Entrepreneurship intentions and activities of students in Hungary

Global University Entrepreneurial Spirit Student's Survey 2023

National Report

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1 Summary

In recent decades, the role of entrepreneurship in economic growth (Di Bella et al., 2023; Carree & Thurik, 2010; Hope, 2016; Meyer & Krüger, 2021) and social issues (Bartha et al., 2018; Leone & Cascio, 2020) has become increasingly accepted. A considerable number of new approaches have emerged that capture the complexity of entrepreneurship, such as ecosystem models (Isenberg, 2011; World Economic Forum, 2013; Stam & Spigel, 2016; Ács et al., 2018) and the institutional approach (Wennekers & Thurik, 1999; GEM, 2019; Ács et al., 2008; Zygmunt, 2018; 2020). These approaches emphasise the context, i.e. the environment in which entrepreneurship takes place. Higher education is an important part of this

Within the promotion of entrepreneurship, special attention is paid to youth's and especially university students' entrepreneurial activity (Meyer & Krüger, 2021) and their competencies (Solesvik, 2019). This is partly due to the findings in the literature that education positively affects the likelihood of becoming an entrepreneur (Nikolova et al., 2012), and these companies outperform the average in terms of their growth orientation (Autio, 2005; Schrör, 2006) and innovation (Richert & Schiller, 1994, cited by Lüthje & Franke, 2002).

Recognising the role of young people in entrepreneurship, a broad range of reports have been published that make recommendations for modernising education (methodology and content) and for the services provided to increase entrepreneurial intention and activity (EC, 2013; Eurofound, 2015; EYE, 2015). Higher education can play an important role in fostering a positive attitude towards entrepreneurship issues, in addition to providing the knowledge and skills needed for entrepreneurship and services to implement business start-up plans.

The objective of this report is to briefly describe the situation in Hungary. The GUESSS (Global University Entrepreneurial Spirit Students' Survey) research database for Hungary 2023 is used for this purpose. In 2023, the Hungarian questionnaire was sent to all higher education institutions over 1000 students (based on the statistics of 2021/2022), and 10,104 valid responses from 22 institutions were received. After a brief introduction of the database, the career aspirations of Hungarian higher education students are presented, followed by the role of gender, field of activity and family business background in the decision. We will also discuss the evolution of entrepreneurial intentions over time and show the data in international comparison. Finally, some statistics on student entrepreneurship are presented.

To get an idea of the trends of previous years, it is worth reviewing the results of previous surveys in Hungary (Gubik, 2014, Gubik & Farkas, 2016a, 2017, 2019a and 2022) and some articles (Gubik & Farkas, 2016b, 2019b, Gubik & Bartha, 2018, 2021, Bartha, Gubik & Bereczk, 2019; Gubik, 2021, Gubik & Vörös 2023) that deal with specific aspects of the topic.

Key findings:

1. A larger proportion of young people currently studying in Hungarian higher education institutions intended to work as employees after graduation (71.1%), and entrepreneurship was not really attractive to them. Five years after graduation, the attractiveness of the employee status decreased, and entrepreneurial intentions increased to 35.4% among students (32.9% as founder and 2.6% as successor).
2. There is very little difference between respondents by gender when choosing an entrepreneurial career. Within the choice of an employee career, public sector preference is higher among women. Furthermore, women had a higher proportion of other/do not know answers.
3. Economics and business students were most open to starting their businesses. At the same time, students of social sciences were the least willing to become entrepreneurs. Entrepreneurship education and the universities' entrepreneurial environment, in general, stimulated students' start-up ideas.
4. Family entrepreneurial experiences positively impacted students' business start-up plans. Students who grew up in an entrepreneurial environment were more likely to undertake risks and additional responsibilities related to starting a company.
5. The low entrepreneurial intention of Hungarian university students in international comparison aligns with data from the Visegrad countries.
6. 7.3% of the respondents (1071 students) said they ran a business. A significant proportion of student entrepreneurs currently in business are self-employed. Many consider their business a financial source for their studies and do not plan to pursue it after graduation.

The labour market is undergoing significant changes today. Current trends and corporate solutions are putting a premium on a flexible, adaptable workforce and atypical employment solutions. Entrepreneurship is thus increasingly likely to become a reality for students still in school today.

Both policymakers and education must respond to this. The regulatory environment, in general, and higher education, in particular, can do much to ensure that students are prepared in their field of study and have the entrepreneurial skills to apply this knowledge successfully in the changing labour market.

