

Chapter 3

High-Octane Educational Capital: The Space of Study Orientations of Upper Secondary School Pupils in Uppsala



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Introduction – Elite Education and Educational Capital in Sweden

– My sister has studied here, my mother also and some of my relatives are alumni. And it felt like it is very close to home. ... The school is like distanced from the city. So it has a very good location. And, then, I know that they have very good teachers. (Female pupil, the natural science programme at Lundellska skolan, Uppsala)

By international comparison, the Swedish educational system is more egalitarian than most. On upper secondary level there are hardly any equivalents to the *grands lycées* in France, or renowned public schools in England or liberal arts colleges in the US (Börjesson et al. 2016a; Börjesson and Broady 2016; Maxwell and Aggleton 2016; van Zanten 2016). No study fees are allowed, neither at private nor at municipality schools. All upper secondary programmes are 3 years long and up until 2011, all of them had given general eligibility for higher studies. The admission to tertiary studies is centralised, not entrusted to individual universities, and what counts is school grades from upper secondary schools, alternatively scores obtained at the Swedish Scholastic Aptitude Test.

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Nevertheless, though not always acknowledged as such, there exists an elite education space within the Swedish system – both in the sense that it hosts a large portion of the offspring of current elites and in the sense of being a site for the formation of future elites (Börjesson et al. 2016a). The interview quote above expresses the attractive forces that such schools and programmes exert upon privileged or high-aiming families.

In relation to educational capital the interviewed girl is positioned at the summit of three different hierarchies. Firstly, she is enrolled in the natural science programme, which in the Swedish system functions as the ‘royal road’ in the original literal sense, a road reserved for the privileged, and also in sense more common today, a path leading to elevated social positions (Broady et al. 2009). Secondly, she has been selected to one of Uppsala’s top secondary schools (Lidegran 2009; Bertilsson 2014). Finally, among all Swedish regions, Uppsala (Lund is not far behind) exhibits the highest concentration of educational capital, hosting the oldest university in the Nordic countries, founded in 1477, a large university hospital with its corps of medical doctors, the national direction of the Church, many authors and intellectuals, knowledge-intensive high tech firms, especially in the bio-sciences, etcetera (Lidegran 2009).

The case of Uppsala, with its exceptional concentration of cultural capital, offers certain opportunities to research how educational capital is produced, reproduced, distributed and legitimised, and its contribution to the production, reproduction, distribution and legitimisation of other assets, be it economic or symbolic assets – what is often for short, and a bit too narrow, termed as ‘social reproduction’. In this chapter, we focus on the relation between two of the hierarchies mentioned, the programme structure and the school hierarchy. Our empirical basis is a survey of upper secondary pupils in Uppsala.

Objective and Questions

The general objective of this study is to contribute to the understanding of the structure – especially the polarities and hierarchies – of elite education in Sweden (see also Forsberg et al. in this volume). Our main source of inspiration has been the research on French *grandes écoles* undertaken in the 1980s by Pierre Bourdieu, Monique de Saint Martin and their collaborators (Bourdieu and de Saint Martin 1987; Bourdieu 1989), though, of course, we choose our data and methods to avoid the presumption that the same structure – i.e. the clear-cut opposition ‘economic capital versus cultural capital’ – should necessarily be found in Sweden. Our main questions are the following:

- How are the study orientations of upper secondary pupils in Uppsala structured? To be more precise: What is the structure of the space defined by the distribution of indicators of the pupils’ educational capital in its embodied state, namely indicators of their study practices and attitudes towards teaching, teachers, grades, subjects, and the attended school and programme?

- How is this structure related to inherited (primarily from the parental home) educational capital and to gender?
- How is this structure related to the pupils' own acquired objectivised and institutionalised educational capital, such as being enrolled in prestigious programmes or schools?

Background

The Swedish Space of Secondary Education and Its Elite Subspace

In the profound transformations of the Swedish school system during the last three decades the turning point was the beginning of the 1990s when marketisation and privatisation were introduced (Lindensjö and Lundgren 2000). The deregulation and especially the extremely far-reaching voucher system favoured independent schools, many of them for-profit and today owned by venture capitalists (Forsberg 2015).

However, our previous and on-going studies have revealed a remarkably stable over-all social structure of the upper secondary school after, and also before, the introductions of market mechanisms and in spite of numerous subsequent reforms aiming at 'democratisation' – recently a new grading system, a new programme structure and a new curriculum. In the run of the decades we have observed the same two main dimensions of this educational space, a first gender division, and a second social hierarchical one (Broady and Palme 1989; Palme 2008; Bertilsson 2014; Forsberg 2015; Börjesson et al. 2016a). The space displays a triangular shape. At the base, there are the vocational programmes predominantly populated by children of the working class; the daughters chose programmes in health and caring and the sons in construction and industry. The upper middle and upper class children, and especially those from culturally rich fractions (as opposed to the economically affluent), are concentrated in the natural science programme at the apex of the triangle. This domain could, roughly, be regarded as an elite education subspace. The middle classes fall in between. The most important change during the last decades – in Sweden as in many other countries (cf. Baudelot and Establet 1992) – has been the influx of female students into the most prestigious programmes, but the gendered and social structure shows no signs of fundamental change or even reforms. In the national perspective the natural science programme's position is unthreatened.

