Horizontal differentiation matters: Moderating influence of the type of upper secondary education on students' transitions

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Abstract

This article explores how the horizontal differentiation of upper secondary education affects students' transitions after graduation. It builds upon the institutional perspective on education and draws on data from a nationally representative survey. The analysis shows a considerable variation in graduates' patterns of transition according to the type of secondary education and that the type of secondary education programme moderates the effect of the academic achievement and of students' socioeconomic background on students' patterns of transition.

Introduction

In modern, knowledge-based societies, education has a crucial role for the individual's life prospects and trajectories. This explains the vast amount of research on how the individual's educational level affects his/her further educational choices and labour market outcomes (e.g. Jaeger, 2007; Verhaest & Omey, 2010; Kogan, Noelke, & Gebel, 2011). Many studies have analysed how the vertical stratification of education, i.e., the difference in people's levels of education, influences people's lives (e.g. Shavit & Müller, 1998; Van der Velden & Wolbers, 2007). Recent research on post-secondary education has devoted greater attention to horizontal stratification in higher education, i.e., on how, in the context of educational expansion, the diversification of education affects unequal access to higher education across countries (Shavit, Arum, & Gamoran, 2007), or how occupational outcomes vary according to the different types of degrees individuals have obtained, the types of institutions they have attended and the field of their specialization (Gerber & Cheung, 2008). The horizontal differentiation within secondary education has also attracted greater attention, especially in relation to social inequality (e.g. Blossfeld et al., 2016; Lucas, 2001). Research interest has focused mainly on the differentiation between general and vocational secondary education

(Iannelli & Raffe, 2007; Müller & Shavit, 1998; Raffe, 2014), the levels of stratification of different national educational systems (Allmendinger, 1989; Kerckhoff, 2001; Shavit & Müller, 1998) and the impact of tracking on social inequality in educational and labour market outcomes (Maaz et al., 2008; Dustmann, Puhani, & Schönberg, 2014; Schindler, 2017). However, in our view, when studying the influence of horizontal differentiation on young people's pathways, it is necessary to take into account its various dimensions, such as types of institutions, status/prestige of institutions, place of study, programme orientation. Thus, a study carried out within the framework of the *edu*LIFE project argue for "a more refined concept of upper secondary tracking that distinguishes VET programmes with low and high academic requirements, specialized schools, and baccalaureate schools" (Buchmann et al., 2016).

The present paper addresses the following research questions: *How does the horizontal differentiation of upper secondary education affect students' transitions after graduation?* and *Can the type of secondary education moderate the influence of other factors, for example grades and social background, on those transitions?* The present analysis uses Bulgaria as a case study. The Bulgarian system of secondary education provides a fruitful basis for the study of our research question because of its strong internal differentiation, which goes beyond the traditional division into general and vocational education.

The paper proceeds as follows. First, we discuss relevant literature and present our theoretical considerations derived from an institutional approach to secondary education. This is followed by a brief overview of the differentiation of Bulgarian upper secondary education and by the formulation of working hypotheses. The data and methods for analysis are described. We proceed with the identification of the patterns of students' transition after upper secondary education. Then, the empirical results are presented. After that, these results are

discussed in the light of previous research, and some directions for future research and policy implications are outlined in the conclusion.

Theoretical considerations

Each new generation passes through the educational institutions of society and emerges as a stratified student population, whose adult prospects vary significantly according to the credentials they have obtained in those institutions (Kerckhoff, 2001, p. 3). Hence, how education affects individuals and societies is a crucial sociological question. We argue that applying an institutional perspective to upper secondary education provides fruitful ideas for a better conceptualization of the impact of (horizontal) differentiation of upper secondary education on students' transitions after graduation.

Horizontal differentiation of upper secondary education from an institutional perspective
Understanding education as an institution entails viewing education as a set of formal and informal institutional rules which simultaneously constrain and enable students' behaviour (Scott, 2001). While acknowledging the socialization effects of education, this perspective stresses that education also functions as an allocating institution, which classifies and allocates individuals to positions in society on the basis, among others, of the types and number of years of education, irrespective of what students have learned in school (Meyer, 1977). Inasmuch as the expansion of education has made the attainment of upper secondary education an almost general fact, the differentiating power of education shifts from the mere fact of completion of secondary school to the type of school completed, which brings to the fore the importance of the structure of upper secondary education.

There are two different ways of understanding horizontal differentiation, which we designate as "a flat horizontal differentiation" and "a substantial/qualitative horizontal

differentiation". According to the first view, horizontal differentiation refers to "institutionally and organizationally differentiated learning environments, which may be different schools of the same type, different school types, or different tracks or streams within schools"; however, this differentiation "has no direct or independent effect on social inequality in educational attainment or at the point of labor market entry" (Gebel & Noelke, 2011, pp. 34–35). The second perspective pays attention to qualitative differences between programmes and defines horizontal differentiation as "the extent and form of tracking at the secondary educational level" where tracks "differ greatly in the curricula and in the odds that students would continue to the tertiary level" (Müller & Shavit, 1998, p. 6).

We share the view that a differentiated education system is not a "flat space", and that different types of education create uneven educational environments which differ in quality, status and prestige. Moreover, the uneven educational spaces have an impact on how students think about their future and make decisions. That is why *we define horizontal differentiation as the existence of institutionally and organizationally differentiated learning environments for acquisition of a given educational level, which are structured as different school types and which differ in curricula, internal rules and ethos, the future prospects they offer to their students, and prestige*. Acknowledging the qualitative dimension of horizontal differentiation allows us to understand why educational degrees received from different schools can function as signals during school-to-work transitions.

