



**Doctoral School of
Sociology**

THESIS SYNOPSIS

Ágnes Makó

**The effect of general knowledge and student engagement on vocational
school graduates' labour market opportunities**

Ph.D. dissertation

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of the Hungarian Academy of Sciences (MTA KRTK KTI)

Budapest, 2016

Institute of Sociology and Social Policy

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1. Research Background and Relevance of the Topic

1.1. Framing of the Problem, Research Question

In my dissertation I examine the effect of some factors on vocational school graduates' labour market opportunities. The thesis has two focal points: on one hand the effect of general knowledge and foreign language knowledge; on the other hand the effect of student engagement and occupational engagement of vocational school graduates on their labour market chances is analysed.

In Hungary, young skilled workers' earnings and employment situation has been lagging behind compared to the higher educated population since the Hungarian regime change in 1989-1990. This is a serious problem regarding economy, labour market and social politic aspects. The unfavourable situation can be clearly seen from the high unemployment risk and low average earnings of vocational school graduates compared to general secondary school graduates and to the ones with higher education (Kertesi–Köllő 2001, Kézdi 2004, Kézdi 2007 Kézdi 2008, Köllő 2009, Kertesi–Kézdi 2010, Köllő 2011, Hajdu et al. 2015).

In Hungary, vocational school graduates can be considered as a deprived social group regarding their general knowledge because they start secondary education with a disadvantage of knowledge but their studies in vocational schools are dominated by vocationally specialized subjects. Thus, their lag is worsened by the low quality of general education in vocational schools (Hermann 2013, Hajdu et al. 2015).

Nevertheless, the general knowledge is becoming more and more important on the labour market as accelerating technological progression leads to the change of occupation structure and skill contents (Autor et al. 2003, Koszó et al. 2007, Cedefop 2012).

Therefore, lifelong learning became necessary also for young skilled workers to allow permanent adaptation, the base of which is general education (Csapó 2008). Vocational school graduates may become the losers of this process as vocational schools generally do not prepare students for lifelong learning, thus the disadvantageous situation of their graduates becomes permanent on the long run and probably will be transmitted (Köllő 2006, Kézdi–Köllő–Varga 2008, Csapó 2008, Liskó 2008, Köllő 2009) through generations.

The situation of young skilled workers is a relevant topic not only for its labour economy related considerations, but in a viewpoint of equal opportunities because vocational schools

have become the typical secondary education form of disadvantaged and multiply disadvantaged young people since the Hungarian regime change in 1989-1990 (Liskó 1997, Liskó 2008, Kézdi–Köllő–Varga 2008, Fehérvári 2013), thus the quality of vocational education has a significant effect on the labour market opportunities of this social group.

1.2. Hypotheses and Literature Review

Among the numerous factors influencing vocational school graduates' labour market opportunities I examine the effect of four variables that enrich the former sociological knowledge regarding young skilled workers. The novelty of results on general knowledge and foreign language knowledge is that the research focused on the differences *within* the group of vocational school graduates. The analysis of student engagement and occupational engagement is an entirely new viewpoint in sociological literature. Thus, the analysis is built on four preliminary hypotheses.

Hypothesis H1: high level general knowledge improves the labour market opportunities of vocational school graduates.

On one hand, the hypothesis is based on the human capital theory, which says that education improves the participants' productivity and therefore it contributes to their employability and higher earnings (Schultz 1961, Becker 1964, Mincer 1974, Mincer 1981). Besides, international and Hungarian literature contains many examples on the positive effect of general knowledge on employment (e.g. Cörvers et al. 2010, Weber–Falter 2011, Hanushek–Wössmann–Zhang 2011, Hanushek–Wössmann 2012, Stenberg–Westerlund 2014, and on Hungarian data: Köllő 2006, Kézdi 2007, Kézdi 2008, Kézdi–Köllő–Varga 2008, Liskó 2008, Köllő 2009). However, former results are limited to the comparison of the labour market situation (employment, earnings) of young people after finishing general secondary education *or* vocational school. Nevertheless, it is also an important question whether the level of general knowledge generate a difference in labour market outcomes *within* the group of vocational school graduates.

