



**The different patterns of the dropout
according to the level and the
field of education**

Dorina Anna Toth¹, Marianna Szemerszki², Tímea Cegledi³ & Barbara Mate-Szabo⁴

Abstract

Background and aims: Our research is a part of a complex dropout research, whose main aim is to examine the time changes, social and regional inequalities, and constitutional differentiation of student dropout, appearing on a large scale and causing individual and institutional loss. As a part of this, the aim of our research on one hand is to identify the training fields and training levels with high dropout risk, furthermore to draw the patterns of dropout based on the available country-wide data. *Methods:* We analyzed the database of the Hungarian Higher Education Informational System for our research, especially considering the students starting their training, based on final exam. We examined the most important features of advancements in studies, furthermore the occurring recoils. Considering our data, the measure of dropout remarkable differs based on the training fields and schedule, training, finances and some demographically background variable as well, taking the measure of dropout and its reasons into account. During our analysis, we separated three main types of the dropout's reasons: financial reasons, study inefficiency,

¹ Institute of Educational Studies and Cultural Management, University of Debrecen, Debrecen, Hungary, Email address: anna.dorina.toth@gmail.com, ORCID: [0000-0001-9032-8621](https://orcid.org/0000-0001-9032-8621)

² Institute for Educational Research and Development, Eszterhazy Karoly University, Budapest, Hungary, Email address: mszemerszki@gmail.com, ORCID: [0000-0003-2665-4849](https://orcid.org/0000-0003-2665-4849)

³ Institute of Educational Studies and Cultural Management, University of Debrecen, Debrecen, Hungary, Email address: ceglei.timea@arts.unideb.hu, ORCID: [0000-0001-9943-1801](https://orcid.org/0000-0001-9943-1801)

⁴ Institute of Educational Studies and Cultural Management, University of Debrecen, Debrecen, Hungary, Email address: szabo.barbara@arts.unideb.hu, ORCID: [0000-0002-9333-7790](https://orcid.org/0000-0002-9333-7790)

Recommended citation format: Toth, D. A., Szemerszki, M., Cegledi, T., & Mate-Szabo, B. (2019). The different patterns of the dropout according to the level and the field of education. *Hungarian Educational Research Journal*, 9(2), 257–269. DOI:[10.1556/063.9.2019.1.23](https://doi.org/10.1556/063.9.2019.1.23)

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and dropout caused by other reasons. *Results:* In this study, we examine these types and their characteristics in three different training levels: Bachelor degree programs, undivided, long-cycle Master courses, and short-cycle higher education vocational training. *Discussion:* Almost one third of the students end up joining the group of dropout in all kind of training type, especially critical period is from the second to the fifth semester. The most endangered are males, correspondent students, fee-paying students, participants of higher education vocational training, furthermore the students of science and students of IT fields.

Keywords: dropout, risk factor, protecting factor, higher education

Introduction

Nowadays, higher education attracts more and more people and can witness several inner changes as a consequence of entering the mass (in certain countries even universal) higher education phase (Benjamin, 2015; Kozma, 2004; Shavit, Arum, Gamoran, & Menahem, 2007; Trow, 1974). From these, we should emphasize the increase of institutional and student diversity, which is not only shown in the compound of students, but also in the nature of different higher educational pathways (Fehervari, 2013). Since the 1970's, more research have dealt with the problematic of student dropout attempting to identify the characteristics and expound the factors of it, using different theoretical models as well to describe the phenomenon (e.g., Bean & Metzner, 1985; Bocsi et al., 2018; Pusztai, 2018; Spady, 1971; Stiburek, Vlk, & SŠvec, 2017; Szemerszki, 2018; Tinto, 1975, 1987). The intermission, suspension, or delay of higher education studies is also a problem in European countries as a report's summary of the European Union has recently shown this (Vossensteyn et al., 2015). In the publication, showing OECD educational indicator (e.g., Education at a Glance; OECD, 2013, 2016) appears the graduation rate often as an indicator, to which the dropout index number is not exactly its subsidiary; however, it gives a good approach to the statistical review of the phenomenon and the presentation of each country's situation. The problem can also be approached through the social inequalities (Altbach, 2010; Arato & Varga, 2018; Alexeevna, Savitovna, & Grigor'evich, 2017; Cegledi, 2017; Polonyi, 2018; Vukasovic & Sarrico, 2010). The international literature uses different concepts over the access to higher education, also the access to degrees (Goastellec, 2010), and the help of non-traditional groups to get a degree become important at the meetings of the European Higher Education Area (Szell, 2016). The aim of our research is the exploration of the dropout rate in different training levels and different training fields based on national data, further to draw the patterns of dropout based on the available countrywide statistical data collected. The dropout is always in conjunction with the termination of student legal status; however, the termination or intermission of the legal status does not mean dropout. In case, the student legal status is terminated before getting the predegree certificate, we speak about dropout (Act CCIV of 2011).