Uppsala – A City with a High Density of Educational Capital

The study was conducted in the old university city of Uppsala. Here, unlike almost everywhere else in Sweden, the cultural or educational elites are able to dominate the economic elite. The university defines the city to a considerable extent, and the space of secondary schools is also heavily influenced by the presence of the university.

(Lidegran 2009) For a study on the content and dimensions of educational capital, Uppsala is a privileged site, where it is most likely to find educational capital in its most condensed and refined form.

Upper Secondary Schools in Uppsala

Uppsala differs significantly from the adjacent Stockholm, 40 min away by train, with its much clearer dominance of economic capital over cultural. In Stockholm, you also find a very large independent and privately owned school sector (Forsberg 2015). In Uppsala, such schools have been and still are of marginal importance. All six secondary schools included in our study are public and municipal schools. However, there are major differences between them.

Katedralskolan, a previous grammar school, claims to have been funded in 1246, well over 200 years before the university. It is located in a building from the 1800s in the central academic part of Uppsala. The programmes preparing pupils for higher education dominate the offer and include, besides the natural science and the social science programmes, also the international baccalaureate (IB). At *Katedralskolan*, the pupils may choose additional courses in music, such as choir singing, and in mathematics, in collaboration with Uppsala University. A trademark of the school is the language orientation of the programmes. Both the natural science and the social science programme offer optional German, French and Spanish profiles.

Lundellska skolan, Uppsala's other, though much younger (founded in 1892), previous grammar school resides in a modern building located outside of the city centre in a secluded, close to nature environment. *Lundellska skolan* is also dominated by programmes preparing for further studies. All pupils are offered laptops and the school also distinguishes itself by the fact that all teachers are certificated and all teaching is teacher-led. Besides the natural science programme, *Lundellska skolan* offers an economic orientation of the social science programme, which *Katedralskolan* does not have, and buzz words such as 'entrepreneurship' and 'business' are emphasised at the website.

Fyrisskolan, *Linnéskolan* and *Bolandsskolan* are more recent schools, offering a variety of programmes, especially vocational programmes in the case of *Bolandsskolan*. *Fyrisskolan* is the only school offering the technology programme, and its social science programme has a computer orientation profile. *Linnéskolan* and *Bolandsskolan* are the only two schools included in our study without natural science programme.

Finally, *Rosendalsgymnasiet* is the youngest. The school started in 2005 and is located close to the Uppsala University's Science Park Campus. It exclusively offers programmes preparing for higher education. In the marketing, the school promises close contacts with the universities, and it states that some teachers are half-time employed at the university. Thus *Rosendalsgymnasiet* acts as modern-day challenger of the two hitherto dominating grammar schools. The fact that there are no vocational programmes at *Rosendalsgymnasiet* might be an advantage in the competition for pupils from well-to-do homes and with outstanding educational merits.

Research Approach

When performing this kind of research, a rule of thumb is to construct a space *without* using data on the species of assets that seem most interesting in as much as that they promise to be good explanation candidates, in our case for example social origin and gender, factors that might be expected to explain major differences among pupils' lifestyles, orientations, and trajectories through the educational system. For this article, we have tried to catch the structure of the space by using indicators on the students' perception of and orientation towards their studies. Thereafter, once this structure is established, we project (as so called supplementary categories, which do not affect the structure) information on, for example, the parents' educational level, the gender of the pupils, and their school credentials and choice of school and programme.

Some basic research in this vein was conducted at the Centre de sociologie européenne in Paris, starting with the famous study by Pierre Bourdieu and Monique de Saint Martin (1976, also presented in Bourdieu 1979a) on 'the anatomy of taste.' Here, indicators of tastes and lifestyles were used to grasp the structure of the space of social groups in France, before information on occupations, salaries, educational level etcetera were projected into this space.

Educational Capital

We have (inspired by for example Bourdieu 1979b, see also Serre and Wagner 2015) found it useful to consider the different 'states' of capital (Börjesson et al. 2016b). (Bourdieu focused on cultural capital, but we prefer to talk about educational capital since it is not obvious that education and culture are as intertwined in the Swedish society as they are in the French.) As a chemical compound might exist in different states – a solid, a liquid and a gaseous one, for example H₂O as ice, fluid water or vapour –, a capital such as the educational might also be (1) embodied into people's minds and capacities, (2) institutionalised in, for example, the educational organisations, and (3) objectified in grades or exams.

The embodied state implies the ability to master the educational system, know how to navigate among different options of programmes and schools, subjects and fields of study, but also to be able to study efficiently and most importantly to perform at tests and examinations. The embodied state can also include attitudes, perceptions and values – more subjective sides of educational capital. Second, the objectified state is to some extent conflated with the institutional state and consists mainly of both grades and results of tests and examinations and of degrees and diplomas. All these are granted by educational institutions.

A further distinction can be made between inherited and acquired educational capital (Lidegran 2009). The first is commonly measured by the highest level of education of the parents, but it also implies the whole educational trajectories of

the parents, siblings, the grandparents, and the wider family. Occasionally, the municipal educational administration is called by parents who are furious because their offspring have not been admitted to the school at which three generations of family have studied. Acquired capital is educational merits, grades, scores and diploma, tied to the individual. Since the educational system has merit-based selection, there is no direct transfer of educational capital, which is possible for economic capital. The offspring have to acquire the necessary merits themselves to enter the desired programmes and schools.

