 'political skills necessary to cope with an extensive political community' (1970: 47) which is key to supporting European integration.

The second argument for a negative association between educational attainment and euroscepticism refers to values. While in the past, educational systems have been (and in some countries still are) promoting nationalist ideologies, it is an outspoken aim of many modern education systems “to educate and socialise people into multicultural thinking, creating citizens who respect human rights and democratic principles” (Hjerm, 2010: 38). Hence, in education, students are exposed to and internalize liberal and cosmopolitan values (Gaasholt and Togeby, 1995). Generally, European school curricula increasingly promote post-national models of citizenship (Keating, 2009). Contents of specific courses also have an impact. For example, Hainmueller and Hiscox (2006) ascribe the greater support for trade and globalization among college-educated individuals to their exposure to economic training in college.

If educational differences in eurosceptic attitudes are indeed caused by the liberalizing effect of education due to improved cognitive skills and exposure to cosmopolitan values, then we should observe a decrease in euroscepticism as individuals attain higher levels of education. Hence we formulate the following hypothesis:

H1: As individuals become more educated, they become less eurosceptic.

The third main explanation for the link between education and euroscepticism refers to utilitarian cost-benefit considerations (Gabel, 1998; Gabel and Palmer, 1995). The cost-benefit explanation posits that low educated individuals are more likely to be Eurosceptic because, compared to high educated individuals, they benefit less from the European Union. Not everyone benefits equally from free movement and an integrated labour market. In fact, European integration and globalization have created new groups of winners and losers (Kriesi et al., 2008; Mau, 2005; Teney et al., 2014). In high-wage countries such as Switzerland, it is generally the lower educated who are confronted with

increasing international competition on the labour market, while highly educated individuals benefit from a broader range of career opportunities (Anderson and Reichert, 1995; Gabel, 1998; Tucker et al., 2002).

The distinction into winners and losers is likely to be most prominent when people enter the labour market. While individuals are in education, they are still shielded against international labour market competition. Once individuals finish education and search for a job, they are likely to become aware of and confronted with competition on the labour market. Hence, to the extent that educational differences in euroscepticism are due to utilitarian evaluations, they should become (more) evident once individuals enter the labour market. At this point in their life, low and high-educated individuals should react differently. While individuals with low educational outcomes can be expected to become critical of European integration due to the increased international competition, we do not expect people with high levels of education to become more eurosceptical. This is formulated in hypothesis two:

H2: When lower educated people enter the labour market, they become more eurosceptic, whereas higher educated people entering the labour market are not affected.

### **Selection into education: The impact of parental socialization**

All studies that highlighted educational effects on euroscepticism relied on cross-sectional data. While they assumed that these differences are due to the skills, values and opportunities that education provides, there is no proof that attitudes change during or shortly after education. While there is no evidence with respect to euroscepticism, studies on educational differences in related topics showed that attitudes are in great part formed prior to education. For instance, also using Swiss data, Lancee and Sarrasin (2015) find

strong educational differences *between* respondents with respect to anti-immigrant attitudes, but no *change* in attitudes as respondents gain more education. Using a regression-discontinuity design in several European countries, Persson and colleagues (2016) find no evidence that additional schooling translates into increased political knowledge, democratic values, or political participation. These studies thus challenge the view that education in itself influences political attitudes.

Research on education and euroscepticism thus needs to consider that differences between educational groups exist prior to education. In that sense, the observed cross-sectional differences in education could be the result of another mechanisms that has yet to be addressed: Parental socialization. The lack of interest for the impact of parental attitudes on euroscepticism among young people is surprising, since a large body of research has shown that parental background and socialization plays an important role in forming young adults' political attitudes *and* on their educational trajectory. In a review article on the link between education and political participation, Persson (2013) points to the relevance of pre-adult socialization as a mechanism underlying educational differences. In fact, the family is often seen as the prime locus of political socialization (Dinas, 2014; Hyman, 1959; Jennings and Niemi, 1968; Neundorf et al.). Parents transmit their values either directly through example and education, or indirectly through their socio-economic status and other social characteristics that spill over to values. Recent studies have shown that school children's identification as European is influenced by parental socio-economic background (Agirdag et al., 2012) and their parents' identification as European (Quintelier et al., 2014). An analysis of the International Civics and Citizenship Survey has revealed that parental socio-economic background has a strong influence on youngsters' transnational mobility, which is strongly related to EU support (Kuhn, 2016).



In other words, highly educated parents transmit their EU support to their children, and encourage them to attend higher education. Similarly, the children of low educated and Eurosceptic parents tend to enter lower educational tracks with an attitude towards the EU that is similar to their parents' attitude. Along this line of reasoning, educational differences in Eurosceptic attitudes can be explained by parental socialization and selection in education. Hence, there are reasons to expect intergenerational transmission of eurosceptic orientations, either directly through value transmission or indirectly through social background. We thus hypothesize the following:

H3a: Parental euroscepticism predicts child euroscepticism.