According to some authors (Gebel & Noelke, 2011, p. 35), a key factor differentiating programmes at secondary level in Central and Eastern European countries is whether or not they grant access to higher education. Another widely used criterion for differentiation is the content of the school curriculum. Drawing on human capital theory, educational programmes are differentiated according to their degree of orientation to general or specific skills (Becker, 1964) and are clasified as either academic or vocational (Iannelli &

Raffe, 2007; Müller & Shavit, 1998). Vocational programmes are further differentiated by the field of study, industry, or occupation for which they train students (Shavit & Müller, 2000), by the duration of the programmes, and by whether they offer firm-based training or not (Baranowska, 2011). Other studies have demonstrated that different types of secondary education differ according to the qualification of their teaching staff (Milenkova, 2009; Sørensen & Morgan, 2000).

Based on our definition of horizontal differentiation and the overview of literature, we assume there are four main criteria for outlining the internal differentiation/stratification of a given national secondary education system and for distinguishing different types of secondary education/schools within it:

1) Access and selection: Who can enter and on what grounds?

2) Programme orientation and function: What is the specificity of the educational programme offered – is it more academic/general or more vocationally oriented, and on what field of study is it focused?

3) Teachers' qualification: What is the level of qualification of teachers in different type of schools?

4) Status: Is education offered in a public or a private school?

Students' transitions after upper secondary education

There are two main pathways after finishing upper secondary education: to continue education in higher education institution (HEI) or to enter the labour market. Recently, there has been a growing literature on school-to-work transition - commonly understood as the process of entering a stable job (Kogan, Noelke, & Gebel, 2011; Raffe, 2014). Other studies focus on unemployment, differentiation between finding a significant or temporary job, the length of time until entry into the first significant job, or the quality of the first significant job

(Kogan, Noelke, & Gebel, 2011; Shavit & Müller, 1998, 2000). Most authors test the hyphothesis that graduates from upper secondary vocational programmes enter the labor market faster and obtain better quality jobs due to the stronger labor market orientation of their education. Many young people experience problems in navigating their way forward into work or learning and are 'not in education, employment or training' (NEETs).

The adopted institutional perspective and our understanding of horizontal differentiation of secondary education allow outlining at least three theoretical reasons why school-leavers who graduated from different types of secondary schools follow different patterns of transition.

1) *The effect of the quality of programmes and quality of the teaching process*: Different types of schools/educational programmes differ in the quality of education they offer. Some types of schools/educational programmes impart cognitive and/or non-cognitive skills more efficiently than others. The greater efficiency in formation of cognitive and/or non-cognitive skills could be related to institutional factors, for example, to the quality of teachers.

2) *The institution's socialization effect*: Different types of secondary schools have different "charters" and "hidden curriculums", which have significant effects on formation of students' identity and future plans and on all the various aspects of the individual's socialization – intellectual development, social values, identity construction and status expectations. The so-called "hidden curriculum" involves the implicit and unplanned, invisible messages of educational practices, the influence of which all too often proves stronger and more important than the planned training activities[2]. According to Meyer (1970, p. 568), an educational programme affects students not only through its content and way of provision, but "includes effects the organisation has by virtue of its charter in the larger society". The term "social charter" refers to the agreed definition of the products/outcomes of

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a given educational programme (Meyer, 1970, p. 565). This "charter" has important socializing effects as far as "knowing what one is institutionally designed to become shapes individual perceptions of and practices within school socialisation" (Hefler, 2012, p. 64). In addition, those students who attend more selective types of secondary schools are surrounded by peers with higher average ability than students at less selective schools. This in turn influences their achievements and expectations.

3) *The signal effect (in case of school to work transitions)*: Attendance at some types of secondary schools may "signal" ability to employers (Spence, 1973), regardless of whether these schools do in fact impart skills more efficiently than other types of secondary schools.

Brief overview of stratification of Bulgarian upper secondary education and students' pathways

Bulgarian upper secondary education is universal (although not compulsory) and highly stratified. The group enrolment rate for upper secondary education for the 2013/2014 school year was about 83%[3]. In addition, students are tracked at the age of 14 (before the end of their compulsory level of education) into general and vocational schools. A specific feature of the Bulgarian context is that each of these two tracks is further differentiated. Thus, the general track includes the so-called language schools, specialized gymnasiums (e.g., in mathematics, humanities or sciences), and non-profiled gymnasiums. There are also different types of vocational secondary schools according to their programme orientation and access procedures. Nevertheless, in Bulgaria all secondary schools (both general and vocational) grant access to higher education, and there are no dead-end tracks. The Bulgarian educational system has two other institutional features which are worth mentioning here: there is no straightforward vocational linkage between upper-secondary and tertiary educational levels

and only weak linkages between the educational system and the labour market (Bieri et al., 2016).

In the stratification aspect, it is important to emphasize that Bulgarian secondary schools differ in their selectivity – access to some is based on entry exams (in mathematics and Bulgarian language) and is very selective, whereas others are open to all students irrespective of their academic achievements. Since 2009/2010 school year onwards these exams are carried out as a part/module of the nation-wide external evaluation for students in the 7th grade. Thus the procedure of admission in high schools is transparent and as a rule, there is no evidence in favour of nepotism in the selection of students for entry into various gymnasiums. However, in general most of the students who gain high grades at the exams actually attend private lessons. Given this, namely pupils whose parents can afford attending private lessons are most successful and continue their education in selective schools. In turn, the schools' academic selectivity influences their prestige, the quality of teaching staff and the quality of education offered. For example, PISA results show a huge and persistent difference in the average performance of pupils from different types of schools with regard to mathematics, reading and science (World Bank, 2014). Furthermore, it is emphasized that social stratification in Bulgarian schools is, in fact, the highest among EU countries; the report shows that students from different backgrounds of study have unequal chances to receive quality education.