In addition to the entrepreneurial skills provided in the curricula, emphasis should be placed on the other services provided by universities and the entrepreneurial climate in general, which are important shapers of entrepreneurial intentions.

2 The GUESSS research

The GUESSS (Global University Entrepreneurial Spirit Students' Survey), which has been running since 2003, is organized by the Swiss Institute for Small Business and Entrepreneurship, an institute of the Swiss University of St. Gallen (KMU-HSG). In Hungary, Andrea S. Gubik and Szilveszter Farkas coordinate the research tasks (data collection, analyses, dissemination).

2.1 Research Objectives

GUESSS investigates students' entrepreneurial intentions and activities with a questionnaire survey. To gain a deeper understanding of the business start-up processes, the survey targets students' career intentions after graduation and a few years after studies, the essential characteristics of families' and students' businesses, and the processes and factors that may be decisive in starting a business. Thus, individual motives, personal characteristics, and the impact of cultural and institutional factors, including the role the higher education environment plays in shaping students' entrepreneurial intentions and activities, are fundamental to investigate.

2.2 Surveys

The research, which began in 2003 with two countries' participation, has gradually become one of the most significant data sources on the topic. In 2023, at the 10th data collection, responses of 226,718 students from 57 countries were collected. In 2023, 14,720 valid questionnaires were received in Hungary.

Thanks to the repetitive surveys and continuous feedback, changes across time can also be analysed. Since Hungary joined the research in 2006, the results of 17 years can be compared. With the growing numbers of participating countries and universities, a geographical comparison is also possible.

During the research, all Hungarian higher education institutions with more than 1,000 students were contacted (2021/2022 statistics were used). They were asked to send the survey call to their students via their Neptun systems. Some institutions used other channels (e.g., student newsletter, university website, or Facebook).

2.3 A brief introduction of the 2023 database

The database contains 14,720 students' responses. Before presenting the primary descriptive results, the database based on differences in higher education institutions, fields of study, gender, and age structure is briefly presented. Table 1 shows the distribution of participants in Hungary by the respondents' higher education institutions.

Table 1: Distribution of GUESSS 2023 survey participants by higher education institution

	N of respondents	Percent	N of students 2022/23 Fall*	Response rate
Budapest Business School	1288	8,8	18569	6,9
Budapest Metropolitan University	96	0,7	6518	1,5
Budapest University of Technology and Economics	1504	10,2	20109	7,5
Corvinus University of Budapest	113	0,8	10009	1,1
Edutus University	166	1,1	989	16,8
Eötvös Loránd University	135	0,9	37180	0,4
Eszterhazy Karoly Catholic University	195	1,3	6104	3,2
Gál Ferenc University	40	0,3	1299	3,1
Hungarian University of Sports Science	171	1,2	2491	6,9
Kodolányi János University	35	0,2	2285	1,5
Óbuda University	925	6,3	11503	8,0
Pázmány Péter Catholic University	622	4,2	7980	7,8
Semmelweis University	1121	7,6	13089	8,6
Széchenyi István University	816	5,5	12098	6,7
University of Debrecen	2811	19,1	29777	9,4
University of Dunaújváros	253	1,7	1816	13,9
University of Miskolc	791	5,4	8801	9,0
University of Pannonia	192	1,3	4709	4,1
University of Pécs	877	6,0	22490	3,9
University of Sopron	140	1,0	2676	5,2
University of Szeged	2258	15,3	21763	10,4
University of Veterinary Medicine Budapest	127	0,9	2127	6,0
Other	44	0,3	45609	0,1
Total	14720	100,0	289991	5,1

Source: Own calculation based on GUESSS 2023 database and *Higher Education Statistics: https://dari.oktatas.hu/firstat.index?fir_stat_ev=2022

Students from 22 universities responded to the questionnaire. The differences in the response rate were partly due to how universities delivered the questionnaire to the students (we achieved higher response rates through Neptun (Electronic Learning System) and lower response rates through newsletters or website calls).

