

Does Education Matter? The Value of Higher Education for Voice and Agency in Sweden

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1 Introduction

Since the 1950s, education¹ has played an increasingly important role as regards employability² (see for instance Bynner et al. 2003, Danziger and Ratner 2010) and the number of years in education has grown greatly over the past 30 years across all OECD countries (OECD 2010). The importance of education in contemporary society has resulted in a large body of literature on educational outcomes, showing positive effects on, for example, labour market career (Biagi and Lucifora 2008, Nordlund, Stehlik and Strandh 2012, Van der Velden and Wolbers 2007) economic situation (Danziger and Ratner 2010, Strandh 1999, Van der Velden and Wolbers 2007), and unemployment (Biagi and Lucifora 2008). From the 1990s, however, increased unemployment in large parts of Europe has resulted in a rising numbers of university graduates facing an uncertain labour market situation (Korpi and Tählin 2009, Tählin 2007, Åberg 2002, 2003). This has led to discussions about education as a positional good, overeducation and mismatch, and the importance of higher education has been questioned (Alvesson 1999, Wielers and Glebbeek 1995).

However, other views have also been put forward. For example, Nussbaum argues that

“Nothing could be more crucial to democracy than the education of its citizens. Through [...] education, young citizens form [...] habits of mind that will be with them all through their lives” (Nussbaum 2006, p. 387).

In this quote Nussbaum highlights some important but often neglected, outcomes of education that are not directly related to factors such as economic growth or the student’s subsequent progression in the labour market. Instead Nussbaum emphasises the non-market outcomes of education, arguing that education is crucial for the development of democratic citizenship. Education is for instance seen as the major mechanism behind civilian engagement and influence (Nie and Hillygus 2002). We argue in line with this that one, in order to properly evaluate educational outcomes, also need to look beyond market related effects. Education

¹ Several forms of education have been recognised in the literature including informal education at home or in the workplace, on-the-job training, second chance education, specialised vocational education, and formal education at the primary, secondary, and higher levels. While all forms of education can and often do have profound effects on individuals’ opportunities and future prospects, this paper deals primarily with formal education.

² Employability is in this paper discussed in a broad sense: an individual’s ability for gaining and maintaining employment on the labour market. However, the term employability can be used in a variety of contexts and with a range of meanings. For a more developed discussion see for instance Hillage and Pollard 1998, Gazier 2001, McQuaid and Lindsay 2005, Bonvin 2006.

may here generate values not mirrored on the market, relating to both the individual and to society.

In this paper we investigate the link between level of education and the capabilities of agency (the individual's capacity to govern, to some extent, his or her own life) and voice (the ability to engage in discussions and express one's opinion). The concept of "capability" was introduced by Amartya Sen (1980). He stated that it is not sufficient to just consider theoretical rights (such as the right to education): the individual must also be able to make use of these rights. There are some studies that have been carried out with the aim to investigate non-market outcomes in the form of capabilities (see for instance Biggeri, Ballet and Comim 2011, Nussbaum 2006, Nussbaum 2011, Nussbaum 2012, Walker and Unterhalter 2007). However, most of these works have not been tested empirically and when empirically tested, only a small amount has been done longitudinally. The contribution of this paper to the research field is thus two folded; 1) to explore the link between level of education and individual capabilities, and 2) to examine if there is any change in these capabilities over time.

1.1 Aim of study

The aim of this paper is to provide new insights into the non-market outcomes of education by exploring the relationship between level of education and two non-market educational outcomes – agency and voice. Specifically, we test the hypothesis that higher levels of education are associated with an increase of the capabilities of agency and voice. The data used for the analysis were extracted from Statistics Sweden's Survey on Living Conditions. The design of the survey makes it possible to extract long-term information on an individual level, as well as baseline values for our indicators of agency and voice. To be more precise, the aim of the work presented in this paper is to investigate the long-term relationship between education and agency and voice by applying a longitudinal design based on micro-level data.

1.2 Structure of the paper

The paper starts with introducing the capabilities of agency and voice, which is followed by a broad presentation of previous research. Next, the Swedish educational system will be presented. The intention here is to provide the reader with a better understanding of the context where the study is situated. Thereafter data and the design of the study is introduced. This is a central paragraph because it is argued that the use of longitudinal data made it possible to design studies that minimize the impact of selection effects. This is followed by a presentation of the results of the analyses. Finally, the main findings of the study will be put forward along with a discussion of the contributions this paper makes to the research field as a whole.

2 Voice and agency – central capabilities

When discussing non-market outcomes of education, we refer to outcomes not directly connected to the labour market or economy. To exemplify: education is frequently crucial for young people trying to establish themselves on the labour market, and thus, education has a major impact on future revenues, career, and unemployment spells. We identify these outcomes, which are more directly connected to employment, as market outcomes. At the same time, education and knowledge are prerequisites for increasing capabilities that are not directly linked to economy or the labour market as they provide individuals with perspectives on their own lives and help them to participate as full citizens in a democratic society. Both of

these aspects of schooling, the market and the non-market outcomes, are vital and must be considered when discussing and evaluating education. However, in this paper the main focus is on the substantially less researched non-market benefits of education.