These empirical data justify applying our theoretical understanding of horizontal stratification to the Bulgarian secondary education system. In order to distinguish different types of upper secondary education, we use two[4] of the defined criteria: *1) access and selection* and *2) function and programme orientation, i.e., whether they are academically selective and the kind of educational programme they provide: (non-)profiled, semi-profiled*

or vocational[5]. Thus, we identify the following *six types of upper secondary education*, which define the picture of horizontal stratification of Bulgarian upper secondary education:

1) *Non-profiled non-selective*: access with no selection, and a general educational programme;

2) *Semi-profiled selective*: access based on selection, and a general, but partially profiled, educational programme;

3) *Semi-profiled non-selective*: access with no selection, and a general, but partially profiled, educational programme;

4) *Profiled selective*: access based on selection, and an academically oriented profiled educational programme;

5) *Vocational selective*: access based on selection, and a vocationally oriented educational programme;

6) *Vocational non-selective*: access with no selection, and a vocationally oriented educational programme.

As concerns students' patterns of transition, statistical data show that more than 70% of the graduates of secondary schools continue their education in HEIs[6]. The respective percentage is extremely high for the graduates from profiled selective schools – above 95%. During the last decade, growing number of students tend to combine study in higher education with work - 35% of all students work alongside their studies (Eurostudent, 2008). Another salient problem in the Bulgarian context relates to NEETs. Bulgaria is among the countries with the highest NEET rates in the EU, both among people aged 15–24 and among those aged 25–29. A survey on NEETs in Bulgaria has shown that 48% of them are graduates of secondary schools and that the percentage of NEETs among the graduates from general upper secondary programmes is slightly higher than this percentage among their peers who studied in vocational upper secondary programmes. (UNICEF, 2015, 8; Annex 1). It is worth

analysing whether these differences will be more salient when our differentiation of upper secondary education programmes is applied.

In view of the outlined Bulgarian context, and on the basis of three criteria - whether graduates work or continue their education, the type of their employment, and whether they combine studies with some kind of work – we identify *five different patterns of transitions after secondary school: 1) temporary employment, 2) significant employment, 3) attending HEI, 4) attending HEI and working in a significant or a temporary employment,* and *5) not in education or employment.* Following Kogan and Gebel (2011), we define significant employment as an employment of minimum six months duration and minimum 20 hours per week. These patterns of transitions after upper secondary school will be explored empirically in the following part of the paper.

Hypotheses

We investigate how the horizontal differentiation/stratification of upper secondary education affects students' transition after secondary school. With regard to type of secondary school, on the basis of our theoretical considerations, the specific features of Bulgarian secondary education system, and some previous studies (Kogan, Noelke, & Gebel, 2011; Shavit & Müller, 1998, 2000), we expect that *graduates' patterns of transition differ by the type of upper secondary education they have completed (H1).*

Numerous studies have shown that factors associated with school performance, such as obtained good grades for the year, repeating a school year, or needing more than the average number of years to complete a degree, significantly influences labour market outcomes (e.g., being employed or overeducated) (Diem & Wolter, 2014; Verhaest & Omey, 2010). But as already pointed out, we assume that horizontal differentiation is associated with the existence of institutionally and organizationally differentiated learning environments,

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which not only differ in quality, status and prestige, but influence how students think about their future and the decisions they make. In line with this reasoning is the observed impact of college selectivity on academic achievement in the USA: it has been ascertained that students who attend more selective institutions may receive lower grades than students with similar abilities attending less competitive institutions. The solution proposed to avoid biased estimates is that both academic achievement and school selectivity be included in models designed to measure either of the two effects (Gerber & Cheung, 2008). Taking into account these considerations, we expect that *certain types of upper secondary education modify the effect of students' academic achievement on their patterns of transition after leaving secondary school (H2).*

The strong impact of social background on children's educational attainment and transitions to work is well documented for different countries and for different educational levels (Shavit et al., 2007; Bukodi & Goldthorpe, 2013; Stoilova, 2015). However, a recent study has shown that, when secondary-level tracking is controlled, the effect of socio-economic status on tertiary enrolment proves considerably weaker (Buchmann et al., 2016). Given this finding, and leaning on our theoretical considerations, we expect that *certain types of secondary education can moderate the effect of social background on students' transition after leaving secondary school (H3).*

Data, variables and method

The dataset used in the empirical analysis is from the Bulgarian School-Leavers Survey (BSLS), carried out in the period from May to September 2014 as part of the project "Social Disparities and Regional Differences in School-to-work Transitions in Bulgaria"[7]. The survey sample consisted of 2,103 individuals and was nationally representative for Bulgarian residents aged 15–34 who had left education for the first time in the previous five years and

for more than one year[8]. The survey response rate was about 81%. Given that we study the impact of upper secondary education, we restricted the data to people aged 20–34 years who had graduated upper secondary education and had completed this education during the period from 2001 to 2012. Our initial sample of individuals who have graduated upper secondary education contains 1666 cases. We deleted 38 cases of people who were not aged 20-34, 5 cases of people who attended secondary school abroad and 123 cases for which there was no straightforward information and we were not able to classify them to any of the above-described six patterns. Thus, the sample was reduced to 1,500 cases. In order to obtain the same number of cases over the models, categories for unknown/missing values were omitted from the analysis using listwise deletion. More specifically, 1437 of the 1,500 total cases were complete for every item selected. To test whether the data were missing at random (MAR), we followed Bartlett and Carpenter's *Missing Data Stata Practical* (2013). We found strong evidence that 63 missing values are MAR - none of the seven variables which we include in our multivariate analysis showed any potentially biased missingness. Thus, the final analytical sample was limited to 1,437 observations.