H3b: Parental educational attainment predicts child euroscepticism.

### **The case of Switzerland**

In the present study we examine euroscepticism among adolescents and young adults (aged 13 to 30) during and after education in Switzerland, a country that is not part of the European Union. While the adherence to the EU was fiercely discussed in the 1980s and 1990s, public support for joining the EU has strongly decreased since then. Indeed, while just over a half (50.3%) of Swiss people refused to join the European Economic Area (EEA) in 1992 (Kriesi et al., 1993), Swiss public opinion has become increasingly sceptical about EU membership (Sarrasin et al., forthcoming; Schraff, 2017). Switzerland officially withdrew its EU membership application in 2016. Dynamics underlying popular euroscepticism in Switzerland appear to be highly similar to those among citizens of EU members. Indeed, Swiss citizens with higher socio-economic background express more open political attitudes (Sciarini and Tresch, 2009) and are more supportive of EU membership (Kriesi et al., 1993; Sarrasin et al., forthcoming). As in EU member states,

both utilitarian cost-benefit calculations and a perceived threat to the Swiss identity are strongly linked to public opinion on EU membership (Christin and Trechsel, 2002).

The Swiss education system is particularly relevant to study differences in social and political attitudes across educational levels because of its early tracking system. While in lower secondary education (12-15 years old), adolescents choose between an academic and a vocational track<sup>1</sup>. About two thirds of adolescents choose the vocational track. 15 per cent of all Swiss residents obtain a tertiary degree from an institution of professional education and training in the vocational track, while 30 per cent graduate from university (EDK, 2015).

In Switzerland decisions regarding education are taken at the cantonal level, which results in a highly heterogeneous educational system, although there have been recent attempts to harmonize it (Oser and Biedermann, 2013). Hence, there is no federal programme for civic education. Albeit less present than in other Western European Countries (Ainley et al., 2013) civic education—including information about international institutions—is taught in both academic and vocational tracks at the upper secondary level (Stadelmann-Steffen et al., 2013). For these reasons, students—and particularly those who stay longer in education—may be assumed to learn about the EU in education.

## **Data and Method**

To test our hypotheses, we rely on survey data from the Swiss Household Panel (SHP, 1999-2011). To the best of our knowledge, this is the only panel study that repeatedly surveys eurosceptic attitudes among adolescents and young adults, thereby enabling us to

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<sup>1</sup> Note that for vocational students it is however possible to enter an applied university if they complete a vocational high school diploma after their apprenticeship

capture a substantial part of individuals' educational trajectory in Switzerland. The SHP interviews respondents as young as 13 years old, and each year after that. We restrict our sample to individuals aged between 13 and 30, because beyond the age of 30 the number of educational transitions is very low and most individuals have been on the labour market for some years. We further restrict our sample to Swiss citizens who are born in Switzerland. The analytic sample contains 4,536 individuals and 16,063 person-year observations (see Table 1).

*Dependent variable.* To measure euroscepticism, we refer to individuals' opinion toward joining the European Union. The item, repeated each year, is phrased as follows: "Are you in favour of Switzerland joining the European Union or are you in favour of Switzerland staying outside of the European Union?" The answering categories are: 1 "in favour of joining the EU", 2 "Neither", and 3 "In favour of staying outside of the EU." This question has been used by previous studies on EU support among Swiss citizens (Christin and Trechsel, 2002; Schraff, 2017). Moreover, it is comparable to the most prominent operationalization of euroscepticism among citizens of EU member states (Anderson and Reichert, 1995; Brinegar et al., 2004; Hakhverdian et al., 2013), and among citizens of non-EU member states (Elgün and Tillman, 2007; Tucker et al., 2002), which asks respondents whether EU membership of their country is or would be a good thing. Following Hakhverdian et al. (2013), we construct a dichotomous variable with the value zero indicating in favour of joining the EU (37% of the person-year observations) and the value one indicating in favour of staying outside of the EU and neither (63%). To ensure that our findings are not affected by this coding scheme, we estimated all models with the three-category version of the dependent variable; estimates are highly similar and do not alter the conclusions (see Tables A2 and A3 in the Appendix). There is substantial within-individual variation in Eurosceptic attitudes: 24% of the individuals

change their opinion towards joining the European Union during the period of observation at least once.