Methods

Our research is part of a larger one, whose aim is to examine the social and regional inequalities of student dropout, seeking for causes of individual and institutional loss. As a part of this complex research, our research has a fundamental nature, which means that we concentrate on identifying the training fields and training levels with high dropout risk in order to give a picture of the patterns of dropout based on the available countrywide data. Further researches are suitable for exploring the problem in more details. In our research, we analyzed the data of Hungarian Higher Education Informational System [Felsőoktatási Információs Rendszer (FIR)]. FIR is an electronic registry, which contains the progression and higher education data of all the students participating in Hungarian higher education (for details, see [Szemerszki, 2018](#)) from their first registry to the end of their study. In our research, the basic population is the students in Bachelor degree programs and undivided courses, starting their higher education studies in 2010 in full-time or correspondent training. In case of short-cycle higher education vocational training, we examined the students, who started their studies in 2014, taking into consideration that this form of training went through significant changes in 2013. Not only did it change by the name (earlier higher-level vocational training), but the number of institutions was also decreased. Nowadays, only higher educational institutions can start these types of trainings. Both basic multitudes of the database contain the educational data of students until the second semester of the school year 2016/2017; thus, in case of students starting in 2010, we can follow the higher education life journey through 14 semesters, and in case of higher education vocational training students entering in 2014, we can see it through six semesters. This means that theoretically in all of the examined trainings, the student could get at the end of the training time; moreover, the increased number of semesters, because of disability, can be taken into consideration in most cases. Accordingly, during the dropout examination, it was an important aspect that the examined interval must be longer than the given major's training time, because in this way we can get a rather reliable picture about the closed studies and the dropout. During the training, the student has the opportunity to postpone; however, the coherent pausing of semesters, in basic cases, cannot exceed two semesters, albeit there are some legal exceptions. The closed trainings are always signed in FIR system and the reason of the closure is also recorded. Thus, the ongoing trainings can be identified and also the successfully graduated or the group of dropout.

Among the starters of 2010, we selected the Bachelor degree program and undivided course full-time and correspondent trainings and among the starters of 2014, we selected the newly entering students of higher education vocational training. Fee-paying and state-funded students were both represented in our database; however, we did not examine the evening course students and distant-learning course students.

Results

At first, we shortly represent some characteristics of the students of the three training levels (Table 1). Considering the gender distribution, the highest rate of female students (63.2%) is in the higher education vocational training, whereas the lowest rate of female participation (54.1%) is in the Bachelor degree program (although the gender distribution is still exceeded in the given age group). About 58.1% of the undivided courses are female students. The type of settlement, where the students come from, influences that where the training takes place among the inner layering of higher education. The rise, pointing from the undivided course through the Bachelor degree program until the higher education vocational training, fits the rise of the size of settlements. Students from municipalities/villages are highly overrepresented in higher education vocational training (30.6%); they are represented closely to the average rate in Bachelor-level program (24.6%); however, in the undivided course, they appear in the lowest rate (19.9%). Students from the capital city or county towns are in inverse ratio among the three different types of training: they appear in the highest rate in the undivided course and the lowest in higher education vocational training. The outstanding ratio of foreign students in the undivided courses is related to the high level of trainings in foreign languages, especially in the Faculties of Medicine. We can find dormitory students in almost the same rate both in Bachelor degree programs and higher education vocational training. The lowest rate of boarders is among the participants of undivided courses, which can be in connection with the fact that the students of these trainings come from the county towns and the capital city in the highest rate, where higher education can be reached locally. The most common to pay fee during the whole length of the training is among the students of undivided courses (34.5%); simultaneously, here is the least common that students are transferred from state-funded training to fee-paying training. In the highest rate, the students of higher education vocational training are on state-funded training for the whole length of the training (64.9%).