The *dependent* variable in our study is the five-category variable for the patterns of students' transition after secondary education described above. In the analysis we use the category of people "attending HEI" as a reference category, given that for the period 2001 and 2012 one of the main developments in Bulgarian educational system was the expansion of higher education, and that both students and their parents have regarded attending HEI as the most preferable pattern after graduation[9]. Furthermore, the net enrolment rate for people aged 19-23, which is the age at which people typically study in higher education, rose from 25.8% in the 2001/2002 school year to 42.6% in 2011/2012[10].

The main *independent* variable in the analysis is the type of secondary education programme. As discussed earlier, we distinguish six programmes: non-profiled non-selective,

vocational selective, vocational non-selective, semi-profiled non-selective, semi-profiled selective, and profiled selective. We have chosen the non-profiled non-selective programme as a reference category, as it is the most neutral one. The second independent variable is school grade in mathematics upon completion of upper secondary education. In Bulgaria, every university and each course has the right to decide which subjects grades to take into consideration in their application and acceptance process. The grades usually taken into account are the grades in mathematics and Bulgarian language. The correlation between these two grades is very strong (Pearson's r = 0.72, p < 0.001). That is why we used only the grade in mathematics. Furthermore, if we use both of them we will violate the assumption for multicollinearity in regression analysis. Grades range from "three", which designates satisfactory, to "six", which indicates excellent performance. The third independent variable is parents' educational status. We differentiate two groups of people depending on their parents' educational status: a group of people having no parent with higher education and a group of people that have at least one parent with higher education. We use the first group as a reference category. To check the robustness of our results, we include a set of control variables: gender (male or female); ethnicity (ethnic Bulgarian, Roma or others); school status (public or private school); location of the secondary school attended (the capital, a large city or small town/village). Transition from upper secondary education is modeled using a multinomial logit model, which is appropriate for nominal response outcomes (Long & Freese, 2006). We employed three models to estimate how the type of upper secondary programme affects the likelihood of following one of the possible variants of transition after secondary education, but for the sake of simplicity, here we present only the results from the full model. It includes the type of secondary programme, the grades, parents' education status, and the above-mentioned control variables.

Empirical results

Patterns of students' transition after secondary education

In Table 1, we report the distribution of the patterns of students' transition after upper secondary education.

- **Table 1.** Descriptive statistics: percentages of all variables adding up to 100 on all rows referring to the patterns of students' transitions after secondary school about here -

More specifically, Table 1 shows how these patterns differ by type of secondary programmes, gender, parents' educational status, ethnicity, and location of the secondary school attended. The data indicate that the majority of people who had studied in non-profiled non-selective programmes, vocational selective and non-selective programmes, and semi-profiled non-selective programmes had a significant employment, whereas the majority of people who had studied in semi-profiled selective and profiled selective schools attended HEI upon completion of secondary school.

School horizontal stratification and students' patterns of transition after upper secondary education (explanatory analysis)

Table 2 shows the regression results with patterns of transition after completion of upper secondary education as a dependent variable. The baseline group used for comparison is those "attending HEI". For each covariate, a coefficient is shown. Full Model estimates show that people who studied in profiled selective schools and in semi-profiled non-selective programmes are less likely to be in temporary employment than to attend HEI compared with those who attended non-profiled non-selective programmes, given the other covariates. People who studied in vocational non-selective programmes are more likely to start a significant job than to attend HEI compared with their peers who studied in non-profiled non-

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selective programmes. At the same time, compared with the reference category, people who studied in semi-profiled selective or profiled selective programmes are less likely to be in significant employment than to attend HEI. Finally yet importantly, people who studied in semi-profiled selective or profiled selective programmes are more likely to attend HEI than to be neither in employment nor in education compared with their peers who studied in non-profiled non-selective programmes. These results indicate that the type of secondary programme has a significant influence on the transition patterns, given the other covariates, and it diverts graduates to one of the possible patterns. The estimates also show that higher grades decrease the likelihood of having a temporary or significant job and to be neither in employment nor in education, and increase the likelihood of people to be attending HEI and working in a significant or a temporary employment.

- **Table 2.** Multinomial logit model (Ref. Attending HEI) about here -

The full model estimates show that parents' educational status has a significant effect on the likelihood of people pursuing a certain pattern upon completion of secondary school. More specifically, upper secondary graduates who have at least one parent with higher education are less likely to start temporary or significant employment or to be neither in employment nor in education, and are more likely to attend HEI and also work, compared with their peers who have no parent with a tertiary degree. Yet, although the multinomial logit model gives us insights about the significant effects on different variables, it does not give us sufficient information about the magnitude of these effects. That is why we continue the analysis by using the average marginal effects.

Can certain types of secondary education modify the effect of students' academic achievement on their patterns of transition after leaving secondary school?