*Independent variables.* Each year, respondents are asked to indicate the highest level of education they have achieved. We follow the coding scheme of Bergman et al. (2009), and differentiate between five main educational levels: Primary education, secondary, secondary vocational, tertiary vocational, and university. To test the impact of entry into the labour market, we use a dichotomous variable for employment status. Since there are very few respondents who work part-time, we collapse these cases with fulltime employment. For about 26,5% of the individuals we observe at least one educational transition; 36% of the individuals in our sample make at least one transition to employment.

*Parental information.* We make use of the household structure of the panel in order to obtain information on respondents' parents. Parental education is measured on the same scale as the respondent's level of education and included as the highest educational level of the parents. Parental euroscepticism is operationalized with the same question as our dependent variable. We refer to the attitude on EU membership of the mother, and in case this is missing we use the father's attitude<sup>1</sup>. For 25% of the individuals in our sample, we do not have information on either parents' euroscepticism. In the majority of cases, this is because respondents have entered the panel when they had already left the parental home and were thus head of household themselves. Consequently, for the analysis that includes parental euroscepticism we have a smaller sample size (2,923 individuals, 11,409 person-year observations), that is slightly younger (mean age is 21,5 years compared to 19.7 in the full sample) and with a lower percentage of observations that have left the parental home (9.9% compared to 23.0% in the full sample)<sup>2</sup>.

*Control variables.* Besides entering the labour market, the end of education is often associated with leaving the parental home. We therefore control for leaving the parental home. Furthermore, to separate the education effect from an age effect, we also control for age. A Swiss peculiarity is that French-speaking cantons are less eurosceptic than German-speaking cantons and Ticino (Theiler, 2004). We account for this difference by controlling for respondents' linguistic background. Last, euroscepticism in Switzerland has increased substantially in the period of analysis. We include a time trend with fixed effects by including year dummies to avoid conflation with the general population increase in euroscepticism with life course and educational transitions.

<Table 1 about here>

### ***Analytic strategy***

When researchers examine differences *between* individuals in order to evaluate the impact of education on euroscepticism, effects may be due to education itself, but also due to selection processes. To conduct a more precise test of the impact of education, we compare between-person differences (as is done in cross-sectional analyses) to within-person differences (as is done in longitudinal analyses).

To this end, we estimate hybrid linear probability models (Allison, 2009), following the procedure described by Schunck (2013)<sup>3</sup>. The great advantage of hybrid models is that they estimate two coefficients for each variable: A within-individual effect (equal to the FE estimator), and a between-individual effect (equal to the between-estimator, or BE).

The FE estimator uses only within-person variation to estimate coefficients, which makes it suitable for analyzing changes over time. The FE estimator has the

advantage of being unbiased and consistent, even when the assumption that unit effects are uncorrelated with the explanatory variable is violated. In other words, all time-constant unobserved heterogeneity is eliminated because the FE estimator controls for all differences between individuals by cancelling out the idiosyncratic error term (Halaby, 2004). Significant effects of education in FE models are strong evidence that individuals change in attitudes as they pass through education.

The BE estimator mimics conventional cross-sectional analysis by analysing only variance between individuals. The BE estimator is equivalent to the person-specific mean of each variable across time and estimating a regression on the collapsed dataset of means. As with all cross-sectional analysis, a disadvantage of between-effects is that covariates and the error terms are assumed to be exogenous. Correlation of the independent variables with the error term (endogeneity) results in biased estimates, for example due to self-selection. Hence, BE-estimates might be biased by unobserved heterogeneity.

<Figure 1 about here>

## **Results**

Figure 1 presents a descriptive analysis of euroscepticism by age and level of education. Using the panel structure of the data, we also plot the mean level of euroscepticism for ages where individuals have not reached their final level of education yet, but of whom we know that they will graduate at a later point in time. Figure 1 shows that there are marked differences between educational groups already during secondary education. There is a clear gap between individuals who will obtain secondary vocational degrees and individuals who will obtain a secondary degree that provides access to tertiary education. Similarly, already during secondary education, there is a marked difference

between individuals who will obtain a university degree and individuals who will obtain a tertiary vocational degree. Figure 1 also shows that for each educational transition, there does not appear to be a clear reduction in the level of euroscepticism. For example, there is no clear visual difference between individuals who are in secondary education and will obtain a university degree later in their lives, and those having obtained a university degree already. On the other hand, it does seem that individuals who will obtain a secondary vocational degree have on average lower levels of euroscepticism than in the years that follow after having obtained their degree.

This descriptive analysis thus does not show a clear liberalizing effect of education, nor a spike in euroscepticism at the end of the age range, when individuals enter the labour market.