Advancement and recoil in studies

In the followings, we introduce the advancements of the starters of 2010 in Bachelor degree program and undivided course, and the starters of 2014 in higher education vocational training (Figure 1). The length of training and the entrance year differ in the three different training fields, which obviously makes harder the comparison. Still, it excels from the data that one third of the fresh students in all three training fields join the group of dropout; the training changers are represented in lower rate, while the others have finished or they are still learning. The latter is rather characteristic to the starters of higher education vocational training and the students of undivided courses, which is understandable, because the students of these courses in most cases are barely 2 years over the theoretical courses.

Table 1. The distribution of the examined students based on some characteristics (case numbers and base percentage)

	BA/BSc training		Undivided course		Higher education vocational training		
	Case number	Base percentage	Case number	Base percentage	Case number	Base percentage	
Sex of student	Male	22,062	45.9%	2,917	41.9%	1,935	36.8%
	Female	26,027	54.1%	4,040	58.1%	3,321	63.2%
Type of settlement (not foreigners)	Budapest	9,024	19.4%	1,064	21.8%	601	11.5%
	County town	11,336	24.3%	1,482	30.4%	1,181	22.6%
	Other town	14,761	31.7%	1,365	28.0%	1,846	35.3%
Country of habitation	Municipality/village	11,457	24.6%	971	19.9%	1,597	30.6%
	Hungarian	46,578	96.9%	4,882	70.2%	5,225	99.4%
Has been boarder	Foreign, other	1,511	3.1%	2,075	29.8%	31	0.6%
	No	38,271	79.6%	5,895	84.7%	4,215	80.2%
Type of finances	Yes	9,818	20.4%	1,062	15.3%	1,041	19.8%
	State-funded training for the whole time	24,166	50.3%	2,398	34.5%	3,411	64.9%
	Fee-paying for the whole time	14,172	29.5%	3,773	54.2%	1,043	19.8%
	Start: state-funded, later: fee-paying	6,112	12.7%	435	6.3%	594	11.3%
	Start: fee-paying, later: state-funded	3,639	7.6%	351	5.0%	208	4.0%
Total		48,089	100.0%	6,957	100.0%	5,256	100.0%

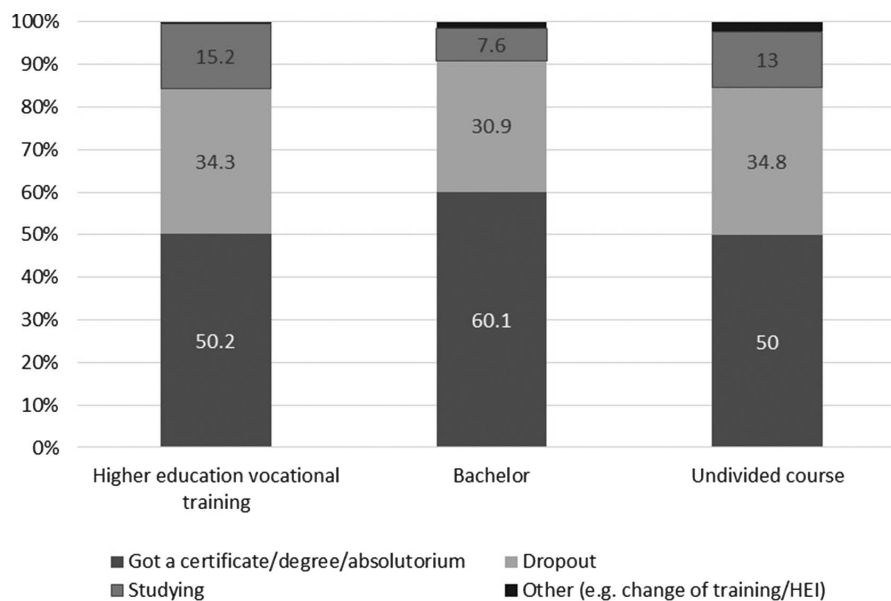


Figure 1. Students' higher educational status spring 2017 (%). Starting date of trainings in case of Bachelor degree program and undivided course 2010 autumn, in case of higher education vocational training 2014 autumn

The data also show that 29% of students starting their studies in Bachelor degree program, 35% in undivided course, and 31% in higher education vocational training had at least one passive semester during the examined time. This is important because it affects the length of the training and – as we will see it later – the dropout.

