European Journal of Contemporary Education
E-ISSN 2305-6746
2024. 13(3): 575-588
DOI: 10.13187/ejced.2024.3.575
https://ejce.cherkasgu.press

Institution and Occupational Motivation of Students in Vocational Institutions in the North Great Plain Region of Hungary in Relation to Socio-Economic Status

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Abstract

In Hungary's marginalised education system, vocational education and training institutions are at the bottom of the prestige ranking, so that children from lower socio-economic status (SES) families typically choose vocational education and training as a further education destination as in Germany and Austria. However, due to the under-researched nature of the topic, it has been a question whether educational policy efforts to promote vocational education (which also used European Union funds) have changed this scientific consensus, and what other non-SES characteristics influence students' aspirations to further education. To answer this research question, we conducted a quantitative survey in the Northern Great Plain region of Hungary, collecting data from 973 respondents and analysing it using IBM SPSS 25 statistical software. In our research, we confirmed the literature on recruitment and discovered a special group of students in vocational education who are the children of parents with higher SES, typically with tertiary education. In addition, we discovered that further education aspirations differ by programme type and that SES has the greatest impact on the order of entry and career adjustment. In the course of our research, we found that despite educational policy efforts, recruitment to vocational education in Hungary has not changed radically, but we did find a previously unidentified group of children of middle-class families, who, typically as children of parents with tertiary education, did not strive to maintain their social status and chose vocational education without career correction.

Keywords: Hungary, VET, SES, career choice.

1. Introduction

The primary aim of the 2019 vocational education reform in Hungary was to create a secondary vocational education system that supports and works in line with the development of

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industry. To this end, it adapted the well functioning and adaptable German dual vocational training model (Żuchowski et al., 2021) to the Hungarian education system and conditions. As a result, after completing primary education (grades 1-8), young people can choose between the following types of programmes: secondary grammar school (grades 9-12), secondary vocational grammar school (grades 9-13) at ISCED level 3A, and secondary technical school (grades 9-13) at ISCED level 3A and secondary vocational school (grades 9-11) at ISCED level 3C (Eurydice, 2021). Thus, after passing the basic sectoral examination, young Hungarians studying at ISCED 3.C level from year 10, age 15, and at ISCED 3A level from year 11, age 16, spend almost half of their time in a company environment, in dual training.

International survey results show a trend that has highlighted differences between family background and types of educational programmes in the choice of further education, with higher educated parents preferring ISCED 3A, which includes a baccalaureate and a tertiary pathway, while lower educated parents prefer vocational education and training, including ISCED 3C, which does not include a baccalaureate (Traqueia et al., 2020; OECD, 2018). Thus, young people with a low socio-economic status continue their studies in vocational education and training in Germany, Austria and Hungary (Powell, Solga, 2011; Schlögl, Lachmayr, 2005; Bacher, 2003; Müller, Shavit, 1998). The criterion for selecting the Northern Great Plain region for our research was that it is a disadvantaged region in Hungary, where major large investments, mainly related to the automotive industry, have recently started, such as BMW and the construction of factories serving the automotive industry. The combination of the rapid development of the industry and the reform of the secondary vocational education system provides the opportunity to examine the motivations for the choice of institution and occupation of students who are now graduating from vocational education and training and who are studying for the first time in the new education structure, mainly in terms of family background.

2. Literature review

As a consequence of industrialisation and the expansion of education, the influence of family background on the chances of further education has not significantly decreased, but it has shifted the mechanisms of selection from primary to secondary education (Goldthorpe, 1999; Róbert, 2002; Róbert, Bukodi, 2002). Let us first approach this phenomenon from the perspective of cultural reproduction theory. The cultural capital of the family, which includes the educational attainment of parents, is reflected in school performance by the fact that in the educational arena, young people with higher cultural capital are advantaged over their counterparts with lower cultural capital. Thus, the educational institution, through its internal mechanisms, perpetuates inequalities arising from family background (Ferge et al., 1997). The role of Bourdieu's dominant/dominant culture variability is to ensure the differentiation of those with higher cultural capital (Bourdieu, 1973; Bourdieu, Passeron, 1977). The decision of parents to enrol their children in a longer period of education, at least up to the baccalaureate, or in a shorter period of secondary education is above all a decision to accept the conditions imposed on their social group (Bourdieu, 1967). In the following, we will use rational action theories to look for the reasons for the different aspirations to further education according to social status. Boudon (1974) distinguished between primary and secondary family effects in educational decisions, where the primary effect is the reproduction of cultural capital itself. The secondary effect is manifested in the institutional choice decision whereby families make a rational decisions based on the information available, weighing the costs of education against the expected benefits. The same learning path leads to a different cost-benefit calculation depending on the family background, the reason being that for a young person with lower cultural capital, it is more costly to reach a given level, hence the relative distance to travel and the constraints on the decision, such as the available educational institutions or school performance, are greater (Boudon, 1974). According to Goldthorpe, the cost-benefit calculation of education is class-specific since its primary aim is to preserve social status, and the choice of institution is only a means of preserving status. According to the social status of the parents, children from higher-status families need to attain a higher level of education and are therefore at greater risk of status loss. An important aspect of this calculation is the likelihood of successful completion, as indicated by previous school performance. Goldthorpe's theory also includes constraints on the decision to continue education based on rational calculation, such as the number of places in the target institution and academic performance (Goldthorpe, 1996; Goldthorpe, 1997; Goldthorpe, 1999). Although the effect of family background gradually weakens