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In order to answer this question, we estimated the average marginal effects for graduates who had studied in different types of secondary programmes and who had obtained different grades upon completion. These effects simply demonstrate the difference between the predictive probabilities of a given programme for a given grade and the reference category, which in our case is a non-profiled non-selective programme. These estimates are derived from the already discussed multinomial logit regression model. They are presented in a graphical form to facilitate the interpretation for all four grades and refer only to the most common patterns: significant employment and attending HEI[11], which are followed, respectively, by 35.35% and 35.21% of all upper secondary school graduates.

Figure 1a) and b) show that, for all four grades considered, graduates from a profiled selective programme have significantly lower probabilities to start significant employment than graduates from a non-selective non-profiled programme. On average, graduation from a vocational non-selective programme increases the probability of having significant employment by approximately 9% for grade three, 11% for grades four and five, and 8% for grade six, whereas graduation from a profiled selective programme decreases this probability by approximately 26% for grade three, 29% for grade four, 24% for grade five, and 13% for grade six. In the case of the semi-profiled selective programme, this probability is significantly lower only for grades five and six, where the decrease is respectively by 11% and by 7% on average. The results of margins also indicate that there is no significant difference in the effect of graduation from vocational selective and semi-profiled non-selective programmes compared with the effect of non-selective non-profiled programme on the probability of having a significant employment, regardless of the grade received upon completion of secondary school.

As regards the pattern of attending HEI, we found that people who studied in a vocational non-selective programme are significantly less likely to attend HEI compared with

those who studied in a non-profiled non-selective programme – this was true for all school grades considered except grade six. Thus, we may be 95% confident that the true decrease in the probability of a person who has a final grade of three of attending HEI, associated with him/her graduating a non-selective vocational programme, is between -0.002 and -0.06. This decrease is between -0.006 and -0.12 for grade four and between -0.001 and -0.16 for grade five. *At the same time, the margins show that those who studied in a profiled selective programme are more likely to continue their studies at a higher level for all grades considered.* The average difference in the probability of attending HEI between graduates from a profiled selective programme and a non-selective non-profiled programme was around 24% for grade three, 33% for grade four, 29% for grade five and 20% for grade six. Margins show that there is also a positive effect on attending HEI among people who studied in semi-profiled selective programme. However, this effect is lower than that observed in the case of the profiled selective programmes. The average difference in the probability of attending HEI between graduates from a semi-profiled selective programme and a non-selective non-profiled programme was around 8% for grade three, 13% for grade four, 14% for grade five and 10% for grade six. As in the case of significant employment, the results of margins also indicate no significant difference between the effect of graduation from a vocational selective and from a semi-profiled non-selective programme, when compared with the effect of a non-selective non-profiled programme, as regards the probability of attending HEI, regardless of the grade received upon completion of secondary school.

- **Figure 1.** Average marginal effects (with 95% confidence intervals) in connection with analysis of the effect of the type of secondary schools/programmes on the probabilities of having a significant job and attending HEI of people who graduated different secondary schools/programmes with the same grades about here -

Overall, these results show the importance of the type of secondary programme, which moderates the relationship between grades and the patterns after leaving upper secondary education and has an influence on the graduates' transitions.

Can certain types of secondary education moderate the effect of social background on students' transition after leaving secondary school?

Figure 2a) and b) show the average marginal effects only for upper secondary graduates whose parents have a low education status. The estimates show that graduates who studied in vocational non-selective schools had a significantly higher probability (by 11% on average) to be in a significant job than people who studied in a non-profiled non-selective programme.

As regards the probability of people of low social origin to be in a significant job, the estimates show no statistically significant differences between those who studied in a vocational selective and a semi-profiled non-selective school, and the people with the same educational background who studied in a non-profiled selective programme. By contrast, people who studied in a semi-profiled selective or in a profiled selective programme have significantly lower probabilities of being in a significant job compared with people who studied in a non-profiled non-selective programme. In the case of profiled selective schools, this probability is, on the average, approximately 25% lower, whereas in the case of semi-profiled selective schools, it is about 10% lower.

Figure 2. Average marginal effects (with 95% confidence intervals) for analysis of the effect of the type of secondary programmes on the probabilities of having a significant job and attending HEI among people with parents of low education status about here -

In the case of people attending HEI, we observe a negative effect of the vocational non-selective, no effect of the vocational selective and semi-profiled non-selective types on

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this pattern, whereas the estimates indicate a positive effect of the semi-profiled selective and the profiled selective programme as regards the degree to which people follow this pattern. The difference in the probability of attending HEI between people with a low parental education background who studied in a semi-profiled programme and a profiled programme and those with the same parent's background but who studied in a non-profiled non-selective programme is, on average, respectively around 12% and 29%.

Discussion

The study demonstrates that, in order to understand students' patterns of transition after leaving secondary school, it is essential that the horizontal differentiation of secondary education be taken into consideration. The empirical evidence enabled us to corroborate most of our hypotheses. More specifically, we found that:

- Graduates' patterns of transition after completion of secondary education differ according to the type of upper secondary education they have completed (H1). The results show that a higher proportion of graduates from vocationally non-selective programmes start a significant job after finishing secondary education, compared with graduates from the non-profiled non-selective programme. The analysis also reveals that a higher proportion of graduates from selective secondary educational programmes continue their studies in HEIs than graduates from non-selective educational programmes, irrespective of their programme orientation.