In our study, we will predominantly relate the embodied state of educational capital, especially its subjective and ‘soft’ dimensions in the form of orientations and perceptions, to indicators of educational capital in the objective state, including both acquired (such as grades, degrees and schools), and inherited, implying the highest level of the parents’ education.

Educational Spaces

In Bourdieu and collaborators’ studies on education and culture, there was a shift from an initial focus on correlations between students’ educational trajectories and their social origin and gender, and the use of basic descriptive statistics (cf. Bourdieu and Passeron 1964), towards more fine-tuned studies of educational fields of institutions on the basis of questionnaires and statistical data analysed by different versions of correspondence analysis (Bourdieu and de Saint-Martin 1987; Bourdieu 1989). These latter studies have educational fields or spaces as the main research object, comprising the relations between educational institutions and educational programmes.

Specific Multiple Correspondence Analysis

The technique used for analysing the questionnaire is specific multiple correspondence analysis (specific MCA), which is appurtenant to the family of geometric data analysis (GDA) (Le Roux and Rouanet 2004, 2010). This technique allows us to sort out the most important differences in the data material, and it presents the relations between the categories and individuals in a multidimensional geometric space. This is apparently in line with the theoretical framework of Bourdieu’s and his collaborators’ spatial understanding of social spaces and fields (Lebaron and Le Roux 2015).

When applying this technique, we separated three different types of variables and categories. First, the active variables and categories used to establish the structure of the space, namely variables concerning the embodied state of educational capital including study practices and orientations towards teaching, teachers, grades, subjects and the attended school and programme were active. Second,

the supplementary variables were projected into the space once constructed. As supplementary variables we used gender and indicators of educational capital in its objective state – both acquired (grades, study programmes and schools) and inherited (parents' highest educational level). Third, specific MCA gave us the possibility to handle no-answers as passive categories (Le Roux and Rouanet 2004: 237). This implies that the variable is active, but not all its categories.

Construction of a Space of Educational Orientations of Upper Secondary School Pupils in Uppsala

A questionnaire with 52 questions covering current and earlier studies, social origin, practices and attitudes in various areas was answered by 589 pupils in upper secondary schools in Uppsala in the period from 2007 to 2008. Four upper secondary programmes preparing for further studies (the natural science programme, the social science programme, the specially designed programme and the technology programme) at six different schools in Uppsala (Bolandsskolan, Fyrissskolan, Katedralskolan, Linnéskolan, Lundellska skolan and Rosendalsgymnasiet) were included in the study (for the study design see Bergström 2015).

Variables and Categories

The questions were grouped in four themes or headings, fairly balanced in the numbers of categories. Questions related to the perception of the **School and Programme** include four variables (in total 11 active categories) relating to their rationales for choosing the programme (degree of preparation for university studies and interesting subjects) and their perception of the school attended (quality of the teachers and the reputation of the school). Attitudes towards **Teachers/Teaching** form the second heading containing 5 questions including 15 categories. With regard to teaching, two questions measured the importance of taking in large text materials in short time and of training public speeches. For teachers, three variables are used: a friendly relation to the pupils, making simple test and the ability to uphold discipline in the class room. Attitudes towards **Grades and Study practices** constitute the third heading, which includes five variables and 16 categories: two relating to grades (in defence of viz. opposing grading) and three concerning the studies (that the studies are demanding, the number of hours spent on homework during the weekend, and the number of hours spent of preparing for tests). The fourth heading, finally, assembles questions on **Subjects**, more precisely the perceived level of difficulty of mathematics, science, Swedish and English (4 questions, 12 categories). In total, 18 variables and 54 categories are active in the construction of the space (see Table 3.1 in the Online Appendix).

A Space with Three Dimensions

The result of the specific MCA, the space of educational orientations of upper secondary school pupils in Uppsala, is presented below. We have interpreted the first three axes given by the specific MCA.

By analysing the decrease of the variance of the axes, we can see that the first axis is clearly the more important one and well separated from the second axis (0.144 >> 0.113), which in turn is separated from the third axis (0.102). The third axis is visibly separated from the fourth axis (0.086). After the fourth, there are small decreases of variances. Moreover, the modified rate (Le Roux and Rouanet 2010: 39) for the first axis is 0.39, for the second axis 0.19, and for the third axis 0.13. The cumulated modified rate of the first three axes sums up to 70%, thus indicating the importance of those axes (see Table 3.2 and Fig. 3.9 in Online Appendix).

The first step in the analysis of the space is to study the contribution of the headings to the variance of the first three axes (see Table 3.3 in Online Appendix). To the first and also the most important axis, the heading 'Programme and school' (36%) contributes the most, followed by 'Grades and studies' (29%) and 'Teachers and teaching' (27%). The heading 'Subjects' primarily orients along the second axis (63%), followed by 'Grades and studies' (27%). For the third axis, the heading 'Teachers and teaching' and 'Grades and studies' has the largest contribution (40 and 39%). Studying the different headings, it becomes clear that the contribution of 'Programme and school' is concentrated to the first axis, 'Subjects' to the second, 'Teachers and teaching' to the first and the third, and 'Grades and studies' to all three.