as educational attainment levels increase (Cameron, Heckman, 1998), parents still play the most significant role in their child's career choice (Pečjak, Pirc, 2020; Keller, Whiston, 2008; Bardick et al., 2004) However, the factors that determine the decision to continue education may differ between social strata, based on their attitudes towards the decision to continue education, the breadth of their knowledge, their familiarity with the education system, where they obtain information about institutions, and the motives that are important to them (Ball et al., 1995). Their decisions to continue their education, which is a long-term investment for families (Thurow, 1970), are made following a rational choice model, whereby they choose the option that maximises the difference between the net expected return on education and their costs (Cameron, Heckman, 1998; Hermann, 2013). These educational return calculations may lead to different outcomes for students from different family backgrounds on the same learning path, which gives our research relevance. Overall, we can thus conclude that career choice can be a phenomenon determined by an individual's SES in multiple ways, especially in a country where social status is such a strong determinant. Nevertheless, despite the fact that the basic theses have not changed in recent years, the phenomenon has hardly been researched in the last decade and therefore requires scientific revision, and the following hypotheses are put forward in the light of the literature:

H1. It is assumed that the social background indicators of students are homogenised by school type, with children from families with higher socio-economic status attending higher prestige, baccalaureate-granting courses compared to families of students attending non-baccalaureate-granting courses (Bourdieu, 1967; Boudon, 1974; Goldthrope, 1996; Goldthrope, 1997; Goldthrope, 1999).

H2. In our hypothesis on institutional and occupational choice, we hypothesise that forced decision and/or career correction will be predominantly concentrated among students from lower socioeconomic families (Bourdieu, 1967; Boudon, 1974; Goldthrope, 1996; Goldthrope, 1997; Cameron, Heckman, 1998).

3. Method

To create our database, we developed our own student questionnaire, which, in addition to the basic demographic questions, also included questions from the student background questionnaire of the 2020 National Competency Survey and items from the Central Information System Statistical Data Service, in order to make our database comparable. Our questionnaire was structured in three main sections, of which two are presented in this paper: 1) motives for school choice (example item: In your case, how much did school choice determine whether it was close to home?) and 2) motives for occupational choice (example item: In your case, what and to what extent was the choice of profession determined by the fact that it was interesting and exciting?). During the pilot phase of the survey, we refined and improved our measurement instrument in consultation with relevant vocational experts. The final version of our questionnaire measured school and career choice motives on a four-point scale. Both the school choice motives (Chronbach's alpha = 0.7187) and the vocational choice motives (Chronbach's alpha = 0.6845) question blocks had good reliability indicators. The data collection was conducted in vocational education institutions in the academic year 2022–2023 in three Hungarian counties in Northern Hungary (Hajdú-Bihar county, Szabolcs-Szatmár-Bereg county, Jász-Nagykun-Szolnok county). The questionnaire could be completed online or in paper form. Distribution of the sample by programme type: 11th grade vocational school students n=600 (32.2 % completion rate), technical school n = 375 (19 % completion rate).

4. Participants

The target group of the research was the first-year students of the new type of secondary vocational school programme, and the first-year students of the secondary technical school programme, who were in the 11th grade at the time of filling out the questionnaire, and who are students of a mixed-profile, multi-purpose vocational education and training institution (where a vocational school programme is taught in addition to the technical school), so the data collection also focused on this group. In the data cleaning process, we aimed for representativeness, therefore, the sample of 1,229 students from the Northern Great Plain region was excluded from the sample, so those outside the region under study (n = 85), the reason being that the scope of training at VET centres extends across the borders of the county, so we did not include in the present analysis the completions from VET institutions outside the region. The sample was then