The reason of dropout can be slightly reconstructed from this database, albeit during data capture, we can choose from numerous factors as the reason of the closure of training. Between there are reasons, the student did not continue the training because of financial problems (back-pay in training and declining fee-paying studies in case of reclassification), in other cases, we may assume study reasons (not fulfilling training duties, unsuccessful correction exam, transgression of the allowed number of correction, and repeating exams). The data show that the study reasons are more frequent than the financial ones. The suspension because of financial reason is more common at the beginning of the training, and part-time students and fee-paying students are more involved.

In case of dropout because of study reasons, the attendees of mechanical, IT, and natural science studies are overrepresented, and partially in connection with this, the males. The critical period, considering this point of view, is from the second until the fifth semester. However, in case of more than half of the dropout students, none of these two reasons can be identified, which necessarily put us on guard considering the classification. Accordingly, the groups of dropout students will be further introduced all in one.

In case of all training fields, women are more purposeful: they left in higher rate their training, started in 2010 (in case of higher education vocational training 2014), with

predegree certificate or diploma until spring of 2017 (Figure 2). Considering the dropout, males are more endangered in all training fields. It is especially true in the higher education vocational training (43.8%), where the gender gap is the most outstanding (above 20% point) considering graduation. Women are highly displayed of dropout (30.9%) or of overrunning (14.9%) in undivided courses.

In full-time Bachelor degree program, starting in 2010, 62% of students got a predegree certificate or a diploma until the spring of 2017 (Figure 3). In case of full-time undivided course, the same ratio is 54.5% and in case of higher education vocational training (starting at 2014) is 53%. The correspondent students are more endangered of dropout in all three trainings than full-time students. The part-time students of undivided courses are dropped behind (56%) compared to the fellow full-time students, taking part in similar trainings (the gap here is almost 25% point considering the dropout).

In the distribution of training fields, it can be seen that in case of Bachelor degree programs, the dropout is the highest in IT fields, almost half of the students (48.1%) do not get a degree. In addition, in the field of religion (47.3%) and science (44.3%), the dropout rate is also really high. The lowest dropout rate can be seen in the fields of art (14.3%), teacher training (16.6%), and civil services (19.6%). If we observe the undivided courses, we can find training fields, where almost half of the students do not finish their studies or dropout for some reason. The most endangered students are studying in agricultural fields (49%), but not-finishing students are also high in medical and health

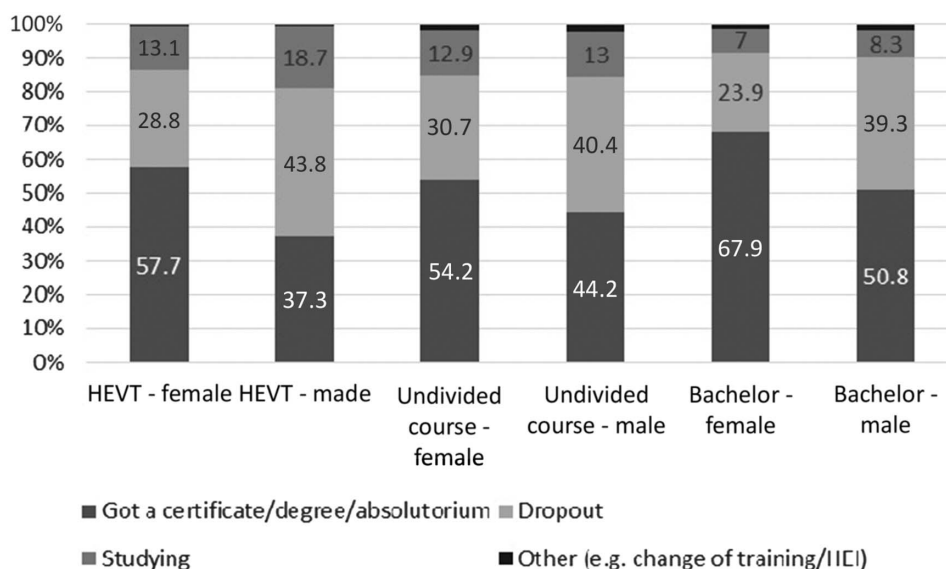


Figure 2. Students' higher educational status spring 2017 in distribution of training levels and gender (%). Starting date of trainings in case of Bachelor degree program and undivided course 2010 autumn, in case of higher education vocational training 2014 autumn