The capability perspective here represents an alternative framework (see e.g. Sen 1980, Sen 1999, Sen 2009). Sen argue that we must shift focus from goods to what goods do to individuals, e.g. from education to individual outcomes of education. Thus, the emphasis should not be on the right to education but rather what education can do since the extent to which means such as education are transformed into capabilities varies between individuals. The attention on what individuals are actually able to do and be is a core characteristic of the capability approach (Robeyns 2005), and stands in contrast to theories that focus on wealth and earnings as a criteria for measuring development. Capabilities can be understood as opportunities that an individual hold when trying to realise his/her valued functionings (Sen 2009). Walker elucidates on capabilities and functionings and argues that a capability is a potential functioning and that the list of functionings is endless and can include having a job, being educated, taking part in discussions, and so on. The difference between a capability and functioning, she claims, is like one between an opportunity to achieve and the actual achievement, between potential and outcome (Walker 2006) Consequently; capabilities are opportunities or freedoms to realise what an individual regards as valuable. It is thus important when we evaluate education to consider not only how much money or pleasure an individual develops, but what the range of valued opportunities are, and the freedoms that will support the connection between valued opportunities and outcomes or capabilities and functionings (Unterhalter 2008).

Notions of being ‘someone who acts and bring about change’ (Sen 1999 p. 31) and self-reflection on what one has reason to value are strongly associated with self-governance and the two dimensions of non-market outcomes that are investigated in this study - agency and voice. Agency and voice are not new concepts within educational research. In the sixties and seventies agency and voice were connected to student power movements, and the right for students to participate in decision-making processes (Mitra 2004). The view of agency and voice might in this study be seen as closer connected to an objective of developing democratic values and to empower students, not only in relation to the school environment but also in connection to the wider society. However, possibly due to the marketization of education where the student has become more of a consumer, most of today’s discussions focuses on student opportunities to affect school reforms, curriculum (Mitra 2004) and increase student choice (Sabri 2011). Furthermore, it is often assumed that students have the same capacity to exert agency and voice, regardless of social and cultural background (Sabri 2011).

When agency and voice are discussed within the capability approach literature the focus is mostly on the empowerment and democratisation aspect. Sen argues that the process of expanding individual freedom must take into account dimensions such as social and economic arrangements and political and social rights (Sen 1999). If we perceive development in terms of expanding substantive freedoms we must direct attention to the ends that make development important, rather than to the means (Sen 2009). Agency, defined by Sen as “someone who acts and brings about change” (Sen 1999: 31), is strongly connected to individual empowerment, agency and voice. Nonetheless, even if focusing on what individual agents are able to do and be, the approach acknowledges that the individual is socially and culturally situated, and that we have to consider human diversity in assessing equality (Otto and Ziegler 2006).

With respect to capabilities in the field of education, capabilities that are “needed for each person to function as a full participating member of modern democratic society” (Anderson 1999) might be considered as crucial. This does not imply that we argue for a canonical list of capabilities, something that has been developed by e.g. Martha Nussbaum (2000 pp. 76-80). On the other hand, one might argue that both agency and voice are vital capabilities for the individual and for society as a whole. The capability of agency - the individual’s capability to govern, to some extent, his or her own life, having the ability to, at least to some extent, control what happens in life - is essential for the individual’s capacity to be a part of and participate in economic, social, and political actions. Having the perceived capability to influence authority decisions and thus to some extent shape and control forthcoming conditions we see as one manifestation of agency.

Furthermore, for the purposes of political justice, people are entitled to capabilities necessary for functioning as equal citizens (Anderson 1999), including participating in political debates and active involvement in the life of the community. The capability of voice - having the capability to engage in discussions and to state an opinion - has been found to be an important skill for social and political participation. We know that verbal ability relates strongly to civic and political engagement (Nie and Hillygus 2002), and is crucial for individual security (Sen 2002). Thus, whether individuals actively take part in political discussions or not has been identified as one proxy of voice.

3 Non-market outcomes of education - previous findings

The value of educational outcomes is often based on human capital theory; higher education is assumed to be linked with higher production and national economic growth. Higher education extends human capital, i.e. individual knowledge and capabilities (Becker 1993), leading to both higher productivity and improved income for the employee (Wielers and Glebbeek 1995). This is due to the assumption that productivity mostly depends on the skills of the workforce and, as a result, productivity rises when the education level of the employees increases (Becker 1993). However, the assumptions behind the human capital theory have been questioned, not least after several major disruptions of economic growth in large parts of the western societies during the last 20 years. There is no longer a clear relation between education and economic growth (Wolf 2002). Another reason why we might embrace a different theoretical perspective is the implications of economic logic and economic progresses on theory, policy and practice in the field of education when it becomes a central aim. (For a fuller discussion of this point, see (Bank 2012, Brown and Tannock 2009, Gilead 2012)). A further objection to the above-mentioned perspective on the linkage between education and economic progress is that when development and policies within education is driven by economic growth individuals and education itself is reduced to economic ends (Robeyns 2006). We argue in line with Gilead (Gilead 2012) that one educational goal ought to be to develop individuals and make them better, not just better off.