narrowed down to state-maintained maintenance, the reason being that the state education sector has a significant size advantage in terms of student numbers in the secondary VET sector in Hungary. Among the participants in vocational education and training, the youngest respondent was 16 years old and the oldest was 26 years old, with a mean age of 18.21 years (SD = 0.98). The highest proportion of mothers (28 %) had primary education or vocational secondary education (24.6 %), followed by vocational education (17.9 %). A small percentage of mothers also had a college (4.8 %) or university (3.3 %) education. For fathers, an even more common qualification was vocational education (26.5 %), but there was also a high prevalence of vocational secondary school (25.9 %). Fathers with a primary education (24 %) were also present in our sample in smaller proportions than those mentioned above, but also in significant numbers. Finally, there were few fathers with a high school (5.4 %), college (3.3 %) or university (1.6 %) education. For both mothers (10.6 %) and fathers (13.2 %), 'don't know' answers were found for educational attainment. In our analysis, we found that half of the mothers in our sample had an active employment status (56 %), while almost half (22.3 %) had a passive employment status, and the least prevalent was temporary employment (15.9 %) among mothers. The majority of fathers (68.7 %) were in active employment, with a minority in passive and temporary employment. Finally, almost equal proportions of students surveyed for both mothers (15.9 %) and fathers (16.9 %) said that they did not know exactly what employment status their parents were in.

5. Analysis

IBM SPSS statistical analysis software was used for the analysis. Descriptive statistical analyses, cross-tabulation analyses, principal component analysis, cluster analyses, and analysis of variance as a function of normal distribution were performed to explore the results and relationships.

6. Results

6.1. Recruitment in VET

For an in-depth statistical analysis, we set the objective to create clusters along complex socio-economic variables. Five variables were included in the cluster design: highest educational attainment of the father and mother; the highest educational attainment of the father and mother; type of municipality of residence; number of siblings and objective material factors (Regular child protection benefit and the amount of material capital accumulated from the estate). As cluster analysis cannot handle categorical variables properly, we first had to combine and dichotomise the variables that were categorical from our selected variables. This was necessary to ensure that the values of the former attributes fell between 0 and 1, so that if the value was equal to or greater than 0.5 we could determine how characteristic the response option was inour sample. For the highest educational attainment of parents, students were asked to choose from 7 attributes, 6 of which indicated the type of institution of education, and the 7th was the option of not knowing. We aggregated the educational attainment to create the categories of primary (primary school or less, vocational school), secondary (vocational school, high school) and tertiary (college, university) and dichotomized the variable along its attributes. A similar approach was followed for parents' occupation, where the 12 attributes were grouped into 4 categories. These employment categories are active, passive, temporarily employed, and unspecified. We classified the responses of employees, entrepreneurs and farmers into the active category. The passive category includes responses from the unemployed (with and without benefits), disabled, retired, and on maternity leave. The temporary employed category includes public utility workers and casual workers, while the unspecified category includes don't know answers. This variable was also dichotomized according its attributes. For the place of residence, the names of the municipalities were first categorized into the types of municipality: county, town, and village, and three attribute variables were created from the municipality, and then dichotomized along its attributes as well. We wanted to assess the financial situation of families along eight dichotomous variables, weighted in two cases for more than one computer and for more than one car (one car = 1, more than one car = 2), and then we created an objective financial index for students in vocational education and training. To objectively measure the financial situation of families, we used, in addition to the previous ones, the eligibility for regular child protection benefits. By including the variables listed, we created three socio-economic clusters from the data in our database.

The first cluster (n = 223) consists of families where both parents have a primary education (at most skilled), the mother's employment status is typically passive or temporary, and the father is actively employed, i.e. the family is supported by his earnings. Their financial situation is poor, well below the average for those in vocational training, as evidenced by the fact that they were previously eligible for regular child protection benefits. These large families with many children live in a municipality or small town, and are therefore referred to as 'multi-disadvantaged families'.

In the second cluster (n = 280), the children of families where both parents have a low level of education but are active in gainful employment were included. The financial situation of these families is close to the average for vocational education and training institutions. In this group it occurred, but not with the same frequency as in the previous group, that they were eligible but not currently receiving the regular child protection benefit. Members of this cluster have on average, three siblings and typically live in a commune or small town. Along with these characteristics, we have labelled them as skilled worker families.

For families belonging to the third cluster (n = 470), both parents have a secondary education, i.e. have a high school diploma or are in active employment. The financial situation of the family corresponds to the average for students in vocational education and training, and their income situation indicates that they have never received regular child protection benefits. They mostly live in a city or county town, and the cluster of pupils typically has one sibling. Along with these characteristics, we have labelled them as (lower) middle class families (Table 1).