As a consequence of technological changes the importance of general skills that are useable in a large scope of duties and knowledge renewal improved in the last decades. Specific skills are becoming obsolete more and more rapidly, hence the long-run employability can be enhanced by stable base skills (*key competences*) (Kézdi 2007, Cörvers et al. 2010, Hanushek–Wössmann–Zhang 2011).

On Hungarian data it was detected (Köllő 2006, Kézdi–Köllő–Varga 2008, Köllő 2009) that the lack of literacy skills and work experience that maintain those skills restricted labour market participation of the low educated (vocational school or lower) social group stronger in the former socialist countries than in Western Europe. Researchers highlight the fact (Köllő 2006, Kézdi–Köllő–Varga 2008, Liskó 2008, Köllő 2009) that learning skills and adaptability of young skilled workers are of key importance regarding labour market opportunities. To achieve these, steady literacy, numerical and social skills are needed (Csapó 2008). A significant drawback of vocational schools is that their curriculum does not spend enough time on developing general skills to support further studies or retraining, which leads to vocational school graduates' vast disadvantage on the labour market (Kézdi–Köllő–Varga 2008, Hajdu et al. 2015). As a consequence of the dominance of specific subjects vocational schools cannot fulfil some important functions of secondary schools, such as transmission of general culture, developing learning and cognitive skills and personality development (Csapó 2008). Learning skills are mostly based on literacy (Csapó et al. 2006), but due to the education neglecting key competences, these skills of vocational school graduates are insufficient. The selectivity of schooling (Csapó 2008, Varga 2009, Hermann 2013) and unsatisfactory compensation methods (Varga 2009) also contribute to this negative effect.

Hypothesis H2: foreign language knowledge (as a specific type of general knowledge) improves the labour market opportunities of vocational school graduates.

Foreign language knowledge being an outstandingly important part of human capital got more and more intense attention in the sociological literature regarding labour market outcomes. Its effects on employability have been increased by the globalization and this tendency is expected to continue in the future. The expansion of international communication and trade and the information based production emphasize the need for foreign language skills and the demand for foreign language knowledge worldwide (Isphording 2014).

The most frequent research area of the effect of foreign language knowledge on labour market status examines immigrants' knowledge of the host country language. Afterwards, researchers started to analyse the effect of foreign language knowledge on labour market outcome among the non-migrant (local) labour force as well. Many papers (Saiz–Zoido 2005, Lang–Siniver 2009, Stöhr 2013, Di Paolo–Tansel 2015) found an advantage in earnings of employees with foreign language knowledge. The results of Donado (2014) based on data from 31 European countries show that foreign language knowledge (especially English and German) has a positive effect on earnings and reduces the risk of unemployment.

Few papers examined the effect of foreign language knowledge on labour market status on Hungarian data and most of them focus on higher education graduates. Galasi, Timár and Varga (2001) found that English and German language knowledge had a positive effect on the earnings of graduates. The results of Galasi and Varga (2005) showed on a sample of higher education graduates that English language knowledge improves the chance of becoming an entrepreneur or continuing further studies. Makó (2015) found on a sample of vocational school and trade school graduates that those young skilled workers who appeared on the labour market and were able to make themselves understood in a foreign language had higher odds to be employed or to continue further studies 9 months after finishing school than their peers.

Hypothesis H3: student engagement improves the labour market opportunities of vocational school graduates.

Besides the above mentioned objective and relatively easily quantifiable factors I also took some softer, more subjective variables into consideration. This is one of the novelties of my thesis regarding the sociological literature examining labour market outcomes.

According to Bourdieu's theory of cultural reproduction (Bourdieu–Passeron 1970), the theory of culture of poverty (Lewis 1966, Boudon 1981) and the theory of counter school culture (Willis 1977, 2000) young people with a disadvantageous social background are less engaged in learning than their middle-class peers, which leads to weaker school performance and worse labour market situation.

I assume that student engagement regarding school and studying is a group of attitudes that has a significant effect on school performance and indirectly on employment opportunities. One of its possible indicators is the involvement in extracurricular activities that has a positive effect on school performance according to some researches (Eccles–Barber 1999, Wang–Shiveley 2009). Kuh et al. (2008) found that in higher education student engagement improves first-year grades and persistence to the second year of college.