Even if most research has primarily addressed the education – market linkage, some studies have been carried out as regards the non-market effects of education. When these individual and societal non-market outcomes of education have been explored, the focus has typically been on attitudes and health outcomes (see eg. Babones 2010, Bynner et al. 2003, Hall, Rodeghier and Useem 1986, Helliwell and Putnam 2007, Murray 2009, Ross and Wu 1995, Ross and Mirowsky 2010, Stacey 1998, Weakliem 2002) which means that we have a relatively good knowledge of the positive relationship between education and health, and cross-sectional information on the relationship between education and attitudes. In these studies, we find evidence that schooling affects individuals’ overall life chances in various

ways. When exploring educational effects on health, substantial and long-term association between education and health status has been found (Babones 2010, Cutler and Lleras-Muney 2006, Michalos 2008, Ross and Wu 1995, Ross and Mirowsky 2010, Walberg and Tsai 1983). Other studies, to some extent related to the capabilities of agency and voice, have demonstrated that education is linked to civic knowledge and that it increases political awareness and involvement (Murray 2009, Weakliem 2002), which has been shown to be of importance when it comes to political participation and motivation to vote (Milner 2002, Verba, Schlozman and Brady 1995). It was found that education relates to social networks (Moore 1990), and societal cohesion (Preston and Green 2003), and in the same way, time in education is coupled to community participation and unwillingness to blindly accept authorities (Bobo and Licari 1989, Bynner et al. 2003).

Research has shown that educational effects on attitudes are strong and stable. More highly educated people express more liberal views on moral issues and more tolerance towards others. Moreover, education weakens religious values but strengthens democratic values (see e.g. Hall, Rodeghier and Useem 1986, Kalmijn and Kraaykamp 2007, Weakliem 2002). In a study of some 40 nations from 2002, Weakliem (2002) finds support for educational effects on a large number of political opinions and values, and concludes that educated people to a higher degree are more likely to have an opinion of some kind. These cross-sectional studies covering civic knowledge, political awareness, and democratic values relate to the notion of agency and voice.

Based on preceding discussions, this study aims to contribute to the research field by applying a longitudinal design and focusing on capabilities instead of formal rights. When applying longitudinal data more information about the individual can be captured in the analysis, we can control for individual baseline values, and thus gain better access to the causality effects in comparison with cross-sectional data. The attention paid to capabilities, i.e. what individuals *perceive they are able to do and be*, stands in contrast to most previous research where the focus has been on abilities connected to the market.

4 The Swedish educational system – a unique setting

Before presenting the study in more detail, some contextual information should be provided. In the early 19th century, Sweden had a tracked educational system that consisted of six years of compulsory school, lower secondary school and upper secondary school. Lower secondary school was intended to provide students with a general education while upper secondary school was a preparation for higher studies. In order to continue to upper secondary school the child had to complete their lower secondary education and have parents who could pay for their education (For a more fare-reaching description of the Swedish educational system see e.g. Eriksson and Jonsson 1996).

In order to equalise access to education and reduce selection effects due to class background or geography, reforms were introduced in 1962 by the Social-Democratic government (Eriksson and Jonsson 1996, Halldén 2008). Education then became free of charge at all levels, and elementary and secondary education were extensively standardised using national curriculums. The skills taught during this period were general rather than specialised, and the degree of tracking was low. Students choose a secondary educational track after completing nine years of compulsory education (usually at age 16), and almost all students continued to secondary school (Erikson and Jonsson 1996, Richardson 2010). In retrospective, the years when the individuals were surveyed may have been the period during which the levels of equality in the Swedish school system were at their highest. There was a political will to

compensate for inequalities due to social background (although it is clear that inequalities can also be grounded in sex, ethnicity, disabilities etc.,) and reforms were implemented to solve the problem of social bias in labour market recruitment.

The Swedish educational system has since undergone substantial changes. For example, the education system has become less centralised, the number of publicly financed private schools has increased, secondary school programs have become more diverse, and there is a greater degree of local variation (Halldén 2008). However, most of these changes occurred during the last 20 years. Therefore, the individuals examined in the study presented here went to compulsory and secondary school when the education system was much more uniform and coherent.

5 Data and methods

The present study is based on statistical data from the Swedish Survey of Living Conditions (ULF, Undersökningarna av levnadsförhållanden). This data set, which has been collected by Statistics Sweden on behalf of the Swedish Parliament since 1975, provides a detailed overview of the Swedish people's living conditions. Approximately 6 000 to 7 000 personal interviews with a random sample of the population are conducted each year, with an average response rate of around 80 per cent. The data gathered includes information on work, housing, leisure, health, social relations, employment, education, as well as on the young individual's background. The interviews are supplemented with information on income, pensions, taxation, student aid, etc. from various registers, further increasing the usefulness of the data. Since 1979, a partial panel approach has been used and about half of the sample is re-interviewed every eight years, with re-interview response rates of around 85 per cent (Thorslund and Wärneryd 1985). The population under study in this article consists of 1 058 young individuals (528 women and 530 men). The criteria for being included in the sample is defined according to the following: the respondents were between ages 19 and 20 at the time of the first wave, the years 1988 to 1995, plus re-interviewed in a follow-up study eight years later, the years 1996 to 2003 ($n = 1058$).