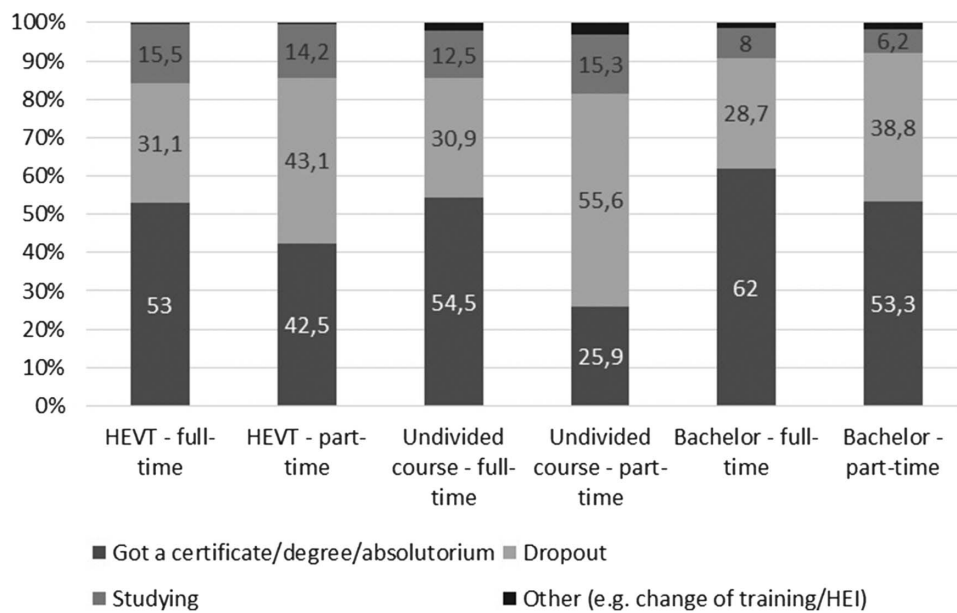


Figure 3. Students' higher educational status spring 2017 in distribution of training levels and schedule (%). Starting date of trainings in case of Bachelor degree program and undivided course 2010 autumn, in case of higher education vocational training 2014 autumn

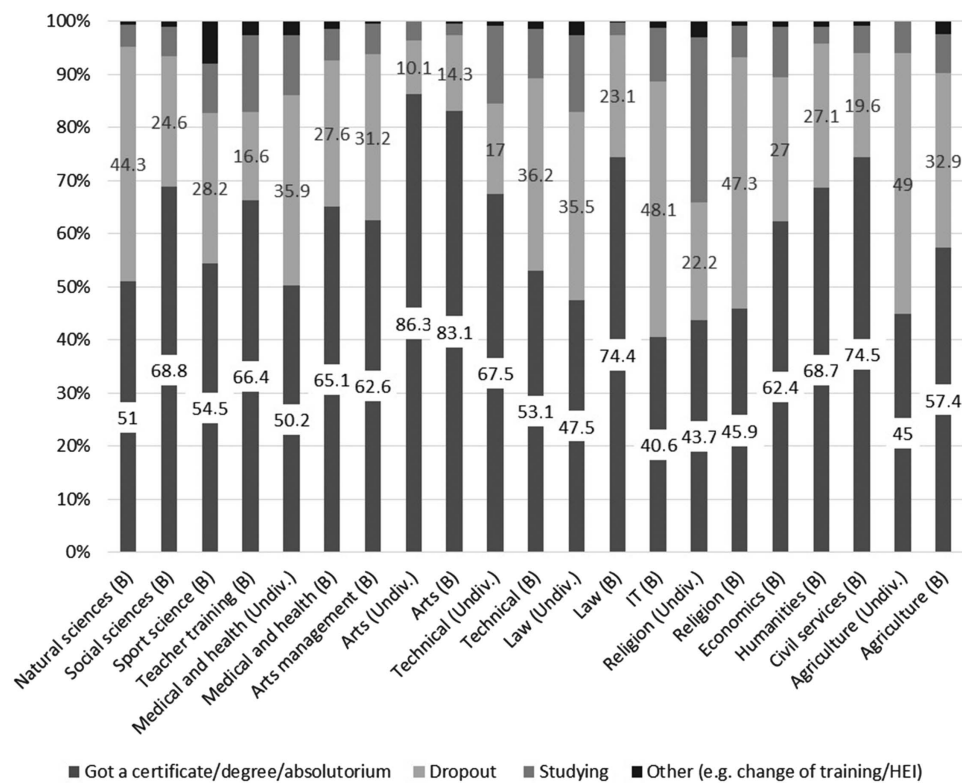


Figure 4. Students' higher educational status spring 2017 in distribution of training levels and fields (B: BA/BSc; Undiv: undivided courses) (%). Starting date of training in case of Bachelor degree program and undivided course is 2010 autumn