<Table 2 about here>

We proceed with the multivariate analysis. Table 2 presents the estimates of a hybrid regression model predicting support for staying outside of the EU. The models contain both within effects (FE estimator) and between effects (BE estimator). In model 1, we see the conventional between effect of education on euroscepticism: compared to individuals with primary education only, higher educated individuals pursuing an academic track are less likely to be Eurosceptic. Individuals with higher vocational degrees are not significantly less eurosceptic than those with primary education only. In other words, there is a negative association between educational attainment and euroscepticism for individuals in the academic track. However, when we only analyse variation *within* individuals, there is no effect of changes in education on changes in individual's attitude towards joining the European Union. That is, when we control for time-constant non-observed heterogeneity by using the FE estimator, we do not find an

association between education and euroscepticism. These results go against the argument that highly educated individuals are less Eurosceptic because they acquire cognitive skills and tolerant values at school. If education indeed makes people more supportive of European integration, we should observe a change in individuals' eurosceptic attitude as they pass through education. Yet, when looking at variation within individuals and controlling for a general time trend by including year-fixed effects, changes in educational levels are not associated with changes in eurosceptic attitudes. In model 1, we also estimate the effect of being employed. Again, while employed individuals are generally less likely to be Eurosceptic compared with individuals who are not employed (BE), we do not find a change in support for EU membership as people enter the labour market and find employment (FE).

With respect to the control variables, women are slightly less likely to be eurosceptic than men. Furthermore, compared to individuals originating from the French speaking regions, the German and Italian regions are substantially more Eurosceptic, which confirms earlier findings on linguistic differences in euroscepticism in Switzerland (Theiler, 2004). There is no effect of leaving the parental home (neither FE nor BE effects).

Turning to hypotheses 3a and 3b, we add the highest level of education of the parents<sup>4</sup> in model 2. In line with the parental socialization argument, the educational level of the parents has a strong effect on children's attitudes towards the EU. Last, in model 3 we include mothers' opinion towards the EU. Similarly, confirming the socialization hypothesis, parents' attitude towards joining the EU is a strong predictor for children's attitude, even when controlling for parental and children's level of education. There is both a within and a between effect of parental attitudes. Hence, while eurosceptic parents are more likely to have eurosceptic children, also changes in attitudes between parents and children are correlated. What is more, when it concerns explaining over-time



variation, the within effect of parental euroscepticism is the strongest predictor in the entire model. It should be noted, however, that we estimate a hybrid model, which does not take into account the causal direction of the effect. That is, it is possible that children influence their parents too. We come back to this issue in the discussion.

In Table 2, the estimates of educational attainment need to be interpreted against the reference category of primary education. Whereas the hybrid model convincingly shows how time-constant unobserved heterogeneity affects the estimates of education, it is less strong in mimicking the actual educational trajectory that individuals follow. For example, individuals do not transition from primary education to university directly; yet, in the hybrid model, the effect of university education is interpreted against the reference category of primary education. For that reason, following Lancee and Radl (2014), we model the educational and labour market transitions by specifying origin and destination states. Table 3 presents the estimates for these transitions in a person-fixed effects model.

<Table 3 about here>

As can be seen in Table 3, model 1, also when specifying educational transitions, we do not observe an effect of education. That is, in our data, educational transitions are not associated with changes in individuals' eurosceptic attitudes. Hence, we do not find support for hypothesis 1 that people become less eurosceptic as they go through education. However, with respect to transitions to the labour market there is limited evidence in line with the cost-benefit argument. According to this hypothesis, people with low levels of education should become more eurosceptic once they leave school and start working because they should become more aware of international competition on the labour market. We see that individuals with secondary vocational education who

transition to employment become significantly more eurosceptic. That is, for individuals with secondary vocational education who start working, the probability to be eurosceptic increases by about six percent. By contrast, we do not observe any change in euroscepticism among respondents with primary or higher levels of occupational education.

#### *Robustness checks*

We carried out the following robustness checks. First, as reported in the measurement section, we estimated the models in Tables 2 and 3 using the three categories of the dependent variable (Tables A2 and A3). Furthermore, there are several attitudinal variables that may correlate with changes in both educational attainment and euroscepticism. As a robustness check, we estimate a model that additionally controls for the following attitudes: interest in politics, left-right self-placement, life satisfaction, satisfaction with democracy, trust in the federal government. Inclusion of these attitudes does not alter the findings substantially (see Table A4 in the Appendix).

It could also be argued that the effect of education depends on the education of the parents. That is, it could be that the liberalizing effect of education is more pronounced for children of low educated parents. Conversely, there may be a ceiling effect for children of high educated parents: if children of highly educated parents are positive towards EU membership, their education may not contribute much anymore. We this tested whether the effect of education varies by level of education of the parents by including an interaction term. However, none of the interactions is statistically significant. Similarly, we included an interaction term of level of education \* parental euroscepticism, but this term is not significant either.