5.1 Dependent variables

The objective is to investigate whether individuals tend to enjoy benefits of their education that go beyond market and economy. We have identified the capability to appeal against a decision made by the authorities as a proxy of agency. The survey question; 'Could you on your own write a letter and appeal against a decision made by the authorities?' was to be answered yes or no, and is used to denote agency. Whether individuals are active in political discussions or not, our indicator of voice, is measured with the question '*If you find yourself in a group of people and the conversation comes to political issues, in your view, which of these descriptions most closely applies to you*'. This question, that allows four answers, has been transformed into a dummy. The answer *Mostly I engage in the discussion and express my opinion* has been classified as one category (active) and the remaining alternatives *Usually I do not bother to listen when people start talking about politics, I tend to listen but I do not engage in the discussion*, and finally, *It happens at times, but not that often, that I express my opinion*, into another (inactive). The answer '*Mostly I engage in the discussion and express*

my opinion' is perceived as actively taking part and possessing the capability of voice, while the other responses represent no or only weak participation and voice.³

Given the hypothetical nature of both items there is some possibility that they might be differently interpreted by the respondents. This is an inherent problem when working with capabilities, which if not reduced to functions, are essentially measurable only as the perceptions of the capabilities in question. This should however be a minor issue as the study is longitudinal and is focused on the change in the perception of the capabilities over time within the respondents. Another possible limitation might be that the measurement of voice and agency refers to single items, and if at all possible we would have employed several indicators of agency and voice. However, due to the fact that the data used in this study was collected to measure overall living conditions and not individual capabilities we could not identify any other items that could operate as proxies for our dependent variables. We are however not arguing that this study measure every practice of agency and voice, we merely state that the items we have used represent one aspect of agency and voice.

5.2 Independent variables

When investigating educational outcomes, level of education is conceivably the most crucial feature. Four levels of education were recognised: compulsory school or less, two year upper secondary education, three year upper secondary education, university studies. The classification is based on the following reasoning: compulsory school or less is a distinct group of low-skilled individuals; two year secondary education provides the individual with a vocational training; three year secondary education is a typical academic trait providing entry to university education; and students at university/college level comprise a distinct group of academically educated.

However, not only year in education might be of interest when investigating the connection between education and individual capabilities, additional characteristics such as field of study might also be important to take into account (Reimer, Noelke and Kucel 2008, Van de Werfhorst and Kraaykamp 2001, Van der Velden and Wolbers 2007). One of the arguments is that different fields of study generates different field-related resources, thus effecting, among other things, labour market outcomes, political views, and lifestyle patterns. Thus, when exploring the link between education and the capabilities of agency and voice, it may be significant to take field of study into account. However, there is no common understanding of how to carry out the field of study classification, some studies have differentiated between three fields only, while others use more than nine fields, and differences are also to be found regarding which fields to aggregate (Reimer, Noelke and Kucel 2008). The field of study variable provided by Statistics Sweden permitted the differentiation of 10 different fields. We joined thematically close fields with few observations, arriving at a six-field classification: general, humanities and education, social science and business, natural science, health, and service.⁴ Ideally, we would not have classified social science and business in the same group, and some might argue that the classification causes difficulties since the field-related resources effects might be too diverse. This distinction was however impossible due to the original classification of the field of study variable, what is more, classifying social science and

³ See appendix Table A1 and Table A2 for distribution of answers given to the two questions that are used as proxies for agency and voice.

⁴ See appendix Table A4 for distribution of the fields of study.

business into the same group has been done in previous studies with success (see e.g. Reimer, Noelke and Kucel 2008).

As previous argued, both agency and voice are necessary for individual action and participation in public discussions and are thus closely connected to individuals' capacity to be included in the society. However, previous studies have shown that a number of other factors may be of importance and may need to be controlled. We know that social and political participation and self-determination are related to class and gender (see eg. Menezes 2009, Svallfors 2004), furthermore that these characteristics shape young individuals' educational choices and their opportunities to achieve higher education (Lareau and Conley 2008, Svallfors 2006). Moreover, the capabilities among youth are, most likely, not only a question of resources and characteristics tied to the individuals themselves. Due to the known strong link between parents and their children, parents' socioeconomic affiliation can arguably be a factor that influences the probability of possessing voice and agency, and even if the young people have moved away from home, it is very likely that their parents' status still affects them. Looking at parents' socioeconomic status during adolescence provides us with some information of these prerequisites.