Table 1. Clusters of our socio-economic variables (N = 973)

		Families with multiple disadvantage	**Families with skilled workers**	**Middle class families**
Employment of the mother	passive	0.36	0.25	0.14
	temporary	0.1	0.08	0.03
	active	0.33	**0.52**	**0.69**
Employment of the father	passive	0.13	0.11	0.07
	temporary	0.1	0.08	0.01
	active	**0.5**	**0.66**	**0.79**
Mother's highest level of education	primary	**0.57**	**0.75**	0.23
	secondary	0.23	0.16	**0.52**
	tertiary	0.03	0.02	0.14
Father's highest level of education	primary	**0.63**	**0.65**	0.36
	secondary	0.19	0.22	0.43
	tertiary	0.01	0.03	0.08
Type of municipality	village	**0.49**	**0.47**	0.38
	town	**0.48**	**0.49**	**0.51**
	capital	0.03	0.04	0.11
Objective material index		0.35	0.43	0.52
Number of siblings		4.55	2.55	1.3

		Families with multiple disadvantage	Families with skilled workers	Middle class families
no longer receive regular child protection benefit		**0.58**	0.44	0.2
N		**223**	**280**	**470**

Source: VETanulOK 2023

Using our ready-made socio-economic clusters, we were thus able to examine the distribution of the groups by programme type. Using cross-tabulation analysis and Chi-squared tests, we found that there were significant differences in the association between programme types by socio-economic cluster ($\chi 2 = 85.1419$, df = 2, p = 0.001). Our results show that there were significantly more students from vocational schools who were children of families with multiple disadvantages or skilled workers, while the majority of students from technical schools were from middle-class families (Table 2).

Table 2. Distribution of socio-economic clusters by programme type (%) (N = 973)

		Vocational school	Technical school	Total
Families with multiple disadvantages	%	30.80 %	10.20 %	22.90 %
	A.R.	7.4	-7.4	.
Middle class families	%	37.50 %	65.70 %	48.30 %
	A.R.	-8.6	8.6	.
Families with skilled workers	%	31.70 %	24.10 %	28.80 %
	A.R.	2.5	-2.5	.
Total	N	600	373	973
	%	100.00 %	100.00 %	100.00 %

Source: VETanulOK 2023. Note: Underlined where Adjusted Residuals (A.R.) is greater than 2.

6.2. Motivations for choosing an institution and a profession

As a first step, we examined the descriptive results of our questions on motivation for school and career choice. On a four-point Likert scale, each response option was included in our database. Our analysis showed that school choice was most influenced by the chosen profession, the quality of the training, the proximity to home and the ease of access. Thus, according to previous research (Flores, O'Brien, 2002; Denice, Gross, 2018), proximity to school is more important than the profession taught at school and the quality of education, thus proximity to school is a more important factor (Montes & Rubalcaba, 2014). In the case of motivations for choosing a profession, the interest in the profession, the possibility of earning a good salary, and the intrinsic motivation to pursue the profession later on emerged as motivational forces, and the desire to continue education also emerged as a strong motivation for respondents. This leads us to the conclusion that both the choice of institution and the choice of profession had factors that were present as a specific motivational factor prior to the choice (Table 3).

Table 3. Descriptive mean statistical results (1-4 Likert scale) for school and occupational motivation (N = 973)

	Item	Average	SD
Motivation for school choice	**For the profession you have chosen**	**2.7742**	1.05843
	Quality of the practical training	**2.5593**	1.00558
	It is close to home	**2.5387**	1.13491
	It was easy to get in	**2.5**	1.11861
	Quality of theoretical training	2.452	1.0031

	Item	Average	SD
	The school has a good reputation	2.3965	1.03861
	Friend(s) and acquaintances come here	2.3893	1.1678
	Parent or sibling also attends	2.2436	1.22833
	For a place in a dormitory	2.0196	1.26566
	Not accepted elsewhere	1.9938	1.23481
Motivation for occupational choice	**The profession is interesting and exciting**	**2.7893**	1.06565
	It's a good way to earn money	**2.7829**	1.063
	I would like to work in this profession	**2.7062**	1.08525
	I would like to continue my studies	**2.5407**	1.15372
	It was easy to get in	2.4577	1.12884
	Easy to learn	2.3055	1.04722
	My friends and acquaintances are in the same profession	2.2394	1.20538
	It's one of my parents' professions	2.0464	1.23038
	I was not accepted elsewhere	1.9752	1.22027

Source: VETanulOK 2023
Notes: Indicated in bold where the average value is 2.5 or more

After the descriptive statistical analysis, we examined the distribution of the school and occupational motivation questions using Kolmogorov-Smirnov (p = 0.001) normality test, which did not show a normal distribution, so we continued the analysis with the later non-parametric tests. Using the Kruskal-Wallis test, we found significant differences in four of the motivations for choosing a profession when comparing by school type. For students attending a vocational school, college placement ($H(1) = 6.154$, $p = 0.013$), experience with a parent or sibling institution ($H(1) = 4.067$, $p = 0.044$) were significantly more important in school choice. In addition, the ease of access to the institution was significantly more important for vocational school students ($H(1) = 15.257$, $p = 0.001$), and the forced choice of institution was also more characteristic for them ($H(1) = 14.162$, $p = 0.001$) (Table 4).