In the next step, we interpret the axes one by one. In order to do so we select all the categories with contributions to the current axis exceeding the average contribution ($1/54 = 1.85\%$).

Axis 1: A General Axis of Educational Commitment

The interpretation of axis 1 is based on 23 categories that contribute over average (see Fig. 3.1 below and Table 3.4 in the Online Appendix). These categories account for 82% of the variance of the axis. As indicated by Table 3.3 in the Online Appendix, all headings but 'Subjects' contribute to the first axis. The opposition can be summarised as a cleavage between positive versus negative or indifferent attitudes towards the school, the programme, teachers, teaching, grades and studies. In short, it expresses a dimension of belief in and orientation towards education, or a general commitment to the value of educational capital. At the positive pole (left in Fig. 3.1), the opinions that the programme prepares for university studies and that the school has a good reputation go together with the statement that the school has good teachers, positive attitudes towards grades, and that it is important to learn to master large text materials, to train oral presentation and that teachers uphold

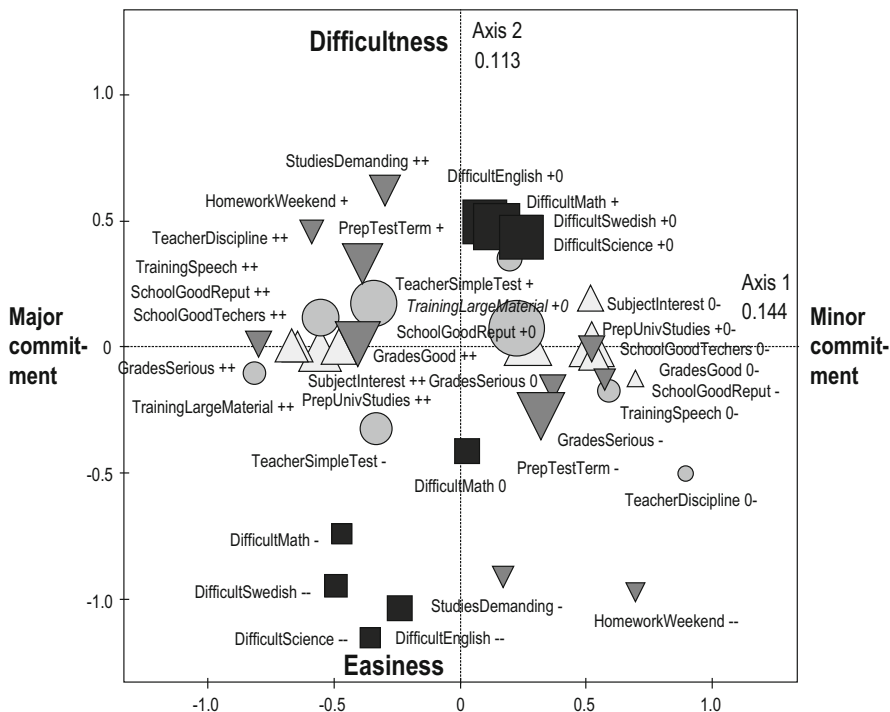


Fig. 3.1 The space of educational orientations of upper secondary school pupils in Uppsala Axes 1 and 2. Contributing categories

discipline in the classroom. This is also paired with investments in studies in the form of many hours spent on homework during the weekends and on preparing for tests. At the opposite pole (right in Fig. 3.1) negative or indifferent attitudes towards these themes are found expressing a lack of commitment to conquer educational capital. For instance, one is less inclined to have chosen the programme for its ability to prepare for further studies and one does not adhere to the idea that the school has a good reputation. Time-investments in the studies are sparse. A sceptical stance towards grades is expressed.

Axis 2: Subjects and Studies: ‘Easiness’ Versus ‘Difficultness’

Fourteen categories are used for the interpretation of the second axis, which sum up to 86% of the variance of the axis. The second axis is primarily related to ‘Subjects’ (the four variables on subject account for 63% of the contribution to the axis) and to some extent to ‘Grades and studies’ (see Fig. 3.1 above and Table 3.3 in the Online Appendix). It contains an opposition between a pole of ‘easiness’ and a pole of

‘difficultness’. At the first dimension (bottom of Fig. 3.1), shows Swedish, English, mathematics and science as easy subjects (or at least not difficult). In addition, little time invested in the studies is distinctive. The latter pole is characterised by holding the mentioned subjects difficult or very difficult. This is combined with spending a lot of time on homework during the weekend and preparing for tests (top of Fig. 3.1). Since the time invested in the studies is clearly of lesser importance than the level of difficulty of the subjects and since the time aspect in addition is more important for the orientation of the third axis, we choose to give priority to the difficult/easy-dimension when summarizing the second axis.

Axis 3: Studies and Teaching: Large versus Minor Investments

The interpretation of the third axis is based on 21 categories that contribute over average, accounting for 84% of the variance to the axis. This axis is primarily oriented by the variables under the headings ‘Grades and studies’ and ‘Teachers and teaching’ (see Table 3.3 in Online Appendix). More precisely, it is a focus on the studies and the teachers. Time invested in the studies and the perception of the demand on study efforts account for 32% of the contribution to the axis. To some extent, it is a correction to the first two axes and especially the second one. The axis associates on the one hand strong investments in the studies (many hours spent on homework during the weekends and preparing for test) with a positive stance towards teachers and teaching (important to train public speech and a good teacher upholds discipline in the class), but it also stresses that the teacher should not be a buddy or offer too simple tests (bottom in Fig. 3.2), and on the other hand less clear investments in the studies (less hours spent on homework during the weekends and preparing for tests) are paired with stressing the importance to train public speech and that point that the teacher upholds the discipline in the class, is friendly and offers simple tests (top in Fig. 3.2). Given the overall importance of time spent on studies, we have chosen to summarize the axis as an axis of investments in the studies.