When controlling for parents' status during years 1988 to 1995 (hereafter time 1), the following classification scheme is used: unskilled worker, skilled worker, lower non-manual 1, lower non-manual 2, middle non-manual, higher non-manual, and self-employed, based on the highest class position of the two parents.⁵ The analysis also includes information about the respondents' place(s) of residence during time 1. This is because the distribution of education is not geographically equal and youth living in major cities might have easier access to higher education. The areas are classified as follows: Stockholm, municipalities with a population of more than 90 000, municipalities with a population of more than 27 000 but less than 90 000 as well as more than 300 000 inhabitants within a radius of 100 km (marked as 1), municipalities with a population of more than 27 000 but less than 90 000 and with less than 300 000 inhabitants within a radius of 100 km (marked as 2), and rural.

The baseline indicators are the control variables on which the analysis is based and they are possibly the most important ones. As discussed earlier, most of the studies in this field have not employed a longitudinal approach. Thanks to the structure of our data, we can obtain information on youth's capabilities of voice and agency at time 1. It is therefore possible to some extent to investigate whether the change in agency and voice we measure is actually an effect of the education undergone between the two waves, or if it merely reflects a state already present at time 1. When looking at level of education, we find huge variation among the youth in the material.⁶ At age 16 to 19 a majority of the respondents had compulsory school or less, only a few had continued to university, and the remaining respondents were engaged at different levels of secondary education. Eight years later, at age 24 to 27, we find the main group at the university level, and only a small number of the respondents had not continued after compulsory schooling. The remaining individuals reported two or three years of upper secondary education as the highest level of schooling.

⁵ See appendix Table A4 for distribution of parental class position.

⁶ See appendix Table A5 for distribution of the respondent's level of education.

5.3 Methods

Due to the structure of the dependent variables, agency and voice, logistic regression has been applied. Logistic regression has the advantage that it does not entail a linear relationship between the dependent and the independent variables; neither are there any requirements for normal distribution of the dependent variable.⁷ In order to interpret the effects of each set of control variables on our central variables agency and voice, the models have been built up stepwise, starting with the educational variables and then including the controls step-by-step, ending the investigation by adding the baseline values of the dependent variables agency and voice. Separate analyses for gender, male and female, have also been done; however, as this did not change the outcomes in any significant way, the results are not included in this paper.

The aim of this article is to measure the effects of education, and the primary analysis method is based on odds ratios. Comparisons are made between the odds of the capabilities voice and agency for a reference group⁸ and the odds for the other categories within each variable, and in the tables odds ratio values are presented. The odds ratio for the reference group is always one while the value for the other categories can be less or more than one randomly. A value below one indicates a lower probability of possessing voice and agency when compared with the reference category and accordingly, a value above one means a higher probability.

The data used in this study makes it possible to follow the same individuals over an eight year period, thus it is possible to include data on the dependent variables of interest (agency and voice) when the individuals were between 16 and 19 years of age. When the individuals provided the information on their initial levels of agency and voice, some of the subjects were in their final year of compulsory education when while other respondents had completed their compulsory education but not yet entered university. The inclusion of information on the subjects' backgrounds and prior circumstances reduced the impact of selection on the analysis of the effects of education. When prior information can function as a control for the individual the results and conclusions drawn from the subsequent analysis becomes more robust. One of the strengths of the studies included in this thesis is therefore that they provide information on changes in individuals' circumstances over time while simultaneously accounting for their initial circumstances. This would not have been possible using a cross-sectional design.

6 Results

In the following section the empirical results are presented, starting with separate bivariate analyse of voice and agency in relation to the independent variable level of education. This is followed by stepwise logistic regressions, where the effects of the control variables are introduced.

6.1 The link between level of education and the capabilities of voice and agency

To understand the link between level of educational and voice and agency, we start by exploring the dependent variables in connection with the independent variable, also looking at

⁷ The dependent variable voice does have linear and normal distribution qualities and a linear mixed-models repeated measures approach with random intercepts were here also applied. This analysis provided the same substantial results and in order to keep the paper as simple as possible we choose to present the same logistic regression models as for agency.

⁸ The reference categorise was for some of the variable based on the "lowest" value (e.g. level of education and geographical area), in other cases, when there was no clear hierarchical classification, the selection was made at random. However, as to field of study and parental class, alternative reference categories was also elaborated with to ensure that the choice did not alter the results in any significant way.

changes within the different levels relating to the two waves. Table 1 presents the relationship between level of education and the two independent variables voice and agency. In the table we see the change in the capability of voice and agency from time 1 (years 1988-1995) to time 2 (years 1996-2003) for the different levels of education. Not surprisingly, we can see that higher education seems to be intimately associated with individuals' capability of voice and agency. Any increase in educational level reinforces the probability and, with the exception of the effect of the educational level 'compulsory or less' on voice, this growth accumulates at each level even after comparing time 1 and 2. Finally, when considering the differences between the effects of educational levels on the independent variables, we see that agency seems to be more affected by higher education than voice is.

To sum up, level of education appears to be linked with the capabilities voice and agency. A relation between level of education and the two independent variables voice and agency was found, where higher education are connected with an increases of the capabilities. The next stage in the analysis is to investigate if the relation holds when including the control variables.