## **Conclusion**

What explains educational differences in eurosceptic attitudes? Existing research has put forward three sets of factors that could explain why individuals with higher levels of education tend to be less eurosceptic: Cognitive skills acquired in education, exposure to cosmopolitan and pro-European values at school, and higher competitiveness on an international labour market. However, studies to date could not show which of these factors really matters. Moreover, existing work has paid little attention to the possibility that educational differences in euroscepticism might be the result of parental socialization: Parental background might influence both the political attitudes and the school trajectories of their offspring, and hence lead to self-selection into education. This paper has sought to address this question by analysing data of the Swiss Household Panel. This panel includes respondents as young as thirteen years of age. Using hybrid models, we analysed the differences in euroscepticism between respondents with high and low levels of educational attainment (between effects) and we estimated the changes in euroscepticism individuals obtain higher levels of education (within effects).

Our analyses reveal that already in secondary education, individuals in academic tracks are less likely to be eurosceptic than their peers in occupational education tracks and those who only obtained primary education. However, we don't find any evidence that individuals become less eurosceptic as they go through education, which would support the argument that educational differences in euroscepticism are the result of cognitive skills or values acquired while in education. Nonetheless, there might be differences between study programmes and subjects. For example, it might be that certain studies foster cognitive mobilization more than others, or that some subjects render students more likely to develop cosmopolitan attitudes than others. Unfortunately

we are unable to analyse such differences because we don't have information on the study majors chosen in education. The effects that we observe therefore have to be interpreted as average effects for all fields of study.

We found some limited support for the argument that educational differences in euroscepticism are a result of the costs and benefits lower and higher educated individuals accrue from EU membership. These cost-benefit calculations should become most evident once individuals enter the labour market and are exposed to international competition. Our analyses show that individuals with secondary vocational education become more eurosceptic once they enter the labour market, while respondents in the academic tracks don't.

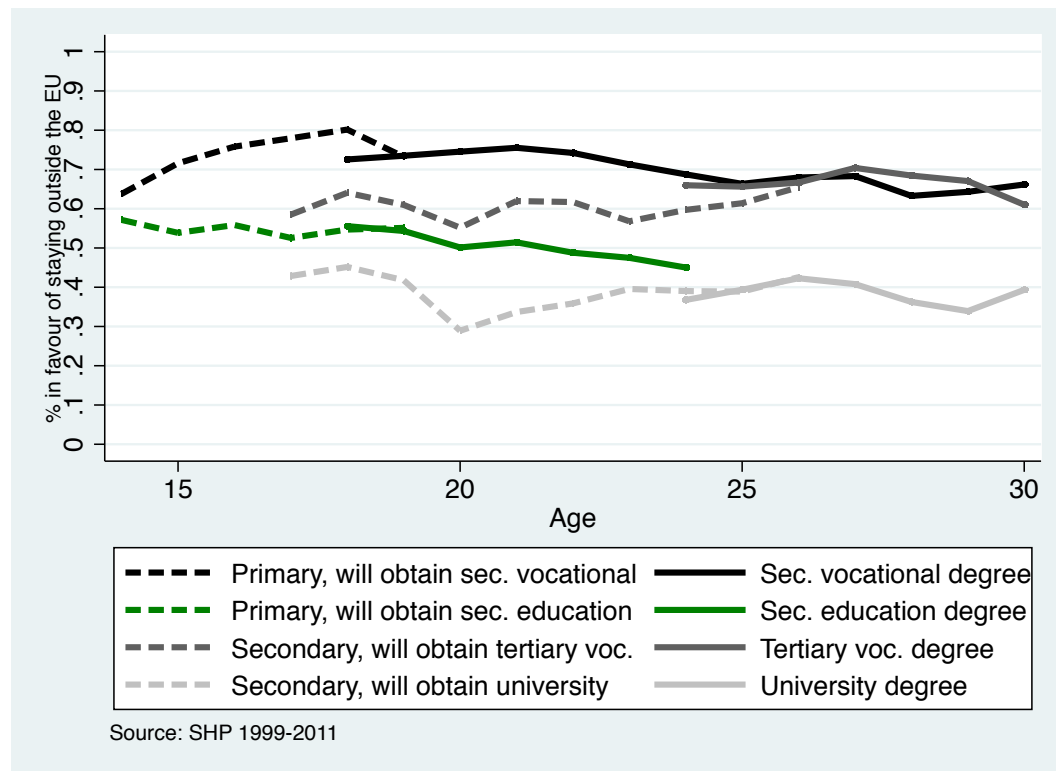
We observe clear and robust evidence in support of the parental socialization argument. Both parental education and parental euroscepticism are strongly related to the eurosceptic attitudes of their offspring. It should be noted, however, that the hybrid models do not allow us to pin down the causal direction of the correlation in eurosceptic attitudes of parents and their offspring. While we argue that through socialization processes, children tend to take over the opinion of their parents, we cannot exclude the possibility that it is just the other way around and that children influence their parents too.