Table 4. Ranking averages of school choice motivation items by school type (1-4 Likert scale) (N = 965)

	Mean Ranks	
	Vocational school	**Technical school**
For the profession you have chosen	489.97	470.66
It is close to home	485.74	477.36
The school has a good reputation	489.34	471.66
For a place in a dormitory*	498.42	457.27
Friend(s) and acquaintances come here	491.16	468.78
Parent or sibling also attends *	496.16	460.86
Quality of theoretical training	491.66	467.98
Quality of the practical training	490.8	469.35
It was easy to get in***	509.44	439.81
I was not accepted elsewhere***	506.83	443.94
N	**592**	**373**

Source: VETanulOK 2023
Notes: Kruskal-Wallis test, *p ≤ 0,05, **p ≤ 0,01, *** p≤ 0,001

We also found a number of significant differences in occupational choice using the Kruskal-Wallis test when comparing by school type. We found marginal significance for the questions "It is a good way to earn money" ($H(1) = 3.493$, $p = 0.062$), "I would like to continue my studies" ($H(1) = 3.801$, $p = 0.056$) and "It is also the profession of one of my parents" ($H(1) = 3.801$, $p = 0.051$),

all of which showed higher mean scores for vocational school students. Also more significantly important for vocational school students in their career choice was the recommendation of friends or acquaintances about the profession (H(1) = 14.353, p = 0.001), the ease of learning the chosen profession (H(1) = 20. 472, p = 0.001), and ease of entry (H(1) = 12.739, p = 0.001), along with the forced choice of "Not recruited elsewhere" (H(1) = 8.372, p = 0.004) (Table 5).

Table 5. Ranking averages of career motivation items by type of school (1-4 Likert scale) (N = 965)

	Mean Ranks	
	Vocational school	**Technical school**
The profession is interesting and exciting	484.2	481.1
It's a good way to earn money^{t}	495.8	462.68
I would like to work in this profession	498.43	458.51
I would like to continue my studies	496.16	462.12
It's one of my parents' professions	495.8	462.69
My friends and acquaintances are in the same profession***	508.76	442.12
Easy to learn***	514.06	433.7
It was easy to get in***	507.6	443.95
I was not accepted elsewhere**	501.73	453.28
N	**592**	**373**

Source: VETanulOK 2023
Notes: Kruskal-Wallis test, t = tendency, *p ≤ 0,05, **p ≤ 0,01, *** p ≤ 0,001

6.3. The main factors in the choice of institution and profession

In order to be able to test in more depth our hypothesis that the more disadvantaged the student, the more the choice of institution dominates the choice of occupation in the decision to continue secondary education, we conducted a principal component analysis on our questions on this issue. In the first step, questions on school choice were analysed. Using the Varimax rotation method, which allows the principal components to be more clearly distinguishable from each other, we were able to isolate three principal components, where a single variable, "Because of the chosen profession", could not be sorted under any of the principal components. This is explained by the fact that this question was too closely related to the question of the choice of profession and was therefore not able to have a sufficient impact on the principal components related to the choice of school. The questions "Quality of theoretical training", "Quality of practical training" and "Reputation of the school" were ranked under their first principal factor, and this principal factor was therefore named "Quality of education". Under the second principal component, the questions with the highest factor weighting were "Friend(s) come here", "It is close to my home" and "It was easy to get in", so this principal component was named "Convenience of the institution". Under our third and final principal component, the questions "I was not accepted elsewhere", "Because of dormitory space" and "Parent or sibling also attends" had the highest factor weight, suggesting a forced choice due to academic or financial constraints, and thus our final principal component for this question block was named constraints influencing the choice of institution (Table 6).