Table 1: The link between level of education and voice and agency (%), Sweden 1988-2003

Level of education 1996-2003	Voice*		Voice*		Voice* change	Agency**		Agency**		Agency** change
	1988-1995		1996-2003			1988-1995		1996-2003		
	No	Yes	No	Yes	No	Yes	No	Yes		
Compulsory or less	78.6	21.4	70.7	29.3	+ 7.9	71.1	28.9	49.5	50.5	+21.6
2 year upper secondary	72.2	22.8	75.0	25.0	+ 2.2	63.3	36.7	42.8	57.2	+20.5
3 year upper secondary	66.9	33.1	63.0	37.0	+ 3.9	62.3	37.7	34.2	65.8	+28.1
University	49.1	50.9	37.7	62.3	+11.4	49.0	51.1	15.4	84.6	+33.5

Source: Statistics Sweden, Survey on Living Conditions (n=1042)

*Active participation in political discussions

**Ability to appeal against authority decisions

The following section presents the stepwise logistic analyses that were conducted, starting with the capability of voice, followed by capability of agency.

6.2 The capability of voice

In Table 2 the results of logistic regression analyses for our dependent variable voice is shown. In the table the odds ratio, as compared with the reference group, is presented. What we notice first when we study the results of model 1 is the similarity to Table 1; the probability of having the capability of voice increases with level of education, and the odds ratio of having voice for a student with a university education is 3.98 as compared with the reference category 'compulsory or less'.

The next step is to include the field of study into the regression in model 2. The conclusion that can be drawn here is that field of study increases the effect of educational level. We find a strong increase in the odds ratio for university level together with significance for 3 year upper secondary school level, the latter not being present in model 1. When looking at the impact of the different fields of study, we find that the only significant field is health, and that students within this field have a significantly lower probability of voice when compared with students from the field of social science and business. When adding gender in model 3, we find only minor changes to the previous odds ratio. However, being a student with a natural

science background shows connections with a significantly lower probability of capability of voice as compared with the reference group, as does being a woman in comparison with a man.

Table 2: Odds Ratio of being active in political discussions – capability of voice, youth in Sweden (1988-1995 and 1996-2003), stepwise analysis

	Odds Ratio values					
	model 1	model 2	model 3	model 4	model 5	model 6
Level of education time 2 (1996-2003)						
2 year upper secondary	.81	1.29	1.30	1.28	1.25	1.12
3 year upper secondary	1.42	2.02**	1.99**	1.96**	1.92*	1.62
University	3.98***	6.32***	6.52***	6.26***	6.14***	4.50***
(Compulsory or less control)						
Field of study at the highest educational level time 2 (1996-2003)						
General		1.57	1.53	1.57	1.59	1.51
Humanities and education		.81	.88	.89	.87	.89
Natural science		.75	.58**	.61**	.62*	.68
Health		.44***	.49**	.51**	.52**	.54**
Service		.74	.63	.66	.67	.65
(Social science and business control)						
Gender						
Female			.51***	.51***	.51***	.53***
(Male control)						
Parents' socioeconomic status time1 (1988-1995)						
Unskilled manual				.99	.99	1.06
Skilled manual				.79	.81	.82
Low non-manual 1				1.34	1.41	1.43
Low non-manual 2				.81	.81	.77
Middle non-manual				1.21	1.21	1.27
Higher non-manual				1.12	1.11	1.01
(Self-employed control)						
Geographical area time 1 (1988-1995)						
Stockholm					.90	.90
>90k inhabitants					.96	1.01
>27k but <90k inhabitants (1)					.88	.87
>27k but <90k inhabitants (2)					.46**	.52*
(Rural control)						
Active in political discussions time 1 (1988-1995)						
Voice baseline						3.70***
(No=0)						
Constant	.41***	.33***	.48*	.49*	.55	.39**
Nagelkerke R ²	.13	.15	.18	.18	.19	.28

Source: Statistics Sweden, Survey on Living Conditions (n=1031)

***=p<0.001, **=p<0.01, *=p<0.05

Binary Logistic Regression

In model 4, where parents' socioeconomic status from time 1 is included, we find that class background does not seem to be of broad relevance for the capability of voice. Including parental status does not change the influence of the educational variables to any great extent, and no significant effects of it are found. In model 5, the geographical area where the young person grew up is introduced, something that only affected the previous model marginally. As for geographical area, growing up in a small town (27 000 to 90 000 inhabitants) in a comparatively remote area affects the probability of voice in a negative way in comparison with the reference category rural.

Finally in model 6 we introduce the baseline indicator of voice into the analysis. The significance of 3 year upper secondary education then vanishes and the higher probability of having voice for the university educated decreases somewhat (odds reduced from 6.14 to 4.50). With reference to field of study, there is no longer a significant effect as regards natural science, leaving health as the only field of study with significance. The effects of being a woman or man have changed to some degree; however, being a woman still has a significantly negative impact on voice when compared with being a man. Not surprisingly, possessing the capability of voice at time 1 strongly relates to the probability of possessing voice at time 2.