With an indirect approach the lack of student engagement can also be examined by indicators of truancy, measured by regular absence from school. Hibbett et al. (1990) found that on the long run (in early adulthood) truancy is associated with lower status occupations, less stable career patterns and more frequent unemployment.

Hypothesis H4: occupational engagement improves the labour market opportunities of vocational school graduates.

While student engagement is a general type of attitudes that can influence vocational school graduates' lifestyle and choices, the relationship with their learned occupation is a more specific case.

The case study of Colley et al. (2003) found that the most important part of vocational education is not the acquisition of technical skills and knowledge (curriculum) but the way that studying constructs and transforms the identity of students ("*hidden curriculum*"). The specific culture of vocational education and training, i.e. habits, values and expectations form the attitude of students and standardize their norms, creating "*vocational habitus*". In the course of occupational socialisation students are trained to enter the given segment of the labour market. They have to possess a definite psychological and behavioural combination of dispositions to fit the specific labour market demands.

We can conclude that because the creation of professional identity is a substantive element of vocational education, those students will become the best professionals who went through the most successful identity-formation. This process is probably significantly facilitated when the interests and the talent of the student help him/her to acquire the norms and culture of his/her occupation, in other words, if the student is interested in that particular occupation. Those young skilled workers who are dedicated to the learned occupation probably can better learn specific skills during their education, and after finishing vocational school they tend to broaden and refresh their knowledge in accordance with their interests. Consequently we can assume that more committed young skilled workers do their work at higher quality and are more enthusiastic compared to their peers, which is an advantage at job-seeking. Therefore the labour demand will be higher regarding this group than those vocational school graduates who do their jobs without enthusiasm.

2. Methods

In my thesis I used the convergent parallel design of the mixed (quantitative and qualitative) method therefore the quantitative and qualitative research parts were conducted separately and completed each other (Király et al. 2014). I examined the effect of general knowledge (H1), foreign language knowledge (H2), student engagement (H3) and occupational engagement (H4) on labour market outcomes with quantitative methods, on big sample databases. Some

qualitative characteristics of vocational schools that also have an effect on labour market opportunities were examined by semi-structured interviews.

2.1. Data

H1 and H3 hypotheses were tested on a panel database of the Hungarian Life Course Survey by Tárki and Educatio. The panel survey was conducted from 2006 through 2012 and followed 10,022 young people's career annually for 6 years. The analysis was executed on the data of 1,817 people who participated in the survey for all the 6 years, got a vocational school leaving certificate and answered to the question on labour market status in the last year. To compensate panel erosion and dropout from vocational school weights were used.

H2 and H4 hypotheses were examined on data from the joint research project of the Hungarian Chamber of Commerce (MKIK) and the Institute for Economic and Enterprise Research (MKIK GVI). The survey examines the start of the labour market career of young skilled workers who have finished vocational school or trade school 9 months before the time of the survey. For the analysis I used four waves of the cross sectional data from 2009 through 2012 as a pooled database. The analysis was carried out on the unweighted data of 8,598 young skilled workers who got a vocational school leaving certificate 9 months before the time of the survey.

The qualitative information used in the dissertation is based on one hour long, semi-structured face-to-face interviews that were carried out between April and June 2015 in the framework of the research project of MKIK GVI institute. The interviews were conducted with headmasters, teachers and instructors of vocational schools (28 people). 11 vocational schools in Budapest and in the countryside were involved. The sample design was based on the combination of two types of nonprobability sampling. Deviant case based sampling got a bigger emphasis, thus more extreme cases were involved. Besides, maximum variation sampling (Vicsek 2006) was considered, therefore, according to certain key features a relatively wide range of cases were examined.

2.2. Models

Two types of multivariate analysis were executed on both of the used databases. Effects on the detailed labour market status (subgroups of the active and inactive groups) were examined by multinomial logistic regressions on the subsamples of vocational school graduates. The

odds of employment was analysed by binary logistic regressions on the subsamples of vocational school graduates who were active on the labour market.