A summary: The first axis represents juxtaposition between very positive attitudes towards education, teaching, teachers and studies and indifferent or negative attitudes. The second axis separates a pole of ‘easiness’ and a pole of ‘difficultness’ with regard to the most important subjects. The third axis separates important from modest investments in the studies.

The individuals are well-dispersed in the space (see Figs. 3.10 and 3.11 in the Online Appendix). In the plane of axes 1 and 2, there is a larger concentration of individuals in the upper right quadrant, where the most negative or least positive stances combined with regarding the main subjects as difficult are found. The individuals are more dispersed in the other quadrants, where more positive attitudes are located (the two quadrants to the left), and where the less frequent categories of

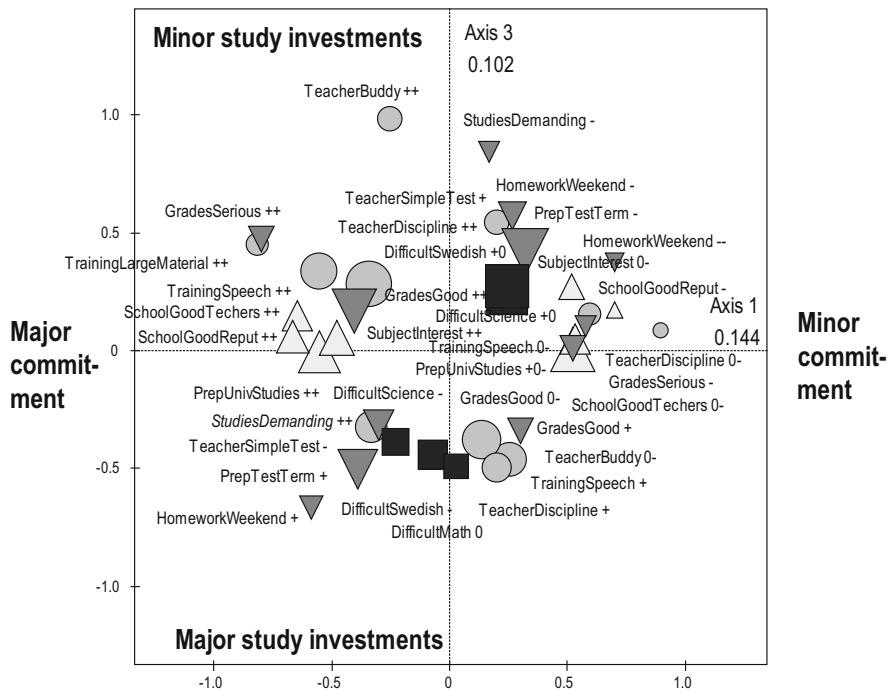


Fig. 3.2 The space of educational orientations of upper secondary school pupils in Uppsala Axes 1 and 3. Contributing categories

investing very little time in the studies are positioned (the lower right). A similar pattern of concentration is visible in the plane of axes 1 and 3, with a higher concentration of individuals in the lower right quadrant than in the other quadrants, which contains more rare categories than the first one.

Inherited and Acquired Educational Capitals and Gender

So far, we have only dealt with the active variables, i.e. those used in the construction of the space. The technique of supplementary variables enables us to explore how the space of educational orientations of upper secondary school pupils in Uppsala is related to their other properties. First, we notice differences between male and female pupils. Then, we will analyse the inherited aspects of educational capital (here measured by parents' highest level of education and to some extent by their occupation). Finally, we introspect the acquired educational capital indicated by the grades and the attended programmes and schools.

A Gendered Space

The deviation between boys and girls is negligible on axis 1, but noticeable on axes 2 and 3 (see Figs. 3.12 and 3.13 and Table 3.5 in the Online Appendix). Along the second axis, male pupils are oriented towards the pole of ‘easiness’, and the female pupils towards the pole of ‘difficultness’. Also along the third axis, girls are oriented towards the pole of heavy investments in studies, downwards, while boys are drawn more to the pole of more modest investments, upwards. This general gender pattern is in line with national surveys of the pupils’ opinions where girls are more engaged in the school work, more oriented towards further studies, but also more stressed over grades and their performance (Skolverket 2010).

Inherited Educational Capital – Differences among the Male and Female Pupils

There is a minor correspondence between the space and the parents’ highest educational level, but not as important as one could have expected given the in general close relationship between parents and their offspring when it comes to educational investments (see for instance van Zanten 2015, for a study discussing more pedagogical and softer aspect of education in relation to school choices). However, the weak result is to some extent dependent on the noticeable gender differences among the pupils. Thus, a division of the educational level by gender has been used (see Figs. 3.3 and 3.4 below and Table 3.5 in the Online Appendix). The educational level of the parents of the female pupils is compared to male pupils more hierarchically organised in the space, going from a low level in the upper right quadrant to a high level to the left. For the female pupils, the level of education of the parents is thus more clearly aligned with their own orientation towards education. Also in the plane of axes 1 and 3, the educational level of the parents of female pupils is more ‘logically’ dispersed, where the educational level rises as we move downwards to the lower left quadrant mainly defined by a high level of investments in the studies. For the male pupils, all educational levels of the parents are concentrated in the upper right quadrant, associated with small investments in the studies, and form no linear pattern (Figs. 3.6 and 3.7).