Table 6. Main factors in school choice

Dimensions influencing the choice of institution	**Item**	**Factor weight**
Educational quality of the institution	Quality of theoretical training	0.87
	Quality of the practical training	0.837
	The school has a good reputation	0.748
Convenience aspects of the institution	Friend(s) and acquaintances come here	0.722
	It is close to home	0.701
	It was easy to get in	0.692
Constraints influencing the choice of institution	I was not accepted elsewhere	0.81
	For a place in a dormitory	0.849
	Parent or sibling also attends	0.563

Source: VETanulOK 2023

In a second step, questions on occupational choice were subjected to principal component analysis, also using a varimax rotation method. The analysis allowed us to isolate two principal components, and among our questions, only one variable, "I would like to continue my studies", did not fit into any of the components, which can be explained by the fact that this question is too oriented towards future plans and therefore does not fit into the question of occupational choice. Under the first principal component on occupational choice, the questions "I was not accepted elsewhere", "It is also the occupation of one of my parents", "It is easy to learn", "It is the occupation of a friend or acquaintance" and "It was easy to get into" were placed. These questions can be identified as extrinsic motivators that influence occupational choice, and thus our principal component of these questions was named extrinsic motivators. Under the second principal component were the questions "The profession is interesting and exciting", "It is a good way to earn money" and "I would like to work in this profession", which are identified as intrapersonal motivators, and therefore this principal component is called intrinsic motivators (Table 7).

Table 7. Main factors for career choice

Dimensions influencing career choice	**Item**	**factor weight**
Extrinsic motivators	I was not accepted elsewhere	0.76
	It's one of my parents' professions	0.734
	Easy to learn	0.733
	It's a profession of a friend and acquaintance	0.682
	It was easy to get in	0.612
Intrinsic motivators	The profession is interesting and exciting	0.845
	It's a good way to earn money	0.806
	I would like to work in this profession	0.794

Source: VETanulOK 2023

6.4. Impact of socio-economic status on school and occupational choices

We then used the Kruskal-Wallis test to examine how the principal components of institutional and occupational choice evolve along socio-economic clusters. Although the test did not yield significant results, we found trend-like differences between groups along the questions "Constraints influencing institutional choice" ($H(2) = 4.739179$, $p = 0.094$). For this item, middle-class families had the highest mean value, followed by professional families and then by multi-disadvantaged families, suggesting that the forced choice in the context of socio-economic clusters was most pronounced for middle-class families (Table 8).

Table 8. Trends in the main components of institutional and occupational choice by socio-economic clusters (N = 965)

	Main components	**Socio-economic clusters**	**N**	**Rank Means**
School choice	Educational quality of the institution	Families with multiple disadvantage	216	477.33
		Middle class families	467	489.64
		Families with skilled workers	280	472.86
	Comfort aspects of the institution	Families with multiple disadvantages	216	447.72
		Middle class families	467	497.54
		Families with skilled worker	280	482.53
	Constraints influencing the choice of institution	Families with multiple disadvantage	216	455.4
		Middle class families	467	500.31
		Families with skilled workers	280	471.99

	Main components	Socio-economic clusters	N	Rank Means
Occupation choice	Extrinsic motivators	Families with multiple disadvantages	216	455.05
		Middle class families	467	497.63
		Families with skilled workers	280	476.72
	Intrinsic motivators	Families with multiple disadvantages	216	477.92
		Middle class families	467	485.41
		Families with skilled workers	280	479.46

Source: VETanulOK 2023
Notes: Kruskal-Wallis test, colour-coded, where trend differences between groups were found

6.5. Change order of entry and learning pathway

As the further education application system allows for the possibility to indicate more than one institution and profession in the desired order, and the order can be changed once during the admission procedure, it is likely that the ranking of the young person in the last place indicates the degree to which their aspirations for further education have been realised. Cross tabulation analysis and Chi-square tests were used to examine students' responses to the order of entry. We found trend differences in the order of entry by type of institution ($\chi2 = 5.272$, df = 2, p = 0.072). Nearly ¾ of those who entered vocational education and training started their upper secondary education in the first course they indicated, in their case probably making their decision on the basis of desires and reality. Nearly 16 % of students only entered the second-ranked institution and what may be of concern is that 9.6 % of them probably did not start their studies in the course they wanted.When looking at the success rate of technician students by type of programme, we see that the first place finishers were overrepresented in the vocational programme type with a baccalaureate, while the first place finishers were underrepresented in the vocational school programme type. Both types of programmes have a relatively high proportion of students who did not get the education they wanted, with one in 10 students in vocational education and more than 8 % of students in technical education failing secondary admission procedure (Table 9).