- We also observed that certain types of upper secondary education can modify the effect of students' academic achievement on two of the patterns of transition after leaving secondary school (H2): significant employment and attending HEI. Thus, graduates with a given school grade attained in profiled selective schools have a significantly higher probability to continue their studies and a lower probability to start significant employment

than those with the same grade who studied in a non-selective non-profiled programme. The same is also evident in the case of the semi-profiled selective programme, although to a lesser degree. However, in the case of school leavers who graduated vocational selective secondary programmes, and semi-profiled programmes, there are no differences as to the probability of attending HEI or having a significant job, compared with graduates from non-selective and non-profiled programmes, regardless of the grade they obtained at completion of secondary school. By contrast, graduation from a vocational non-selective programme increases the probability of having significant employment for all grades and decreases the probability of attending HEI compared with those who studied in a non-profiled non-selective programme for all school grades considered except grade six.

- Overall, the analysis confirms that some types of upper secondary education moderate the effect of social background on students' transition after leaving secondary school (H3). More specifically, students from families with low parents' education status, and who graduated from more selective type of secondary schools, are more likely to attend HEIs and less likely to start significant employment than graduates with the same family background but who graduated from non-selective and non-profiled secondary educational programmes.

Thus, the results obtained demonstrate that the division of upper secondary education into general *vs.* vocational education is not sufficient for analysis of students' patterns after completion of upper secondary education in stratified secondary-education systems, such as the Bulgarian one. The study provides evidence for the importance of *another division – that between selective and non-selective programmes.* Further differentiation of vocational programmes has been found useful for the analysis of school-to-work transitions in Poland (Baranowska, 2011). *In addition, our study shows that upper secondary education programmes* can be further differentiated into *non-profiled*, *semi-profiled* and *profiled*.

The findings of the present paper suggest several directions for future research. A very important question concerns *how the effects on student's patterns of transition are brought about*, i.e., what are the mechanisms by which different schools influence their students. The theoretical reasoning presented above suggests that schools have an impact on their students by influencing not only the students' cognitive achievements but also their identity formation and status/future expectations. This effect of different schools accounts for some of our results, which are at first glance hard to explain. Thus, our finding related to H3 could be explained by two lines of reasoning which have been outlined in the theoretical section: *first*, as showing the difference in quality of education in different types of secondary education, and *second*, as pointing to the socializing effect of environments created by different types of secondary education. At the level of the individual, the influence of the type of secondary education is associated with the effects that entering a prestigious secondary school can have on identity formation. Thus, graduates from profiled selective and semi-profiled selective schools most probably have greater self-confidence and expectations/aspirations towards tertiary studies than graduates from non-profiled non-selective schools. Hence, when students who study in profiled selective and non-profiled non-selective schools have the same level of academic achievement, the first group is more likely to continue their education in HEI. It is out of doubt that one's decision to continue their education in HEIs touches upon issues such as the financial status of the family and accessibility of HEIs. Although these issues are outside of the scope of the article, it is important to emphasize that the fees in the public universities in Bulgaria are not so high (between 200 and 400 euros per year which is below the average salary in the country) and there is a possibility to work while studying. In addition, the social background of parents, which is included in our analyses, can be used also as indicator of the financial status of the family.

Further research may be conducted to obtain and analyse longitudinal data on students' patterns after leaving upper secondary education, thus checking the persistence of our results. Also, the use of longitudinal data will allow studying the influence of institutional differentiation and stratification on youth trajectories over a longer transition period, instead of at a single move from school to work or to HEI.

The analysis uses Bulgaria as a case study, a country that has started its transition to market economy in the early 1990s. Müller and Shavit (1998) have shown that horizontal differentiation is important in explaining variation in labour market entry patterns of secondary graduates across advanced countries. It is worth carrying out a comparative analysis on how the influence of horizontal differentiation within secondary education on students' transitions after graduation is embedded in different socio-economic contexts and welfare regimes.

Conclusion

The present paper contributes to the literature and discussions on youth transitions after secondary school by applying a theoretical framework based on the institutional perspective to secondary education. It also enriches the discussions on horizontal differentiation within upper secondary education and on the effect of tracking on students transitions by revealing how different types of secondary education affect pupils' transitions after leaving secondary school in Bulgaria and how they moderate the influence of other factors on those transitions. The analysis clearly demonstrates that taking into account a more sophisticated view on school differentiation would be useful for explaining the variation in the patterns of students' transitions after leaving secondary education.

Studying horizontal stratification of secondary education is very important in a *policy perspective* as well, due to the impact stratification has on inequality (Lucas, 2001; Straková,

2015). Since upper secondary education has become practically universal, its internal differentiation has gained additional significance as a factor of reproduction of social inequalities. This again raises the question as to the age at which students are allocated to different educational tracks/programmes and the selection criteria. Research has shown that early student selection has a negative impact on students assigned to lower tracks and exacerbates inequalities without raising average performance (OECD, 2012). The findings of the present paper clearly demonstrate that all policy reforms should be discussed in taking into account their consequences for horizontal differentiation and stratification of secondary education.

Notes

1. Report on the fifth *edu*LIFE workshop

   http://edulife.eui.eu/Workshops/ReportonthefiftheduLIFEworkshop.aspx

2. "Lessons" of the "hidden curriculum" are "taught" through the way educational institutions function – their admission procedures, organization of the educational environment and teaching process, school management (Bourdieu & Passeron, 1977).

3. National Statistical Institute http://www.nsi.bg/en/content/4786/net-enrolment-rate-population-educational-system.

4. We do not apply the third criterion – teachers' qualification – because statistical data and studies have shown a high correlation between it and school selectivity (Milenkova, 2009). Due to the limited number of students who graduated from private schools in our sample – 50 cases, we do not use the fourth criterion in our clasiffication.