Schools and Study Programmes Structuring the Space

In the final step of the analysis, the schools, the study programmes and the combination of study programmes and schools will be examined. These variables represent an acquired educational capital in its objectified and institutionalised state of importance for the accumulation of further educational capital such as diplomas

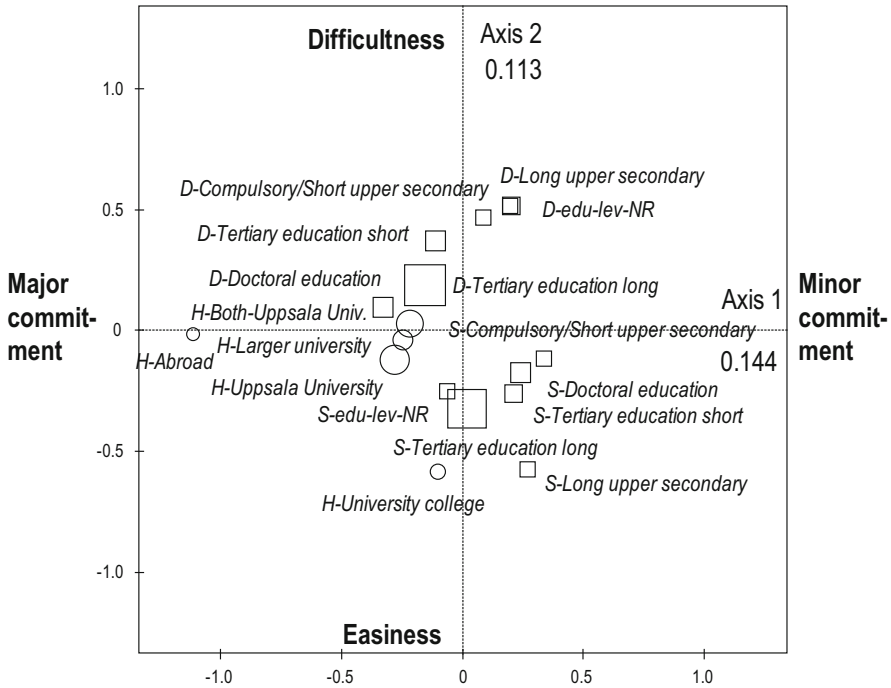


Fig. 3.3 The space of educational orientations of upper secondary school pupils in Uppsala Axes 1 and 2. Parents highest level of education as supplementary variables for all pupils (H–); Divided by gender: Sons (S–), Daughters (D–). Symbol proportional to size

and degrees in higher education. To start with programmes and schools separately (see Figs. 3.5 and 3.6 below and Table 3.6 in the Online Appendix), a fundamental cleavage between the two major programmes, the natural science programme and the social science programme, appears with the former along the first axis positioned at the side of a strong orientation towards and investments in education, and the latter at the pole of less commitment to education. Furthermore, the natural science programme is drawn to the region of the space where we find an overrepresentation of pupils who don't find the subjects difficult, in the lower left quadrant in the plane of axes 1 and 2, while the social science programme appears in the upper right quadrant, where the subjects are found difficult. Also along the third axis, the natural science programme is oriented towards the pole of larger time investments in the studies, while the social science programme is associated with lesser investments. Thus in all three dimensions, the natural science programme expresses the most clearly educational capital-oriented position, whether it comes to commitment (axis 1), easiness (axis 2) or investments (axis 3).

The two other programmes, the technology programme and the international baccalaureate programme, are very much smaller and take different positions in the space. With regard to the first axis, the IB-programme is found in the most