Nonetheless, by highlighting the role of parental education and parental euroscepticism, this paper suggests that educational differences in euroscepticism are (also) a question of childhood socialization and self-selection into education. Parents seem to have a strong influence on the attitudes of their children, and they are also likely to influence their educational choices. At school, children are grouped with like-minded peers, which increases the educational divisions. Hence, policy makers and academics alike might overestimate the power of education as a liberalizing force.

This study has been conducted with data from Switzerland, which is not a member state of the European Union but nonetheless adheres to the Schengen area. Critics may argue that the findings of our paper cannot be generalized to the European Union. However, it is worth noting that the level and socio-economic distribution of euroscepticism in Switzerland is comparable to public opinion in some member states. Most importantly for our study, Swiss citizens with higher levels of education tend to be more open towards European integration than their compatriots with lower educational attainment. What is more, our operationalization of euroscepticism in this study is very similar to the measure used in most studies of euroscepticism in member states. This makes us confident that the results of our study can serve as some indication as to how educational differences in euroscepticism come about also outside Switzerland. This being said, future studies should analyse the mechanisms underling educational differences in euroscepticism across countries, and they should also try to establish which country-level factors, such as educational systems, help in decreasing the educational divide in euroscepticism. Furthermore, cross-sectional studies that observe educational differences in euroscepticism should be more careful in explaining it: does its effect refer to utilitarianism, values acquired at school or parental socialization? The results of this study suggest that the educational differences in Euroscepticism are largely a consequence of self-selection, rather than a genuine education effect.

## Figures and tables

Figure 1. Euroscepticism by age and educational level.



**Table 1. Descriptive statistics.**

	Percentage	
Educational attainment		
Primary	42	
Secondary	18	
Secondary vocational	27	
Tertiary vocational	7	
University	6	
Employed	68	
Own household	22	
Female	50	
Language region		
French	26	
German	71	
Italian	3	
	Mean	SD
Age	21,5	4,8

Source: SHP 1999-2011

**Table 2. Hybrid model predicting favouring staying outside the EU, linear probability model.**

	Model 1		Model 2		Model 3	
<b>Within effects</b>						
Educational attainment						
Primary	ref.		ref.		ref.	
Secondary	-.013	(.013)	-.008	(.013)	.002	(.014)
Secondary vocational	-.016	(.013)	-.015	(.013)	-.015	(.014)
Tertiary vocational	-.014	(.021)	-.020	(.022)	-.021	(.026)
University	-.014	(.024)	-.002	(.024)	.009	(.027)
Employed	.015	(.008)	.013	(.008)	.014	(.009)
Leaving parental home	-.001	(.011)	.000	(.012)	-.004	(.015)
<b>Between effects</b>						
Educational attainment						
Primary	ref.		ref.		ref.	
Secondary	-.207***	(.023)	-.179***	(.023)	-.151***	(.026)
Secondary vocational	.031	(.022)	.022	(.022)	-.002	(.025)
Tertiary vocational	-.059	(.031)	-.046	(.032)	-.121**	(.045)
University	-.285***	(.032)	-.238***	(.033)	-.186***	(.048)
Employed	.069***	(.018)	.048*	(.019)	.022	(.020)
Leaving parental home	-.004	(.018)	-.007	(.019)	.014	(.035)
Female	-.040***	(.012)	-.043***	(.012)	-.050***	(.013)
Age	-.003	(.002)	-.004*	(.002)	.002	(.002)
Language						
French	ref.		ref.		ref.	
German	.175***	(.013)	.180***	(.013)	.072***	(.015)
Italian	.243***	(.034)	.231***	(.034)	.137***	(.038)
Parental education						
Primary			ref.		ref.	
Secondary			-.091**	(.030)	-.027	(.036)
Secondary vocational			-.065**	(.023)	-.041	(.030)
Tertiary vocational			-.095***	(.025)	-.045	(.031)
University			-.183***	(.026)	-.103**	(.033)
Parental euroscepticism (within-effect)					.079***	(.011)
Parental euroscepticism (between-effect)					.364***	(.015)
Constant	.412***	(.028)	.527***	(.037)	.310***	(.047)
N observations	16063		15244		11409	
N subjects	4536		4349		2923	

Source: SHP 1999-2011

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001, two-tailed tests

Note: models contain year fixed effects.