The effects of general knowledge and student engagement on the chance of employment were tested on multivariate models based on the Hungarian Life Course Survey database. The dependent variable of the labour market status was defined by self-classification of the respondents in the last year of the survey (2012). Two proxy variables of general knowledge were used as independent variables: 8th grade literacy scores of the Hungarian Competence Survey and unweighted average grades of general subjects (mathematics, literature, history, foreign language etc.) in the secondary school. Student engagement was represented by a composite indicator that involved answers to some attitude questions regarding school, teachers and class that were part of the third wave questionnaire of the Hungarian Life Course Survey (most of the respondents were 11st graders that time). Besides the main independent variables some control variables were included: gender, Roma origin, highest level of education of the father (mother, if the respondent does not live with his/her father) and an indicator that shows whether the respondent had own books at the age of 14. The model also attempts to separate contextual i.e. institutional effects (Fényes 2008), including a school-level value added index motivated by the fact that employment opportunities of vocational school graduates probably are influenced by the quality of the school.

The effects of foreign language knowledge and occupational engagement on employment opportunities were examined on the pooled database of MKIK GVI. The dependent variable of the labour market status was defined by self-classification of the respondents 9 months after finishing vocational school. The independent variable of foreign language knowledge shows whether the respondent reported that he/she was able to make himself/herself understood in a foreign language. Occupational engagement was included by two proxy variables. The first one shows whether the respondent is willing to work in the learned occupation. The second one is a composite indicator computed from four different variables, all of which shows the level of agreement with some statements concerning the learned occupation. Besides, some control variables were included: gender, highest level of education of the father, labour market status of the father. Local labour market effects (Ábrahám–Kertesi 1996, Köllő 1997, Fazekas 2000, Kertesi 2000, Kertesi–Varga 2005, Nemes Nagy–Németh 2005, Lőcsei 2010) were incorporated by the geographical region of the respondents' vocational school. Examining the effect of the primary school grade point average and the vocational school grade point average can be seen as a supplement of the test of hypothesis

H1. Moreover, the models also included control variables on the place of vocational training (Horn 2014a, 2014b), group of occupation and year of finishing vocational school.

3. Results

3.1. General Knowledge

Results of the multinomial logistic regressions show that 8th grade literacy scores have a slight negative effect on employment, unemployment and inactive status compared to further studies. The analysis by competence levels shows that vocational school graduates with at least satisfactory level literacy skills (levels 2-4) had 30 percent lower odds on average of being employed instead of studying and had 40 percent lower odds of being in other inactive status instead of studying, compared to peers with unsatisfactory level literacy skills (levels 0-1).

According to the results, the increase in average grades of general subjects *ceteris paribus* reduces the chance of unemployment and other inactive status significantly, compared to continuing further studies.

Thereafter the effect of general knowledge on employment was analysed by binary logistic regressions on the subsample of vocational school graduates who were active on the labour market. The results show that 8th grade literacy scores do not have a significant effect on employment among vocational school graduates who entered the labour market. (Neither continuous scores, nor competence levels had a significant effect.) The increase in average grades of general subjects *ceteris paribus* improved the odds of being employed against being unemployed significantly.

Thus, results suggest that 8th grade literacy scores have a positive effect on further studies but they do not have a significant effect on employment on the short run. It is possible that there is too much time between the 8th grade test and when the respondents enter the labour market. Accordingly we can assume that the effect could be detectable using 10th grade literacy test scores or data on longer term labour market outcomes. The effect of average grades of general subjects is positive and significant in some models. This result is not unambiguous as the indicator can be biased due to the subjectivity of teachers at grading but it rather supports hypothesis H1 than confutes it, hence the rejection of hypothesis H1 is not reasonable.