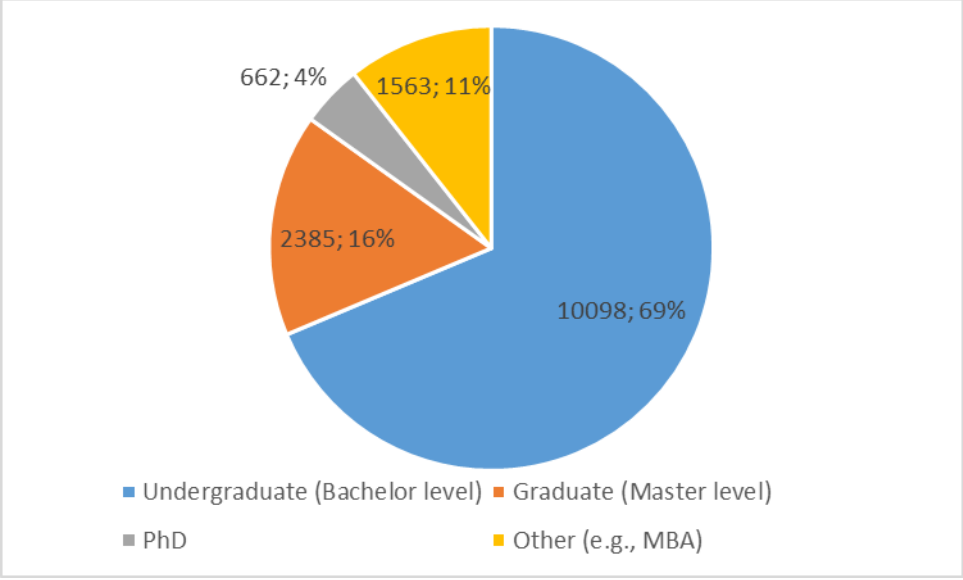
About 17.1% of respondents studied engineering, and 20.1% of students studied business and management, and economics. Computer sciences/IT students represented 10.2% and Arts/Humanities students accounted for 6.4%. The sample of students in Human medicine amounted to 19.6%, in Social sciences 6.1%, in Law 5.8, and in Natural sciences 4.8%.

Table 2: Distribution of GUESSS 2023 survey participants by field of study

	Frequency	Percent	Valid Percent	Cumulative Percent
Arts / Humanities (e.g. cultural studies, history, linguistics, philosophy, religion)	948	6,4	6,4	6,4
Business / Management	1551	10,5	10,5	17,0
Computer sciences / IT	1502	10,2	10,2	27,2
Economics	1412	9,6	9,6	36,8
Engineering (incl. architecture)	2511	17,1	17,1	53,8
Human medicine / health sciences	2892	19,6	19,6	73,5
Law	850	5,8	5,8	79,3
Mathematics	66	0,4	0,4	79,7
Natural sciences	713	4,8	4,8	84,6
Science of art (e.g. art. design, dramatics, music)	159	1,1	1,1	85,6
Social sciences (e.g. psychology, politics, education)	900	6,1	6,1	91,8
Other	1214	8,2	8,2	100,0
Total	14718	100,0	100,0	

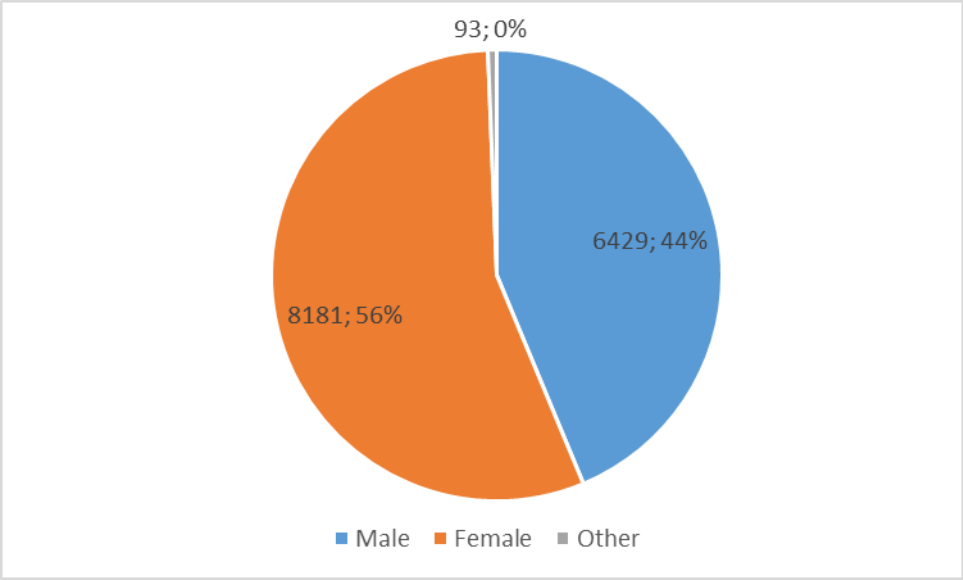
Own calculation based on GUESSS 2023 database

The vast majority of respondents (69%) attended BSc-level studies. The proportion of MSc students in the sample was much lower (16%). Regarding the respondents' gender, the sample contained a larger female ratio (56%).