Table 2. Risk and protecting factors in dropout (BA/BSc programs)

	<i>p</i>	Exp (<i>B</i>)
Female (ref: male)	.000	0.600
Passivized during the first two semesters: yes (ref: no)	.000	9.737
Part-time students (ref: full-time)	.000	1.324
Fee-paying (ref: state-funded)	.000	1.478
Boarder (ref: no)	.000	0.649
Field of studies: civil services (ref: agrarian)	.000	0.392
Field of studies: humanities (ref: agrarian)	.094	0.909
Field of studies: economic sciences (ref: agrarian)	.000	0.812
Field of studies: religion (ref: agrarian)	.000	1.779
Field of studies: IT (ref: agrarian)	.000	2.236
Field of studies: law (ref: agrarian)	.000	0.492
Field of studies: technology (ref: agrarian)	.000	1.277
Field of studies: arts and arts management (ref: agrarian)	.010	0.780
Field of studies: medical and health sciences (ref: agrarian)	.014	1.194
Field of studies: teacher training (ref: agrarian)	.000	0.499
Field of studies: sport science (ref: agrarian)	.008	0.794
Field of studies: social sciences (ref: agrarian)	.000	0.704
Field of studies: natural sciences (ref: agrarian)	.000	2.460
Constant	.000	0.329

sciences (35.9%) and in law (35.9%). On the contrary, the Bachelor degree programs and undivided courses, it is clearly shown that students in the arts in Bachelor degree programs (83.1%) or in undivided courses (86.3%) and students of BA program in law (74.4%) finish their studies in the highest rate, so they are the least endangered of dropout (Figure 4).

In the background of dropout – Risk and protecting factors

Finally, we tried to examine the background factors, appearing in the database, compressed into one model in case of BA/BSc dropouts (Table 2). We chose this training, because the 14 semester period gave us the opportunity to examine a relatively definite status. To do this, we used a binary logistic regression model, where the dependent variable was that whether the student had a dropout during the training and the independent variables we featured were the sex of student, the type of habitation, field of training, schedule, form of finances, and if they were boarders or they had a passive

semester during the first year of study. Applying the Forward Wald model, the type of habitation was ignored. The final data show that students who had passivized semester during the first year have greater chance for dropout; besides, this it can be also clearly seen that certain fields (IT, sciences, and religious studies) have twice the chance for dropout than in the agrarian Bachelor degree program chosen to be the reference group. We can read out from the data that the fact that somebody is a boarder decreases the chance of dropout, while the fee-paying and part-time training increases the chance almost one and a half times. Males have greater risk than women, which can be partially explained with the characteristics of the training field.

Summary

Almost one third of the students end up to join the group of dropout in all kinds of training type. Between the reasons of dropout study reasons come into prominence, especially critical period is from the second to the fifth semester. The most endangered are males, correspondent students, fee-paying students, participants of higher education vocational training, further the students of science and students of IT fields. Living in a dormitory appeared as a protecting factor. The database offers more opportunities to research dropout patterns (e.g., regional and institutional characteristics and higher educational paths of disadvantaged students).

Our practical advice is to initiate the institution of a relieved semester, which is a middle ground between the postponed and a full semester. It may give the students the opportunity the cut their fee expenses in case of financial problems, or it makes possible to “consume” only one half of their state funded semesters in such situations, when they university studies may be in danger. The students achieve less credits during the relieved semester, prolonging the whole training time, although securing an assured completion. This solution gives no additional material or personal burden, only with some administrative tasks.

Acknowledgements

Project no. 123847 has been implemented with the support provided from the National Research, Development and Innovation Fund of Hungary, financed under the K-17 funding scheme. The authors would like to thank Hungarian Educational Authority for collecting and providing the data.