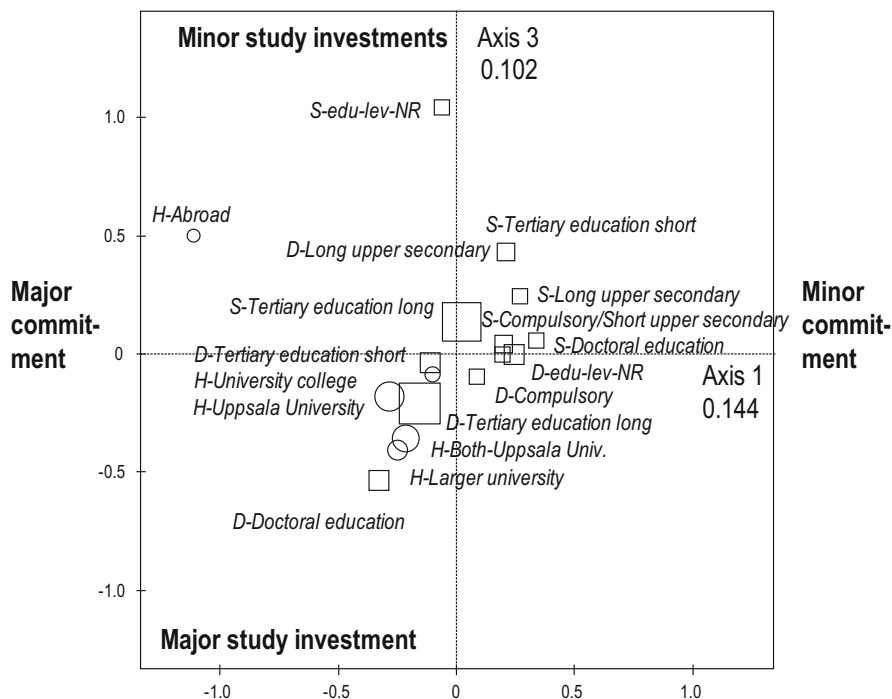


Fig. 3.4 The space of educational orientations of upper secondary school pupils in Uppsala Axes 1 and 3. Parents highest level of education as supplementary variables for all pupils (H—); Divided by gender: Sons (S—), Daughters (D—). Symbol proportional to size

extreme position to the left, expressing a very large commitment to education, clearly exceeding also the position of the natural science programme, while the technology programme is positioned at the opposite, less educationally oriented pole, in a similar position as the social science programme. In the plane of axes 1 and 2 they form an orthogonal axis to the natural science programme and social science programme, with the technology programme at the position of small time investments in the studies (male dominated) and the IB-programme at the pole of large time investments (female dominated).

The positions of the schools are largely defined by their programme structure. The two schools that do not offer the natural science programme, Bolandsskolan and Linnéskolan, are the only ones distinctively positioned at the right, dominated side along axis 1. The four other schools, all offering the natural science programme, are either in the middle (Fyrisskolan and Rosendalsgymnasiet) or, in the case of the most traditional and prestigious schools, Lundellska skolan and Katedralskolan, more leaning towards the dominant pole, to the left. Along the second axis, a differentiation appears between the two schools offering the two programmes most clearly distinguished by the second axis, Fyrisskolan with the technology programme at the bottom, 'easiness' and male dominated position, opposed by

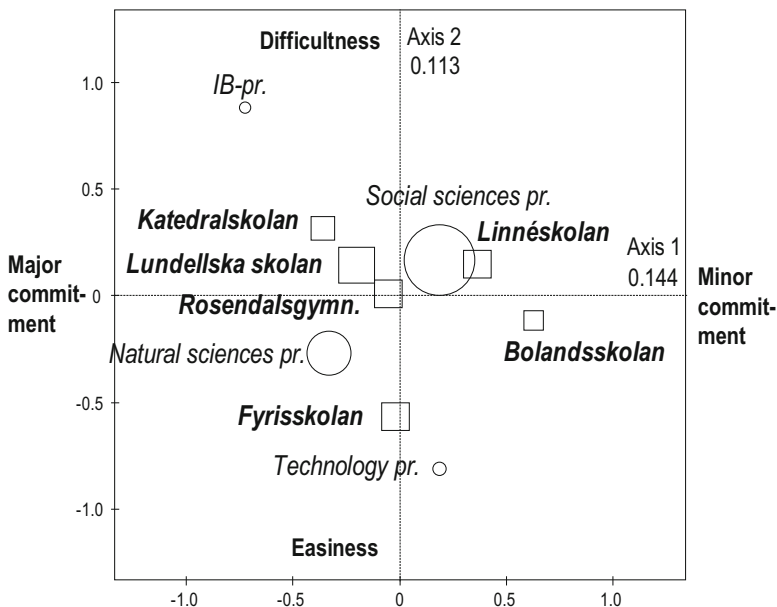


Fig. 3.5 The space of educational orientations of upper secondary school pupils in Uppsala Axes 1 and 2. Schools (Quadrant) and programme (circle) as supplementary variables. Symbol proportional to size

Katedralskolan, giving the IB-programme, and in addition having a very strong language profile in general, in the upper left quadrant defined large investments in the school work and an overrepresentation of female pupils. In the plane of axes 1 and 3, Katedralskolan once again upholds the most extreme position in direction of the most dominant pole (large investments), downwards, while along the first axis, Bolandsskolan and Linnéskolan, take the opposite, less dominant position (small investments in the studies).

In order to further elaborate on the relation between study programme and school, and to better understand the differentiation mechanisms in upper secondary schools, we have used the precise information of the programme and its orientation and divided the programmes by school (Figs. 3.7 and 3.8 and Table 3.6 in the Online Appendix).

First, the natural science programme takes the most extreme position along the first axis, oriented towards the dominant educational capital pole for three out of four schools offering the programme, implying that the social science programme is often oriented towards the least dominant pole. Second, the dispersion of the programmes between the schools differs. For Rosendalsgymnasiet and Katedralskolan there are large differences between the programmes in the plane of axes 1 and 2, while Bolandsskolan, Lundellska skolan and Fyrisskolan show smaller differences.

Switching the perspective from the schools to the programmes, it is obvious that the programmes have similar properties. All natural science programmes are close to each other in the space, in the lower left quadrant of both the plane of axes 1 and 2 and the plane of axes 1 and 3. It is further interesting to notice that they are also differentiated internally according to school. The natural science programme is divided by a female pole consisting of the Lundellska skolan and Katedralskolan and a male pole defined by Rosendalsgymnasiet and Fyrissskolan. A similar differentiation is found within the social science programmes. The gendered profile of the schools is manifested in that the generally female dominated social science programme at the male dominated Fyrissskolan has a computer orientation and is positioned at a more male oriented position in the space than the natural science programme at the female oriented Katedralskolan, which also has a language orientation of its natural science programme.