6.3 The capability of agency

In Table 3 the logistic regression analyses of the probability of taking an active part in political discussions are presented. As in the previously presented analysis of voice, covariates are introduced stepwise into the model: level of education, field of study, gender, parents' socioeconomic status time 1, geographical area, and finally, prior values of the dependent variable.

In model 1 we find strong links between levels of education on the probability of agency. Both 3 year secondary and university level display strong significant positive effects, and for the latter we find odds ratio of 5.40 as compared with the reference category 'compulsory or less'. When we include field of study in model 2, the effects of 3 year secondary school and university increase somewhat, and the effects of the different fields indicate that four out of five fields are significantly connected with a lower capability of agency as compared with social science and business: humanities and education, natural science, health and service, all with odds ratios under 1.

When looking at model 3 where gender is included, we can note similar patterns as presented in model 3 in Table 2, and the probability of possessing agency is significantly lower for women. As for the level of education and field of study, entering gender into the analysis only brings about minor changes to the odds ratios, and does not in any significant way alter the effects when compared with the previous model.

In model 4 we include parents' socioeconomic status time 1. Previously, when exploring the capability of voice, no significant effects were discovered as regards the parents' class. This was however the case for agency. Having a parent with status low non-manual 1 or middle non-manual is connected with a higher probability of agency in relation to the reference category self-employed.

Table 3: Odds Ratio of ability to appeal against an authority decision – capability of agency, youth in Sweden (1988-1995 and 1996-2003), stepwise analysis

Odds Ratio values						
	model 1	model 2	model 3	model 4	model 5	model 6
Level of education time 2 (1996-2003)						
2 year upper secondary	1.31	1.48	1.47	1.37	1.35	1.18
3 year upper secondary	1.89**	2.03**	1.98**	1.86*	1.85*	1.65
University	5.40***	5.77***	5.88***	5.08***	5.07***	4.05***
(Compulsory or less control)						
Field of study within the highest educational level time 2 (1996-2003)						
General		.66	.62	.60	.60	.59
Humanities and education		.50**	.50*	.46**	.38**	.45*
Natural science		.56*	.42***	.39***	.39***	.43**
Health		.36***	.40***	.39***	.38***	.41**
Service		.39***	.33***	.33***	.32***	.36***
(Social science and business control)						
Gender						
Female			.51***	.50***	.51***	.57**
(Male control)						
Parents socioeconomic status time 1 (1988-1995)						
Unskilled manual				.98	.97	1.03
Skilled manual				.93	.90	.89
Low non-manual 1				3.78*	3.71*	3.60*
Low non-manual 2				1.04	1.03	1.10
Middle non-manual				1.83*	1.81*	1.80*
Higher non-manual				1.64	1.61	1.76
(Self-employed control)						
Geographical area time 1 (1988-1995)						
Stockholm					.82	.78
>90k inhabitants					.58*	.57*
>27k but <90k inhabitants (1)					.79	.78
>27k but <90k inhabitants (2)					.62	.57
(Rural control)						
Ability to appeal against an authority decision time 1 (1988-1995)						
Agency baseline						3.09***
(No=0)						
Constant	1.02	1.66	2.57**	2.45**	3.09**	2.13*
Nagelkerke R ²	.11	.13	.16	.18	.19	.24

Source: Statistics Sweden, Survey on Living Conditions (n=1033)

***=p<0.001, **=p<0.01, *=p<0.05

Binary Logistic Regression

Before including the baseline indicator for agency, the geographical controls are introduced in model 5, and as with the analysis of voice, geographical area has only marginal effects on the overall model. However, having lived in a city with more than 90 000 inhabitants during

childhood is connected with a lower probability of agency when compared with rural. Finally, in model 6 we introduce the baseline values of agency collected from the first wave. For level of education we find the same effects as when investigating voice: 3 year upper secondary education no longer shows significant effects while university education remains strong and significant. When looking at field of study, we find that the effects from previous models remain and are somewhat reinforced. For additional significant variables, odds ratios fall when baseline values are added, and the capability of agency at time 1 is strongly connected with the capability of agency at time 2.

7 Conclusion and Discussion

This article has investigated the relation between level of education on two proxies for agency and voice. The empirical results demonstrate that level of education, in the form of university education, affects youth's abilities to express political views and strengthens their self-governance, results that correspond well with prevailing research in the field. In the light of the previous discussion of education as a positional good and overeducation, the article investigates the value of higher education when discussing non-market outcomes of schooling, and finds that university education is the central factor in order to bring about the non-market outcomes of voice and agency.