Assuming that average grades of general subjects have at least a general knowledge component, the results imply that in the group of vocational school graduates who are active on the labour market it can be found that the ones with higher general knowledge have better chances to be employed than their peers with lower grades. This result is in line with international and Hungarian literature (e.g. Cörvers et al. 2010, Weber–Falter 2011, Hanushek–Wössmann–Zhang 2011, Hanushek–Wössmann 2012, Stenberg–Westerlund 2014, and on Hungarian data: Köllő 2006, Kézdi 2007, Kézdi 2008, Kézdi–Köllő–Varga 2008, Liskó 2008, Köllő 2009). Nevertheless, interview experience shows that in Hungarian vocational education specialized subjects are dominant and requirements for students concerning general subjects are extremely low. Most of the interviewed vocational school headmasters and teachers judged general knowledge as an important factor for vocational school graduates but this stays at a low level of calculation, reading and writing used in skilled work, and the aspects of preparing students for lifelong learning are not considered to be important. It is a serious problem in Hungary that students entering vocational schools struggle with a lag brought from primary school studies and learning disabilities. Vocational schools are not able to help solving these problems due to fix curriculum and financial reasons. Moreover, former studies (Hermann 2013, Hajdu et al. 2015) showed that vocational schools add less to students’ mathematical and literacy skills than general secondary schools, thus vocational schools deepen the initial lag of their students. This sets a big obstacle against further improvement of knowledge, learning on the job and adaptation to new demands, which leads to a serious labour market disadvantage of vocational school graduates.

3.2. Student Engagement

The multinomial logistic regressions examining student engagement did not show any significant effects concerning employment, unemployment or other inactive status compared to further studies.

Binary logistic regressions were used on the subsample of vocational school graduates who were active on the labour market. Results show that a one percent improvement in the indicator of student engagement has a slight positive effect ($\exp(B) = 1.016$) on employment against unemployment. Besides, graduates who got a value of the indicator of student engagement above median, *ceteris paribus* have 1.4-times bigger odds on average to be employed than to be unemployed.

Thus, based on regression results it is probable that student engagement improves the employment chances of vocational school graduates who enter the labour market. This outcome confirms hypothesis H3 and is in correspondence with the few related literature results (Hibbett et al. 1990, Eccles–Barber 1999, Kuh et al. 2008, Wang–Shiveley 2009). On one hand student engagement fosters students’ success and performance at school and on the other hand it can be a sign of responsible attitude towards work. These results indicate that the engagement to school and learning can influence employment opportunities not only through school type selection but it has an effect within the group of vocational school graduates as well. The significance of this result is highlighted by my interview experiences implying that student engagement is relatively low among vocational school students, as most of the interviewees referred to truancy as a serious problem and drew attention to the lack of student motivation.

3.3. Foreign Language Knowledge

First, the effect of foreign language knowledge on labour market status was examined by multinomial logistic regressions. According to the results foreign language knowledge reduces the odds of employment against studying by 30 percent and it decreases the odds of unemployment against studying by more than 40 percent. This is in line with the results of Galasi and Varga (2005), who found that those higher education graduates who spoke English had bigger chance to become an entrepreneur or continue studies but they had lower odds to be employed or unemployed.

Afterwards, binary logistic regressions were run on the subsample of vocational school graduates who were active on the labour market. Results showed that the effect of foreign language knowledge on labour market status was positive and significant on 1 percent level in every model, which supports hypothesis H2. Logistic models confirmed that those vocational school graduates who entered the labour market and were able to make themselves understood in a foreign language had 1.2-1.3-times higher odds to be employed 9 months after finishing school than their peers. This effect was not modified significantly by involving control variables. The result is in correspondence with the experiences of Donado (2014), according to which foreign language knowledge reduces unemployment risk.

3.4. Occupational Engagement

The effect of occupational engagement on labour market status was examined by multinomial logistic regressions. Results show that those young skilled workers who reported higher level occupational engagement *ceteris paribus* had 1.14-times higher odds of employment against studying on average than their peers with lower level of occupational engagement. The higher level occupational engagement reduces the odds of unemployment against studying by 20 percent on average if the other factors are kept constant.

Results of binary logistic regressions run on the subsample of vocational school graduates who were active on the labour market showed that those young skilled workers who were willing to work in their learned occupation had 1.6-1.8-times higher chance to be employed than their peers. The effect has not changed significantly when control variables (school performance, place of vocational training, group of occupation, year of finishing vocational school) were added to the model. The effect of the choice of occupation that fits personal interests on labour market status was positive and significant on 1 percent level in every model. Thus, occupational engagement probably improves the chance of employment against unemployment, which result supports hypothesis H4 and is in line with the results of the case study of Colley et al. (2003).