Own calculation based on GUESSS 2023 database, N= 14,720 (missing: 12)

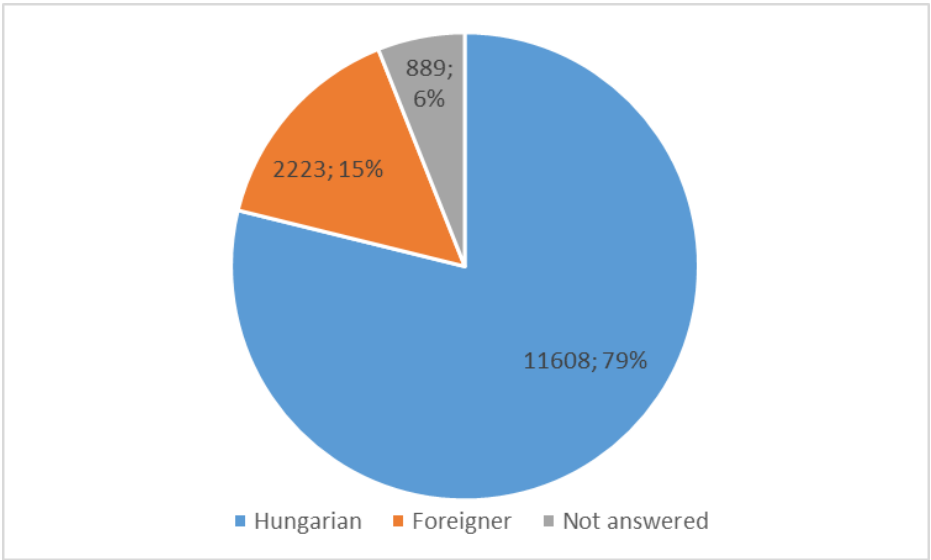
Figure 1: Distribution by levels of education (%)



Own calculation based on GUESSS 2023 database, N=14,720 (missing:17)

Figure 2: Distribution of respondents by gender (%)

In 2023, the questionnaire was sent to students in two languages (Hungarian and English) so that international students studying in Hungary could also participate in the survey. 78.9% of respondents declared themselves Hungarian, and 15.1% were from abroad. 6% of respondents did not answer this question.



The highest proportions of international students who completed the questionnaire were Indian (6.11%), Nigerian (5.3%), Jordanian (4.9%), Egyptian (4.6%), Iranian (3.7%) and Syrian (3.5%).