Conclusions

In research on the social space or social fields, the concept educational capital is often reduced to a one-dimensional variable separating social groups with different highest levels of education. Educational capital sometimes serves merely as an indicator of possessions of cultural capital and seldom attracts the attention that it is worth. This chapter presents a more differentiated approach.

Our starting point was the construction of the space of orientations that upper secondary school pupils ($n = 589$) in Uppsala express towards their studies. This old university town distinguishes itself by an extraordinarily high concentration of educational and cultural capital, which offers opportunities to grasp these species of capital in a rather 'pure' form. To put it in more sociological terms: this is a community where educational capital is extremely crucial for the social reproduction of dominant groups.

The space was defined by the pupils' answers to questions on their study practices and their positive or negative attitudes towards teaching, teachers, grades, subjects, and the attended school and programme. The outcome of the specific multiple correspondence analysis was the following: The first axis (the most important opposition in the space) represented a division between positive and negative attitudes towards their schooling and their teachers. It might be called a school commitment axis. The second axis opposed the statements that the studies are 'easy' and that they are 'difficult'. The third axis stretched between the pupils' declarations of investing much and little time into the studies.

This constructed space represents the *embodied* state of educational capital, as inscribed in the pupils' minds, perceptions and habits, and played out in their study practices, as reported by the pupils themselves.

In the next step we introduced numerous supplementary variables, i.e. variables that do not alter the already constructed structure of the space, but are positioned in it according to their distribution among the students. Thereby we got a clear answer to one of our initial questions, on how gender differences and inherited (from the

parental home) educational capital appear in the space. Especially the second and the third axis are characterised by gender differences. The boys tend to be drawn to the poles of ‘easiness’ and of lesser time invested in the studies, and the girls to the ‘difficultness’ pole and the intensive investments’ pole. The space is also structured by inherited educational capital to some extent. Larger resources tend to go with the more extensive investments in the studies and a general positive attitude towards education. When divided by gender, it becomes clear that the inherited educational capital is configured differently for female and male pupils. Girls follow the logic of the space more closely than the boys do.

In order to trace the educational capital’s *institutionalised* state (schooling institutions, study programmes, etcetera), we continued to project relevant information into the space as supplementary variables and categories. It is obvious that programmes and schools, as well as the interaction between the two, shape the educational space of Uppsala upper secondary school. The dominance of the natural science programme over the social science programme is expressed along all the three first axes, with the former consequently leaning more towards the dominant pole in comparison to the latter. In previous studies, we have disclosed a similar distinction between pupils taking natural sciences viz. social sciences. With regard to political preferences, the natural sciences pupils showed an inclination for international issues on human rights, international rights of employees, a strong trust in the EU and other supranational institutions, but they were more reluctant to position themselves on issues on redistribution, positions takings that marked the difference among the large group of pupils in social science and technology (Bergström 2015; Bergström and Dalberg 2014).

The positions of the schools are largely defined by their educational offer; schools without the natural science programme are located in the dominated regions of the space. However, finer differences between the schools that offer the natural science programme can be observed. First, traditional grammar schools are found in the most dominant positions, by contrast to relative newcomers. The former is also more female-oriented, while the latter are more oriented towards the male dominated parts of the space.

The intersection of school and programme thus becomes the most crucial structural determinant of the space. The first axis is differentiating the social science programme (the least socially and meritocratically selective programme) at the least prestigious school, principally a vocational school, from the natural science programme (most socially and meritocratically selective) at the oldest and most prestigious former grammar school, where there are few vocational programmes and a strong dominance of programmes preparing for university studies and so called cutting-edge programmes. These programmes and schools are also positioned as extremes along the third axis, representing the oppositions between heavy and minor time investments.

To summarise: The space of upper secondary education in Uppsala is primarily characterised by an opposition (axis 1) between stronger vs. weaker commitment to schooling. At finer levels, indicated by axes 2 and 3, the hierarchies differ, and the differences between boys and girls become apparent. Among male pupils, dominant positions are expressed in statements postulating that the school subjects are easy to

learn, while a dominant position among female pupils is compatible with the concession of investing much time in the studies. The former self-representation rimes well with an image of the intellectually gifted disciple capable of learning effortlessly, while the latter is more oriented towards the perception of studies as a laborious task, and of success as the result of the input of a sufficient amount of work.

Finally, our results give us key insights in the dominance of the natural science programme in the Swedish upper secondary school. Not only is the programme at the top of the hierarchy of *institutionalised* educational capital, epitomised by the fact that the programme recruits the largest shares of offspring from the cultural fractions of the upper middle class, but it is also the programme occupying the most prominent position with regard to *embodied* educational capital in three different dimensions as spelled out by our analysis: in a general commitment to schooling and to the value of education, in the perception of the subjects as neither difficult nor demanding, and finally as a strong dedication to invest a lot of time in the studies. Increasingly, these values are upheld by the female students. This result calls for further research on the implications of the feminisation of educational capital.

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