Models containing the composite indicator of occupational engagement show that those young skilled workers who had a higher value of occupational engagement had 1.4-1.5-times higher odds to be employed than their peers with lower value. The effect of the composite indicator on labour market status was positive and significant on 1 percent level in every model and it was barely weakened by involving control variables. The continuous version of this indicator had a slight positive (1.065-1.085) effect that was significant on 1 percent level in every model. Thus, it can be concluded that among young skilled workers with high level of occupational engagement the chance of being employed 9 months after finishing school is higher than among those featured by lower level occupational engagement. This result also supports hypothesis H4.

The above mentioned results should be interpreted cautiously because in the case of the database by MKIK GVI retrospective answers may cause endogeneity issues due to the survey design (cross sectional data). It should be considered that the detected effect is partly

¹ Those respondents were categorized as ones with high level occupational engagement who had at least 15 points out of 20 regarding the composite indicator of occupational engagement.

due to an endogeneity bias as the indicators of occupational engagement can be biased by labour market success. However, we can assume that not the whole effect derives from the bias, thus the real effect could be weaker but it probably exists and its direction is likely to be positive. Accordingly, hypothesis H4 cannot be accepted with certainty, but neither be rejected. The results draw attention by all means to the fact that occupational engagement is an important factor that worth further analysis. It could be examined by a panel survey the first wave of which would collect data from vocational school students before finishing school and afterwards it would follow their labour market career.

Therefore, according to the outcomes, occupational engagement, i.e. choosing an occupation matching personal interests and positive attitude concerning the learned occupation probably improves the employment opportunities of vocational school graduates. This implies that soft psychological factors, such as involvement can have significant effect from a sociological point of view, thus they worth further analysis. Results highlight the importance of the choice of occupation and of career orientation in primary education. This is also confirmed by my interview experiences showing that lack of motivation is a significant problem among vocational school students and it can lead to learning problems, behaviour disorders, school failures and dropout. Although the base of motivation level is generally formed during childhood socialisation but choosing the suitable occupation can support it, which can be facilitated by career orientation programmes.

3.5. Interview Experience

Interview experience shows that a high rate of students struggling with significant learning difficulties and weak literacy and numerical skills can be found in Hungarian vocational schools. A significant part of vocational school students has a poor and deprived family background; many of them are coming from extreme poverty.

Some vocational schools have renewed buildings and high quality workshops for training purposes but this could be rare. On the other extreme there are vocational schools with old, unhealthy buildings, inconvenient for education purposes. Most of the state maintained vocational schools have financial difficulties due to the centralised and bureaucratic financing system.

General education in vocational schools usually stays at a low level of calculation, reading and writing used in skilled work, but the aspects of lifelong learning are not considered to be important. Education is typically dominated by vocationally specialized subjects and there are

only minimum requirements for general subjects. Consequently, many young skilled workers leave vocational schools with hardly any literacy skills (Köllő 2011), being unprepared for future learning or re-training (Köllő 2006, Csapó 2008, Kézdi–Köllő–Varga 2008, Liskó 2008, Köllő 2009).

Labour market possibilities of young skilled workers are strongly affected by the local labour demand. In some regions with high unemployment and in small villages the only real possibility for a job is communal employment. In regions with better labour market conditions, in big cities and in some occupations a high rate of graduates can find a job. In some big cities there are multinational companies that offer on-the-job training opportunities specialized for their demands. Vocational school students participating the training can join real production process and they are offered a long term job after finishing school. The advantage of this is getting steady job opportunities; the disadvantage is over-specialization that can limit labour market opportunities outside the given company.

Interview experience shows that the worst financial situation is characteristic among the vocational schools in the small villages of North Hungary, but we observed some similar cases in the most developed central region and in the capital as well. It can be assumed that financial difficulties of schools and students can be detected in vocational schools much more frequently than in general secondary schools – in more and less developed regions as well. This poses significant problems of equality of opportunity as education would be the most suitable tool to rise from poverty (Card 1999, OECD 2015, OECD 2016, on Hungarian data: Kézdi 2004, Kertesi–Varga 2005, Köllő 2006, Kézdi–Köllő–Varga 2008, Köllő 2008, Köllő 2009). The significant financial difficulties of vocational schools bring about further disadvantages for the most deprived social groups (low educated, unemployed, Roma). The children of these families will have less chance to be successful on the rapidly changing labour market than the generation of their parents in a more stable situation, before the Hungarian regime change in 1989-1990. This is expected to lead to the reproduction and worsening of the disadvantageous situation of the most deprived groups of society.