3 Results

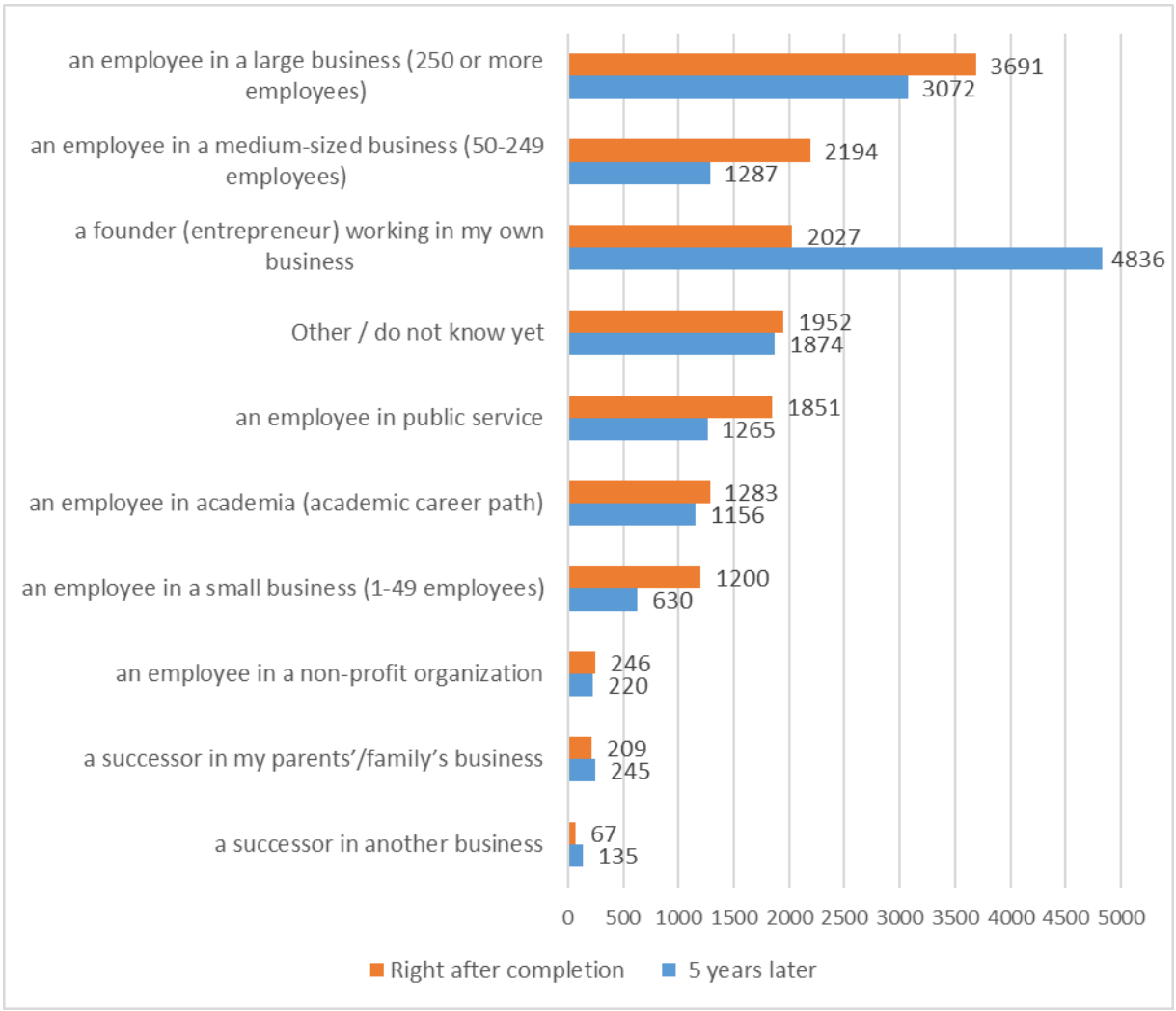
3.1 Aspects of career choice

First, we analysed the career aspirations of students in higher education in Hungary. The question was asked at two points in time, firstly, what career they envisaged for themselves after graduation and secondly, what career they would like to have 5 years after graduation.

Not only the responses to this question but also an additional variable computed from the original question (containing four attributes: Employee, Founder, Successor, Other) were further analysed.

As Figure 3 shows, a significant proportion of students want to find a job in a large or medium-sized company immediately after graduation and prefer to be employed. The third most frequently mentioned response was to start their own business, with 13.8% of respondents indicating this.

The fourth answer was the category "other/do not know yet", followed by other alternatives of being an employee and finally succession of a business created by someone else.



Own calculation based on GUESSS 2023 database, N=14,720

Figure 3: Career aspirations right after graduation and five years after studies (Number of students)

Most respondents prefer a career as an employee, with 71.1% saying this after graduation and 51.8% five years later. However, five years later, the attractiveness of an employee career is declining, replaced by an increase in the proportion of people planning a career in entrepreneurship. This may indicate that students want to gain professional experience as employees that they can use in their entrepreneurial careers. For both dates, the proportion of those who are uncertain about their future career is high (13.3 and 12.7%).