Table 9. Ranking of inclusion by programme type (N = 973)

		Vocational school	Technical school	Total
1. place	%	72,0 %	78,6 %	74,5 %
	A.R.	-2,3	2,3	
2. place	%	17,7 %	13,1 %	15,9 %
	A.R.	1,9	-1,9	
3. or more place	%	10,3 %	8,3 %	9,6 %
	A.R.	1,0	-1,0	
Total	N	600	373	973
	%	100,0 %	100,0 %	100,0 %

Source: VETanulOK 2023
Notes: Responses to the question "Did you get accepted to the course you wanted to get into?". Underlined where Adjusted Residuals (A.R.) is greater than 2

We did not find any significant differences ($\chi2 = 6.22$, df = 4, p = 0.157) in the order of inclusion when we tested along socioeconomic clusters. However, 77 % of students from the most advantaged family backgrounds, 2/3 (75.4 %) of students from families with skilled workers and 68.2 % of students from families with multiple disadvantages were enrolled in the course they had first identified. 8.3 % of middle-class people, 9.3 % of those with parents from a skilled background and the highest proportion of those from a multi-disadvantaged background were in third or higher ranked education. Next, we look at whether students have changed their learning path during their secondary education, whether they have changed institutions, occupations or plans to do so. Cross-tabulation analysis and Chi-squared tests were used to examine students' adjustment or intention to adjust their further education to an institution or occupation. Significant differences were found by institution type in terms of pathway correction ($\chi2 = 33.459$, df = 6, $p < 0.001$) Students in the non-degree vocational programme were the least satisfied with their place in the admission process. They were over-represented among those who changed school or training, with a higher

proportion of students in this type of programme having taken the opportunity (either voluntarily or under compulsion, for which we have no information) to make a career change than students in the technical programme. At the same time, students in a vocational programme type that also offers a baccalaureate were overrepresented among those who were satisfied with their current institution and training (Table 10).

Table 10. Career correction by type of programme (N = 973)

		Vocational school	Technical school	Total
yes, profession	%	12,0 %	3,2 %	8,6 %
	A.R.	4,7	-4,7	.
yes I changed schools, but my profession is the same	%	4,7 %	1,9 %	3,6 %
	A.R.	2,3	-2,3	.
yes, profession and school	%	8,7 %	6,4 %	7,8 %
	A.R.	1,3	-1,3	.
no, you don't want to	%	64,3 %	77,2 %	69,3 %
	A.R.	-4,2	4,2	.
no, but would like to go to school	%	1,5 %	1,3 %	1,4 %
	A.R.	,2	-,2	.
no, but would like a profession	%	3,3 %	4,6 %	3,8 %
	A.R.	-1,0	1,0	.
no, but would like to change school and profession	%	5,5 %	5,4 %	5,4 %
	A.R.	,1	-,1	.
Total	N	600	373	973
	%	100,0 %	100,0 %	100,0 %

Source: VETanulOK 2023
Notes: Responses to the question "Have you changed school or profession during your secondary education?". Underlined where Adjusted Residuals (A.R.) is greater than 2.

After the types of institutions, the modification of the secondary learning pathway and its intention to change were compared with socio-economic clusters using cross-tabulation analysis and Chi-square tests. Based on family background, we found significant differences in the correction of the learning pathway ($\chi 2 = 21.252$, $df = 12$, $p = 0.047$). Those from families with skilled jobs were overrepresented among those who changed their career, those from multiple disadvantages were overrepresented among those who changed school, and those from the middle class were overrepresented among those who did not even plan to correct their career. Our results show that young people with parents in vocational education are not only the most likely but also the most likely to change their occupation if it is not deemed suitable, while disadvantaged pupils are more likely to change school but stick with their chosen occupation. This suggests that middle-class students were the most successful in their decision to continue their education, as they are currently studying at the same school and in the same profession as the one they were admitted to (Table 11).

Table 11. Prevalence of career correction along socio-economic clusters (N = 973)

		Families with multiple disadvantages	Families with skilled workers	Middle class families	Total
yes, profession	%	11,2 %	12,1 %	5,3 %	8,6 %
	A.R.	1,6	2,5	-3,6	.
yes I changed schools, but my profession is the same	%	5,8 %	2,9 %	3,0 %	3,6 %
	A.R.	2,0	-,8	-1,0	
yes, profession and school	%	8,1 %	7,9 %	7,7 %	7,8 %
	A.R.	,2	,0	-,2	.
no, you don't want to	%	64,1 %	68,2 %	72,3 %	69,3 %
	A.R.	-1,9	-,5	2,0	.

		Families with multiple disadvantages	Families with skilled workers	Middle class families	Total
no, but would like to go to school	%	1,8 %	1,8 %	1,1 %	1,4 %
	A.R.	,5	,6	-,9	.
no, but would like a profession	%	3,6 %	3,6 %	4,0 %	3,8 %
	A.R.	-,2	-,2	,4	.
no, but would like to change school and profession	%	5,4 %	3,6 %	6,6 %	5,4 %
	A.R.	,0	-1,6	1,5	
Total	N	223	280	470	973
	%	100,0 %	100,0 %	100,0 %	100,0 %

Source: VETanulOK 2023
Notes: Responses to the question "Have you changed school or profession during your secondary education?". Underlined where Adjusted Residuals (A.R.) is greater than 2.