About the Authors

DAT undertook to investigate Community Higher Education Centres (CHEC) in Hungary. She finds the answer to the question whether this institution can fulfil its economy developing role in the underdeveloped in the northeastern regions, which seems to lag

behind. The Community Higher Education Centre is similar to the American community colleges because of their potential function in social inclusion; on the other hand, it shares some features with the German and Austrian “Fachhochschule” because of its role in the economy. Because of the common features, DAT investigates the Community Higher Education Centre in international comparisons as well. She is working as the researcher in the Hungarian Institute for Educational Research and Development, in the Center for Higher Education Research and Development (CHERD-Hungary, University of Debrecen), furthermore, as an associate lecturer in the Institute of Educational Sciences at the University of Debrecen.

MSz is a senior research fellow at the Hungarian Institute for Educational Research and Development of the Eszterházy Károly University. She is a sociologist of education and her main field of research are the effectiveness of education (public education and higher education as well) and the various aspects of the student population in higher education. On this field of higher education, she deals especially with access to higher education, the transformation of teachers training and research on career tracking surveys.

TC is an assistant lecturer in Institute of Educational and Cultural Management at the University of Debrecen, and scientific researcher in the Center for Higher Education Research and Development (CHERD-Hungary). She is a sociologist of education and her work focuses on resilient students' career, socially disadvantaged students, talent care programs in higher education, Roma studies, teacher training and regionality. In the focus of her PhD thesis stand students with resilience potential who enrol higher education with outstanding input achievement despite their disadvantage of social background. She is awarded by the Governmental scholarship of the Hungarian Republic, Talent Care Program of University of Debrecen, and Catholic Academic Exchange Service Eastern Europe Partner Program.

BM-Sz is a PhD candidate and the Education Organiser of the Institute of Educational and Cultural Management at the University of Debrecen. His research topic is the appearance of vocational education in higher education. First, he investigated the sociocultural environment, academic career, and dropout chances of students learning in higher vocational education. In addition, the exploration of cultural sciences and the communication and civics and the possibilities of the methodological improvement of learning are in the focus of his researches. He was awarded the National Excellence Program Loránd Eötvös Student Scholarship in 2013 and the New National Excellence Program scholarship for doctoral candidates in 2017.

All authors had full access to all data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. DAT contributed in statistical analysis

and study concept. MSz contributed in statistical analysis and study supervision. TC contributed in analysis and interpretation of data. BM-Sz contributed in statistical analysis and study design.

Ethics

The study procedures were carried out in accordance with the Declaration of Helsinki.

References

- Act CCIV of 2011 on National Higher Education. Retrieved from https://net.jogtar.hu/jr/gen/hjegy_doc.cgi?docid=A1100204.TV
- Alexeevna, A. M., Savitovna, G. G., & Grigor'evich, K. V. (2017). Parents' education level and youth educational strategy. *Hungarian Educational Research Journal*, 7(4), 46–57. doi:10.14413/HERJ/7/4/5
- Altbach, P. G. (2010). Preface. Access means inequality. In G. Goastellec (Ed.), *Understanding inequalities in, through and by higher education* (pp. vii–x). Rotterdam, The Netherlands/Boston, MA/Taipei, Taiwan: Sense Publishers.
- Arato, F., & Varga, A. (2018). Befogado egyetem [Host university]. In G. Pusztai & F. Szigeti (Eds.), *Lemorzsolodas es perzisztencia a felsoktatásban* [Dropout and persistence in higher education] (pp. 189–202). Debrecen, Hungary: Debrecen University Press.
- Bean, J., & Metzner, B. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research*, 55(4), 485–540. doi:10.3102/00346543055004485
- Benjamin, R. (2015). *Leveling the playing field from college to career*. New York, NY: Council for Aid to Education.
- Bocsi, V., Cegledi, T., Kocsis, Zs., Kovacs, K. E., Kovacs, K., Müller, A., Pally, K., Szabo, B. E., Szigeti, F., & Toth, D. A. (2018). A pedagógus hallgatók késleltetett diplomaszerezése interjúk alapján [Delayed graduation of teacher-training students]. In G. Pusztai & F. Szigeti (Eds.), *Lemorzsolodas es perzisztencia a felsoktatásban* [Dropout and persistence in higher education] (pp. 63–90). Debrecen, Hungary: Debreceni Egyetemi Kiado Debrecen University Press.
- Cegledi, T. (2017). *Resilience and higher education. Is the potential of resilience fulfilled or are social inequalities reinforces in higher education?* (PhD thesis). University of Debrecen, Debrecen, Hungary.
- Fehervari, A. (2013). The change of the paths of learning. *Hungarian Educational Research Journal*, 3(2), 1–11. doi:10.14413/herj.2013.02.01
- Goastellec, G. (2010). Introduction. The complex issue of inequalities in, through and by higher education. In G. Goastellec (Ed.), *Understanding inequalities in, through and by higher education* (pp. XI–XVI). Rotterdam, The Netherlands/Boston, MA/Taipei, Taiwan: Sense Publishers.
- Kozma, T. (2004). *Kie az egyetem? A felsoktatás nevelesszociologiaja* [Who's the university? The educational sociology of higher education]. Budapest, Hungary: UMK – Felsőoktatási Kutatóintézet.