5. "Non-profiled" refers to general programmes. "Profiled" includes language gymnasiums, mathematics and science gymnasiums, and gymnasiums in the humanities. "Semi-profiled" includes gymnasiums with profiled classes. "Vocational" includes vocational gymnasiums after completion of 6/8 class, art and sports schools.

6. See: http://dariknews.bg/view_article.php?article_id=1389962

7. Joint project of the Institute for the Study of Societies and Knowledge, BAS and the Institute of Sociology at the University of Basel, which was supported of the Swiss Enlargement Contribution and by the Bulgarian Ministry of Education and Science in the framework of the Bulgarian-Swiss Research Programme [grant number 142969].

8. A two-stage cluster sample structured by regional planning units (NUTS2) and size of the settlement was employed both for the main and for the booster samples. At the second stage, the addresses of potential respondents provided from the General Directorate "Registration of Citizens and Administrative Support" to the Ministry of the Regional Development and Public Works (GRAO) for each of the selected electoral sections at the first stage were used, as GRAO was requested to select these addresses by random.

9. In 2015, about 80% of the graduates of secondary schools continued their education in HEIs. See: http://www.bgnes.com/bylgariia/obshchestvo/4388658/.

10. National Statistical Institute http://www.nsi.bg/en/content/4786/net-enrolment-rate-population-educational-system.

11. The average marginal effects for the other four patterns are available at request.

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Table 1. Descriptive statistics: percentages of all variables adding up to 100% on all rows referring to the patterns of students' transitions after secondary school

Outcome / *Variables*	Description	Temporary employ-ment	Significant employ-ment	Attending HEI	Attending HEI and working	Not in education and employment
Independent variables						
Type of secondary programme	*Base*: Non-profiled non-selective	7.69	40.05	29.71	9.81	12.73
	Vocational non-selective	9.79	51.32	18.52	5.56	14.81
	Vocational selective	4.00	35.50	33.50	17.50	9.50
	Semi-profiled non-selective	3.92	36.60	33.99	13.07	12.42
	Semi-profiled selective	5.22	20.00	53.04	18.26	3.48
	Profiled selective	1.87	6.07	67.29	22.90	1.87
Parents' education status	*Base:* None of the parents with HE	7.99	42.76	28.17	8.19	12.89
	At least one parent with HE	2.29	18.35	51.38	23.17	4.82
Grades Maths	Satisfactory	15.22	49.28	12.32	2.17	21.01
	Good	9.51	52.62	18.06	4.85	14.95
	Very good	3.63	29.49	44.44	14.74	7.69
	Excellent	0.95	9.81	59.49	27.22	2.53
Control variables						
Gender	*Base*: Men	8.32	39.02	31.99	10.04	10.62
	Women	4.32	31.89	38.24	15.27	10.27
Ethnic background	*Base*: Ethnic Bulgarian	5.18	35.04	38.18	13.83	7.78
	Roma	21.13	28.17	4.23	1.41	45.07
	Others	9.68	45.16	18.28	6.45	20.43
Location of secondary school	*Base*: Capital	4.78	36.25	39.44	15.14	4.38
	Big city	5.74	31.76	38.38	15.44	8.68
	Small city or village	7.71	39.72	28.85	7.91	15.81
Status	*Base:* Public	5.90	35.95	35.08	13.01	10.06
	Private	17.39	17.39	39.13	4.35	21.74

Data source: BSLS (2014, own calculations, unweighted data). no. 1,437.

Table 2. Multinomial logit model (Ref. Attending HEI)

	Temporary employment	Significant employment	Attending HEI and working	Not in education or in employment
	Coef.(SE)	Coef.(SE)	Coef.(SE)	Coef.(SE)
Grades	-1.30**(0.17)	-1.01**(0.10)	0.28*(0.12)	-1.04**(0.14)
Type of secondary education programme: Ref. cat. Non-profiled non-selective				
Vocational, not selective	0.21(0.32)	0.56**(0.21)	0.05(0.32)	0.18(0.28)
Vocational selective	-0.45(0.46)	0.05(0.24)	0.28(0.29)	-0.02(0.35)
Semi-profiled not selective	-0.91+(0.50)	-0.18(0.25)	0.26(0.33)	-0.05(0.34)
Semi-profiled selective	-0.22(0.51)	-0.74**(0.30)	-0.17(0.33)	-1.28*(0.57)
Profiled selective	-1.01+(0.59)	-1.93**(0.34)	-0.36(0.27)	-1.72**(0.56)
Parents' educational status: Ref. cat. None of the parents with HE				
At least one of the parents with HE	-1.17**(0.39)	-0.90**(0.18)	0.46*(0.19)	-0.47+(0.29)

Data source: BSLS (2014, own calculations, unweighted data). no. 1,437.

Note: Control variables included: gender, ethnicity, school status; location of the secondary school attended.

Standard error in parentheses. Significance: + p<0.10, * p<0.05, ** p<0.01.