Similarly, this study demonstrated the relevance of including field of study in the analysis, which is consistent with Van de Werfhorst's and Kraaykamp's (2001) conclusions. Field of study appears to affect agency to a relatively great extent, and the fields of humanities and education, natural science, and health and service all indicate a lower capability of agency when compared with the field of social science and business. A degree from a 'soft' field, such as the social sciences, is often associated with reduced market based rewards, such as lower earnings and a worse labour market career, when compared with a 'harder' field as natural sciences. Nevertheless, when investigating non-market outcomes of education, the field of social science and business displayed a significant increase in the capability of agency, indicating that values beyond the market sphere might be relevant when evaluating different fields of study. A notable difference was found when contrasting the effect of field of study on agency with the effect it has on voice. Health was the only field showing significantly lower probabilities of voice in comparison with the field of social science and business after the introduction of baseline values.

Previous studies have produced an abundance of literature when it comes to the effects of education. Even if the research in the field mostly relates to market outcomes, non-market effects have also been investigated. The conclusions drawn are almost always that years in education or level of education are vital when discussing individual achievement on the market as well as in the non-market sphere. This study corresponds with these results, but with the additional conclusion that field of study also matters. Furthermore, we argue that merely observing conditions at one stage is not sufficient, and by including prior conditions, a deeper understanding of educational outcomes can be revealed. If a longitudinal approach is not used, too many of the differences between individuals might be attributed to level of education. When having a longitudinal approach which takes prior conditions into account, the effects of education will be less intertwined with selection effects. Because of the structure of our data, we have been able to control for baseline values for both voice and agency, something which has proved to be vital, and significance has been found for pre-conditions in the models. Although the level of education was overall found to be the most important factor behind the capabilities under investigation, entering baseline values of agency and voice into the model notably altered the results and reduced the effect of education substantially. Quite

the reverse was found when considering field of study, where the effect of the different disciplines grows stronger after including time 1 values of agency and voice. Our study shows clearly the importance of longitudinal data to ensure that educational effects are neither over- nor underestimated.

The results presented in this article suggest that current discussions about the diminishing value of education may provide different conclusions if non-market outcomes were considered alongside those that directly affect the market. It may be that even if education's market value has declined (and there is no consensus that this is the case), it may nevertheless have strong positive effects on non-market outcomes. Higher levels of education were found to increase individual well-being, and the studies clearly showed that higher levels of education have positive effects on social participation. In addition, the value of education in relation to the non-market sphere is not a zero-sum game; everyone can be a winner.

The analyses reported are by no means final and must be validated using other methods and indicators. This study was performed in a Swedish context, and if the study was extended to include other countries, our understanding of the outcomes of education should increase. As in most behavioural studies, concerns associated with determining the causal effects of education are a serious concern. In this study, we have tried to moderate this problem by using baseline values which are fixed at a point where most of the respondents had not yet proceeded to higher education to any greater extent. Nevertheless, when investigating individual behaviour, questions about causality and spuriousness will always be present and discussed. Despite the weaknesses of this study, we would argue that we have demonstrated the huge importance of applying longitudinal data, as well as the significance of relating the study to both level of education and field of study.

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Appendix

Table A1. ‘Could you on your own write a letter and appeal against a decision made by the authorities?’ Response distribution in per cent. This question is the applied measure of agency.

	Yes	No	Don’t know	Missing	Total
	%	%	%	%	<i>n</i>
Agency time 1	41.8	44.4	12.4	0.1	1058
Agency time 2	70.2	23.2	5.4	0.1	1058
Change in agency	+28.4	-21.2	-7.0	+/-0	

Table A2. ‘If you find yourself in a group of people and the conversation comes to political issues, in your view, which of these descriptions most closely applies to you?’ Response distribution in per cent. This question is the applied measure of voice.

	Mostly I engage in the discussion and express my opinion	It happens at times, but not that often, that I express my opinion	I tend to listen but I do not engage in the discussion	Usually I do not bother to listen when people start talking about politics	Missing	Total
	%	%	%	%	%	<i>n</i>
Voice time 1	37.2	27.6	20.8	12.9	0.1	1058
Voice time 2	44.5	28.4	16.5	9.5	0.1	1058
Change in agency	+7.3	-0.8	-4.3	-3.4	+/-0	

Table A3. Parental class time 1 (1988-1995) in per cent.

Parental class	
Unskilled manual	16.4
Skilled manual	11.1
Low non-manual 1	2.6
Low non-manual 2	18.9
Middle non-manual	17.7
Higher non-manual	12.9
Self-employed	20.2
Missing	1.0
(n)	1058

Table A4. Field of study at the respondents highest level of education at ages 24-27 (1996-2003) in per cent.

Field of study	
General	14.5
Humanities and education	13.8
Social science and business	24.5
Natural science	22.5
Health*	13.9
Service	10.9
(n)	1058

* This variable also includes students within the field of agriculture, and primarily students training to become a veterinary. It would have been desirable to keep agriculture intact as a separate group but since it only consisted of 55 individuals (approx. 5 %), it was considered not to be fruitful.

Table A5. Highest level of education ages 16-19 (1988-1995) and ages 24-27 (1996-2003) in per cent.

	Compulsory school or less	Secondary education (2 year or less)	Secondary education (3 year)	University
Age 16-19 (1988-1995)	85	7	3	5
Age 24-27 (1996-2003)	10	17	30	43
(n)				1058

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