3.6. Conclusions

Based on the results of my dissertation it can be concluded that general knowledge and foreign language knowledge probably have a positive effect on employment opportunities. This contradicts with suppositions as (1) young skilled workers need only specialized knowledge on the labour market and (2) vocational school graduates form a homogenous

group of society. Another important result of the thesis is that it showed the positive effect of student engagement and occupational engagement on employment among vocational school graduates. These subjective factors mean a new approach in sociological literature that worth further analysis.

The results of the dissertation have shown that in vocational schools real professionals should be trained who are involved in their occupation and who possess high level general knowledge preparing them for further learning – instead of emitting low educated workforce capable only for simple skilled work. Those skilled workers have long term opportunities on the labour market that are able to adapt to the continuous changes of technology and organization of work. This needs motivation, flexibility and high level key competences. The continuously renewing requirements of the labour market are making lifelong learning necessary, thus improving skills of knowledge renewal became an important task of the vocational training system. On the other hand the analysis has shown that neither vocational school, nor vocational school students form a homogenous group. Students can be distinguished by their knowledge, motivation level and engagement. The heterogeneity of vocational schools draws attention to the importance of customized treatment.

3.7. Further Directions of Research

In my research I had the opportunity to examine some factors' effect on the labour market situation of vocational school graduates who attended vocational school in the former system of vocational education. In the first 2 years of which the curriculum consisted of mainly general subjects and the second 2 years focused on specialization. However, since 2013 the education system and the vocational education system in particular have undergone radical changes. Compulsory school age was brought down from 18 years to 16 years, the duration of the training have been reduced from 4 years to 3 years and the significance of general subjects was radically cut back to one third of the curriculum time. In the time of the interviews the vast majority of vocational schools had belonged to the Klebelsberg Institution Maintenance Centre (KLIK), but since the summer of 2015 most of them have been in the maintenance of the Ministry of National Economy. Thus, the research should be continued to examine the effects on employment opportunities in the new system of vocational education.

Among the limitations of my analysis it is important to mention the problems concerning the available databases. The database from the Hungarian Life Course Survey contained data of too few young people who attended vocational school and the number of those who were

active on the labour market was even lower. Thus, the relatively small size of the subsample increased the random effect in multivariate analyses. The main methodological problem of the database of MKIK GVI is that it results from a series of cross sectional surveys so retrospective answers may cause endogeneity issues. Consequently, the indicators of occupational engagement can be biased by labour market success.

Furthermore, labour market outcome was indicated as labour market status observed at the moment of the survey. Beyond this approach, a more complex and comprehensive analysis would be possible on a database with more cases. In the case of employees it would be worth to examine some parameters of employment, such as: earnings, full time or part time job, is he/she working under an open-ended or under a fixed-term contract, doing casual work, unskilled work, or working in communal employment.

Moreover, in my analysis I had the chance to examine the first years after entering the labour market, although it is apparent from the literature (Cörvers et al. 2010, Hanushek–Wössmann–Zhang 2011, Weber–Falter 2011) that general skills develop their positive effect on employability on long term.

Taking into account all the above mentioned considerations, for future observation of my research questions a panel survey examining only vocational school students would be ideal. The sample should involve 5000-6000 students and should be representative of the learned occupations and regional distribution. The first wave of this survey would collect data from vocational school students before finishing school. Self-reporting questionnaires would be filled out in the vocational schools, collecting data on family background, primary school and vocational school performance, attitudes towards the school and the learned occupation and plans for the future. Afterwards the survey would follow the labour market career of the respondents annually for 4-5 years by telephone interviews. The short questionnaire would collect information on detailed, monthly labour market situation, such as labour market status, earnings and other parameters of employment. This would enable us to observe the detailed labour market career of vocational school graduates, including labour market events such as employment in the learned occupation or in another field, periods of unemployment, participation in trainings and working abroad.

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