OECD. (2013). *Education at a glance*. Paris, France: OECD.

OECD. (2016). *Education at a glance*. Paris, France: OECD.

Polonyi, I. (2018). A hátrányos helyzetű régiók felsőoktatási rekrutációjának néhány sajátossága [Some peculiarities of higher education recruitment in disadvantaged regions]. In G. Pusztai & F. Szigeti (Eds.), *Lemorzsolódás és perszisztencia a felsőoktatásban* [Dropout and persistence in higher education] (pp. 207–224). Debrecen, Hungary: Debreceni Egyetemi Kiadó Debrecen University Press.

Pusztai, G. (2018). Egy hatékony tényező a lemorzsolódás mérséklésére [Effective in reducing drop-out rates]. In G. Pusztai & F. Szigeti (Eds.), *Lemorzsolódás és perszisztencia a felsőoktatásban* [Dropout and persistence in higher education] (pp. 109–127). Debrecen, Hungary: Debreceni Egyetemi Kiadó Debrecen University Press.

Shavit, Y., Arum, R., Gamoran, A., & Menahem, G. (Eds.). (2007). *Stratification in higher education. A comparative study*. Stanford, CA: Stanford University Press.

Spady, W. G. (1971). Dropouts from higher education: Toward an empirical model. *Interchange*, 2(3), 38–62. doi:10.1007/BF02282469

Stiburek, S. Š., Vlk, A., & Sšvec, V. (2017). Study of the success and dropout in the higher education policy in Europe and V4 countries. *Hungarian Educational Research Journal*, 7(1), 43–56. doi:10.14413/herj.2017.01.04

Szell, K. (2016). Külföldi támogatási gyakorlatok [Foreign support practices]. In A. Fehervari, H. Misley, K. Szell, M. Szemerszki, & Zs. Veroszta (Eds.), *A felsőoktatás szociális dimenziója. Hátrányos helyzetű csoportok hozzáferése és részvétele a felsőoktatásban* [The social dimension of higher education] (pp. 19–40). Budapest, Hungary: Tempus Kozalapítvány.

Szemerszki, M. (2018). Lemorzsolódási adatok és módszertani megfontolások [Dropout data and methodological considerations]. In G. Pusztai & F. Szigeti (Eds.), *Lemorzsolódás és perszisztencia a felsőoktatásban* [Dropout and persistence in higher education] (pp. 15–27). Debrecen, Hungary: Debreceni Egyetemi Kiadó Debrecen University Press.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89–125. doi:10.3102/00346543045001089

Tinto, V. (1987). *The principles of effective retention*. Paper presented at the Fall Conference of the Maryland College Personnel Association, Largo, MD. ED 301 267. Retrieved from <https://files.eric.ed.gov/fulltext/ED301267.pdf>

Trow, M. (1974). *Problems in the transition from elite to mass higher education. Policies for higher education*. Paris, France: OECD.

Vossensteyn, H., Stensaker, B., Kottmann, A., Hovdhaugen, E., Jongbloed, B., Wollscheid, S., Kaiser, F., & Cremonini, L. (2015). *Dropout and completion in higher education in Europe*. Luxembourg: Publications Office of the European Union.

Vukasovic, M., & Sarrico, C. S. (2010). Inequality in higher education: Definitions, measurements, inferences. In G. Goastellec (Ed.), *Understanding inequalities in, through and by higher education* (pp. XI–XVI). Rotterdam, The Netherlands/Boston, MA/Taipei, Taiwan: Sense Publishers.