**Table 3. Transitions in education and labour market status predicting favouring staying outside the EU (linear probability model, person fixed-effects estimation)**

	Model 1		Model 2	
<b>Educational transitions</b>				
Primary → Secondary	-.021	(.020)	-.018	(.020)
Primary → Secondary vocational	-.020	(.016)	-.028	(.016)
Secondary → Tertiary voc.	.066	(.043)	.079	(.052)
Secondary vocational → Tertiary voc.	-.005	(.034)	-.041	(.039)
Secondary → University	-.004	(.030)	-.002	(.034)
<b>Labour market transitions</b>				
University → Employed	.018	(.045)	-.009	(.055)
Tertiary vocational → Employed	-.057	(.038)	-.052	(.040)
Secondary vocational → Employed	.063*	(.029)	.076*	(.034)
Secondary → Employed	.033	(.022)	.029	(.022)
Primary → Employed	.009	(.018)	.007	(.019)
Moving out	.001	(.013)	-.007	(.015)
Parental euroscepticism			.071***	(.014)
Constant	.473***	(.014)	.442***	(.019)
N observations	16068		12096	
N subjects	4541		2925	

Source: SHP 1999-2011

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ , two-tailed tests

Note: models contain year fixed effects.

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<sup>1</sup> Instead of the mother as primary source, we also estimated models with the father's attitudes. The results are substantially the same.

<sup>2</sup> As a robustness check, we have estimated all models on the sub-sample and compared

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the estimates with the estimates based on the full sample. The results are substantially the same, which suggests that the sub-sample is not selective

<sup>3</sup> We have also estimated the models as logistic hybrid models; the results do not differ.

<sup>4</sup> Since there is no within-individual variation in parental education, this can only be included as a between-effect.



## Appendix:

### Educational differences in euroscepticism: utilitarianism, values acquired at school or parental socialization?

#### Alternative coding scheme dependent variable

In tables A2 and A3 we estimate the same models as in the manuscript (tables 2 and 3) predicting the dependent variable using the three categories. Euroscepticism is coded as followed “Are you in favour of Switzerland joining the European Union or are you in favour of Switzerland staying outside of the European Union?” The answering categories are: 1 “in favour of joining the EU”, 2 “Neither”, and 3 “In favour of staying outside of the EU.” The results are substantially the same.

**Table A2. Linear hybrid model predicting favouring staying outside the EU.**

	Model 1		Model 2		Model 3	
<b>Within effects</b>						
Educational attainment						
Primary	ref.		ref.		ref.	
Secondary	-.032	(.024)	-.025	(.025)	.011	(.026)
Secondary vocational	-.031	(.024)	-.033	(.025)	-.008	(.026)
Tertiary vocational	-.033	(.040)	-.043	(.041)	-.013	(.049)
University	-.056	(.044)	-.037	(.045)	.029	(.051)
Employed	.030*	(.015)	.027	(.015)	.035*	(.016)
Leaving parental home	.007	(.022)	.006	(.022)	.005	(.028)
<b>Between effects</b>						
Educational attainment						
Primary	ref.		ref.		ref.	
Secondary	-.430***	(.048)	-.379***	(.049)	-.284***	(.056)
Secondary vocational	.043	(.046)	.021	(.048)	.001	(.052)
Tertiary vocational	-.137*	(.066)	-.117	(.067)	-.198*	(.096)
University	-.584***	(.068)	-.499***	(.070)	-.334**	(.104)
Employed	.132***	(.036)	.093*	(.037)	.058	(.041)
Leaving parental home	-.002	(.037)	-.009	(.038)	.064	(.072)
Female	-.078***	(.023)	-.084***	(.023)	-.101***	(.025)
Age	-.006	(.005)	-.008	(.005)	-.003	(.007)
Language						
French	ref.		ref.		ref.	
German	.353***	(.026)	.361***	(.026)	.145***	(.030)
Italian	.487***	(.066)	.465***	(.067)	.287***	(.075)
Parental education						
Primary			ref.		ref.	
Secondary			-.161**	(.059)	-.025	(.071)
Secondary vocational			-.114*	(.046)	-.060	(.059)
Tertiary vocational			-.174***	(.048)	-.068	(.061)
University			-.341***	(.052)	-.174**	(.064)
Parental euroscepticism (within-eff)					.156***	(.022)
Parental euroscepticism (between-)					.733***	(.030)
Constant	1.799***	(.086)	2.019***	(.101)	1.639***	(.133)
N observations	16063		15244		11409	
N subjects	4536		4349		2923	

Source: SHP 1999-2011

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001, two-tailed tests

Note: models contain year fixed effects.