LRtest(52) - 731.67**, Nagelkerke R2 - 0.399.
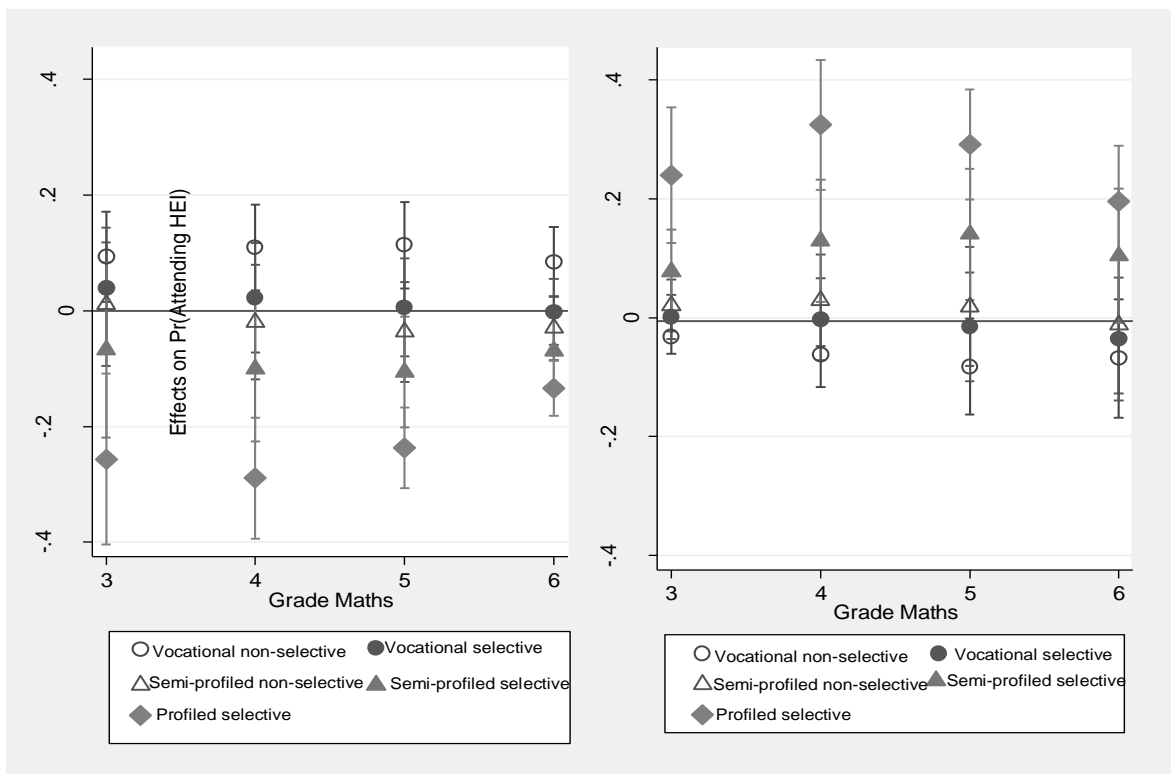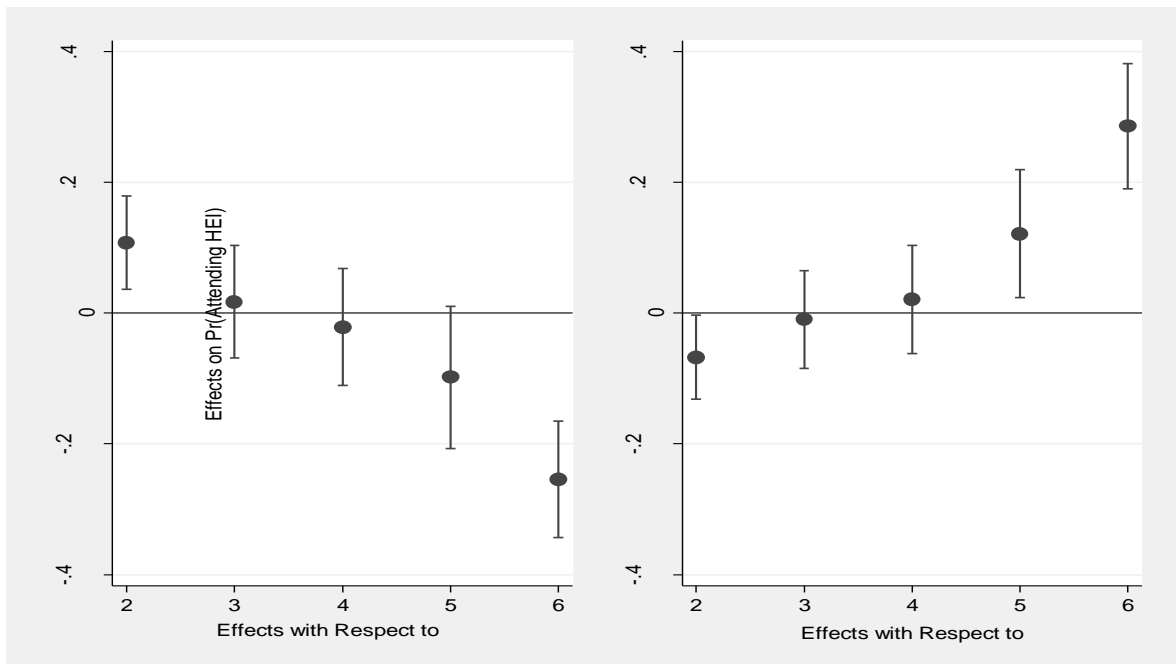
a)   b)

Figure 1. Average marginal effects (with 95% confidence intervals) in connection with analysis of the effect of the type of secondary schools/programmes on the probabilities of having a significant job and attending HEI of people who graduated different secondary schools/programmes with the same grades

Data source: BSLS (2014, own calculations, unweighted data). no. 1,437.

Note: The omitted reference category is non-selective non-profiled programme.

a)   b)

Figure 2. Average marginal effects (with 95% confidence intervals) for analysis of the effect of the type of secondary programmes on the probabilities of having a significant job and attending HEI among people with parents of low education status.

Data source: BSLS (2014, own calculations, unweighted data). no. 1,437.

Note: The omitted reference category is non-selective non-profiled programme.