7. Discussion

As a first step, we constructed a composite socioeconomic indicator to explore the family background and socioeconomic situation of 11th grade vocational students, as we know that family socioeconomic background influences school performance even when these background factors are controlled (Hoffman et al., 2021). Therefore, we used this socioeconomic indicator to identify three groups of families choosing vocational education. These families were named as multi-disadvantaged, skilled workers, and middle class families based on their typical socio-economic characteristics. Multi-disadvantaged families with many children, typically living in a commune or small town, with parents with primary education, most of them primary school educated, or with children who do not know what their education level is. They live on the father's earnings, in a financial situation well below the average for vocational training. Families with skilled workers are named after the educational attainment of 30 % of the parents, and both parents are overrepresented with primary education, and the mothers are overrepresented with skilled workers. Both parents work, are in a lower economic position than the average for vocational education, typically have 3-4 children, and live in a commune or small town. The highest status group is middle-class families, where both parents have a secondary education, with the highest proportion of vocational school graduates, while parents with vocational school, high school and college degrees, and mothers with university degrees are overrepresented. Both parents are actively working, and these families with two children are typically in a financial situation that is in line with the average for vocational education. Overall, our results are in line with the literature, which shows that vocational education without a baccalaureate is the most typical learning pathway for children from low social status families, and that the trend towards a programme with a baccalaureate is attractive for families with higher education than the vocational school group (Traqueia et al, 2020; OECD, 2018), which has an impact on both preferences and educational outcomes (Hoffmann et al., 2021).

In a second step, we aim to identify the aspects that families consider important in their decision to continue their education, based on the responses on institutional and occupational choice motives. In the case of students enrolled in a non-baccalaureate programme type, the main motives influencing the choice of school were the availability of a place in a college, the experience and opinion of family members, and the possibility of easy access. In addition, young people enrolled in a non-tertiary vocational programme were more likely to be in a constrained situation when choosing a school than their counterparts enrolled in a technical programme, but the primary driver of the dominance of these motives was not the type of school but the socio-economic status of the student's family. This finding is in line with the literature that children from families with lower socioeconomic status who typically attend institutions that do not award a baccalaureate have much more limited opportunities for further education (Bourdieu, 1967; Goldthrope, 1996; 1997; Bourdieu, 1999) and are more often in career correction situations (Traqueia et al., 2020), we also found that for students from low SES families, having a parent or sibling who attended the same school was the most important factor, while for middle class students it was the least important, which can be explained by the state of cultural capital of the families and the social differences in their orientation, because the reproductive aspirations (Bourdieu, 1967) and calculations of students from lower SES families are much more modest and rely more on first-

hand information rather than on career choices that may be novel in the family history (Ball et al., 1995). However, while forced choice is likely for students with multiple disadvantages, as expected from previous findings, it is least likely for children of working-class parents rather than middle-class ones. This result was surprising in light of their knowledge of the literature, and we had to revise it several times. The reason for the forced decisions of these middle-class families may be found in the child's learning abilities, which were not directly addressed in the questionnaire. From the results of Eckhart and Sahli Lozano (2014), we know that family background influences academic achievement. At the same time, we hypothesise a low level of child learning ability as the reason behind the choice of institution with a loss of status. Also, in the case of occupational choice motives, the ease of learning the chosen occupation was the least important factor for children of parents with skilled jobs, while for children of families with multiple disadvantages, this was an important decision factor.

7. Conclusion

In the last decade, research in the sociology of education in Hungary has neglected the vocational education sector, which is extremely under-researched. In our research, we investigated how socio-economic status influences the career aspirations of students choosing vocational school (ISCED 3C) and technical school (ISCED 3A) in the highly marginalised Hungarian education system. To this end, a questionnaire survey was conducted among them in the school year 2022–2023. Our results showed that the last few years have not brought about any major changes in vocational education and training and that these institutions are still segregated by social status. However, our research has uncovered a hitherto hidden group of middle-class students who, as children of families with surprisingly high cultural capital, have not targeted higher prestige institutions, and so the explanation of forced choice does not arise for them. This could be explained by the limited opportunities for further education of SNI students, but this could not be confirmed by the present research, as we did not have questions on learning difficulties and learning ability, while the impact of the socio-economic background of the family is also evident for students with special educational needs (Hoffmann et al., 2021; Eckhart, Sahli Lozano, 2014).

The limitation of our research is that since we only studied the North Great Plain region of Hungary, we cannot draw general conclusions for the country as a whole, and the students had to identify factors influencing their career choice from a retrospective perspective, so their answers may have been somewhat biassed by the time since they completed the questionnaire and the time since they chose their career.

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