**Table A3. Transitions in education and labour market status predicting favouring staying outside the EU (linear regression, fixed-effects estimation)**

	Model 1		Model 2	
<b>Educational transitions</b>				
Primary →Secondary	-.021	(.020)	-.018	(.020)
Primary →Secondary vocational	-.020	(.016)	-.028	(.016)
Secondary →Tertiary voc.	.066	(.043)	.079	(.052)
Secondary vocational →Tertiary voc.	-.005	(.034)	-.041	(.039)
Secondary →University	-.004	(.030)	-.002	(.034)
<b>Labour market transitions</b>				
University →Employed	.018	(.045)	-.009	(.055)
Tertiary vocational →Employed	-.057	(.038)	-.052	(.040)
Secondary vocational →Employed	.063*	(.029)	.076*	(.034)
Secondary →Employed	.033	(.022)	.029	(.022)
Primary →Employed	.009	(.018)	.007	(.019)
Moving out	.001	(.013)	-.007	(.015)
Parental euroscepticism			.071***	(.014)
Constant	.473***	(.014)	.442***	(.019)
N observations	16068		12096	
N subjects	4541		2925	

Source: SHP 1999-2011

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001, two-tailed tests

Note: models contain year fixed effects.

### Adding additional covariates

In table A4 we estimate the same models as in the manuscript (table 2), now additionally adding attitudinal variables as covariates. Changes in these attitudes may correlate with changes in education and labour market status, as well as with changes in Euroscepticism. However, the results are substantially the same.

**Table A4. Linear hybrid model predicting favouring staying outside the EU.**

	Model 1		Model 2		Model 3	
<b>Within effects</b>						
Educational attainment						
Primary	ref.		ref.		ref.	
Secondary	-.009	(.013)	-.006	(.013)	.011	(.014)
Secondary vocational	-.005	(.013)	-.006	(.014)	-.002	(.015)
Tertiary vocational	-.006	(.021)	-.014	(.022)	-.007	(.026)
University	-.009	(.024)	.001	(.024)	.026	(.027)
Employed	.007	(.008)	.004	(.009)	.007	(.009)
Leaving parental home	-.001	(.012)	-.000	(.012)	-.005	(.015)
Life satisfaction	.002	(.003)	.003	(.003)	-.000	(.004)
Satisfaction with financial situation	-.001	(.002)	-.001	(.002)	-.003	(.003)
Political interest	-.002	(.002)	-.002	(.002)	-.001	(.002)
Trust in federal government	-.003	(.002)	-.003	(.002)	-.000	(.003)
Left right selfplacement	.014***	(.002)	.013***	(.002)	.016***	(.003)
Satisfaction with democracy	.001	(.002)	.001	(.003)	-.000	(.003)
<b>Between effects</b>						
Educational attainment						
Primary	ref.		ref.		ref.	
Secondary	-.138***	(.025)	-.121***	(.025)	-.099***	(.029)
Secondary vocational	.016	(.024)	.009	(.025)	-.006	(.027)
Tertiary vocational	-.056	(.033)	-.049	(.034)	-.111*	(.049)
University	-.228***	(.035)	-.198***	(.036)	-.205***	(.053)
Employed	.013	(.019)	-.001	(.020)	-.004	(.022)
Leaving parental home	-.012	(.019)	-.015	(.020)	.038	(.035)
Female	-.021	(.012)	-.019	(.012)	-.036**	(.014)
Age	-.001	(.002)	-.002	(.002)	.003	(.003)
Life satisfaction	.009	(.006)	.009	(.006)	.004	(.007)
Satisfaction with financial situation	-.004	(.004)	-.001	(.004)	.001	(.004)
Political interest	-.004	(.003)	-.003	(.003)	-.003	(.003)
Age	-.001	(.002)	-.002	(.002)	.003	(.003)
Trust in federal government	-.020***	(.004)	-.020***	(.004)	-.011*	(.005)
Left right selfplacement	.063***	(.003)	.063***	(.003)	.045***	(.004)
Satisfaction with democracy	.007	(.005)	.007	(.005)	.006	(.006)
Language						
French	ref.		ref.		ref.	
German	.167***	(.014)	.167***	(.014)	.074***	(.016)
Italian	.227***	(.036)	.216***	(.037)	.143***	(.042)
Parental education						
Primary			ref.		ref.	
Secondary			-.080*	(.033)	.004	(.039)
Secondary vocational			-.079**	(.025)	-.029	(.033)
Tertiary vocational			-.095***	(.026)	-.025	(.034)
University			-.167***	(.028)	-.080*	(.035)
Parental euroscepticism (within-effect)					.078***	(.012)
Parental euroscepticism (between-effect)					.305***	(.017)
Constant	.172*	(.072)	.261***	(.078)	.098	(.099)
N observations	13534		12870		9642	
N subjects	3939		3789		2586	

Source: SHP 1999-2011

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001, two-tailed tests

Note: models contain year fixed effects.