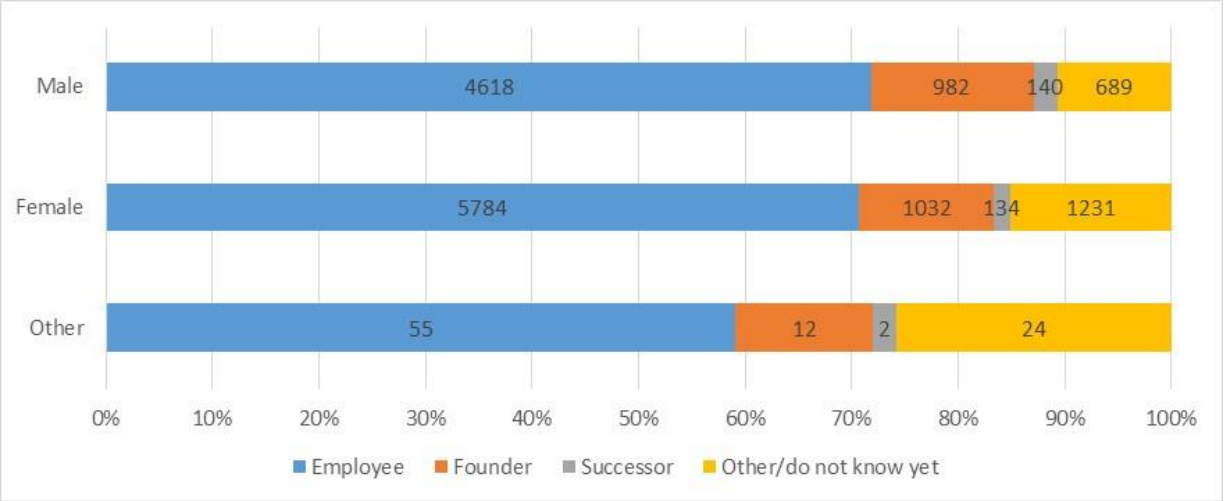
The share of those starting their own business jumps significantly (from 13.8% to 32.9%) between the analysed time horizons. However, the share of those planning to take over a business also increases slightly (from 1.9% to 2.6%). Interest in academia and public service is moderate at both time periods, and the non-profit sector is particularly unattractive for young people.

3.1.1 Differences in responses by gender

The data shows that slightly more men plan to pursue a career as employees. Within the employment career, however, there are some gender differences. Women are more likely to plan to work in the public sector than men (15.8% in the case of women and 8.6% in the case of men within the total responses), expressing a preference for this sector. On the other hand, men prefer to work in large companies.

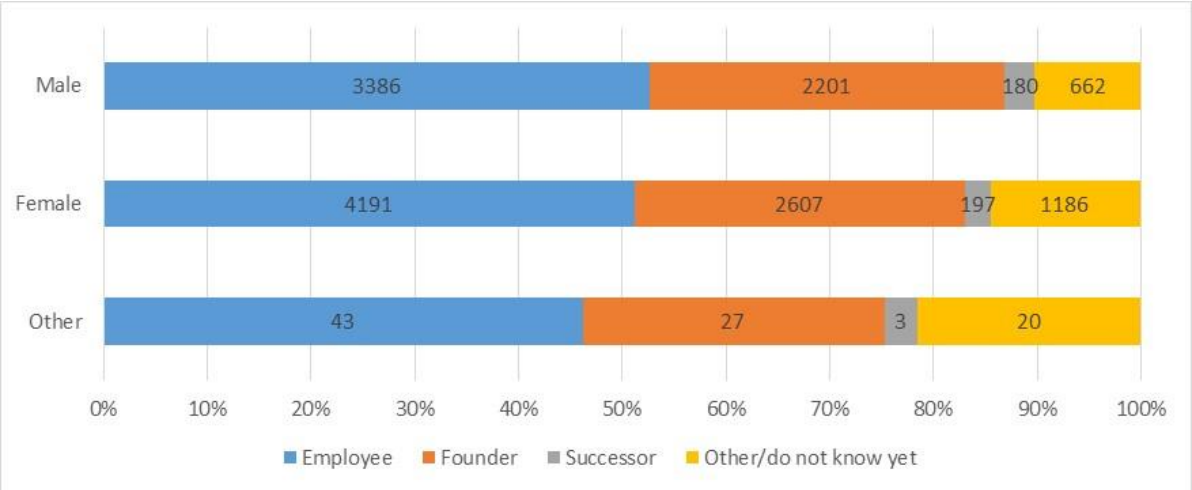
The five-year-after-graduation figures show that the attractiveness of the employee career decreases, and the entrepreneurial carrier becomes more attractive among all respondents regardless of gender (male: 34.2%, female: 31.9%, and other: 29%).

Women have a higher proportion of other/do not know responses for both periods, and the proportion of people who are unsure about their careers is particularly high among those who identify as "Other" gender.



Own calculation based on GUESSS 2023 database, N=14,720

Figure 4: Gender differences in career plans immediately after graduation



Own calculation based on GUESSS 2023 database, N=14,720

Figure 5: Gender differences in career plans 5 years after graduation

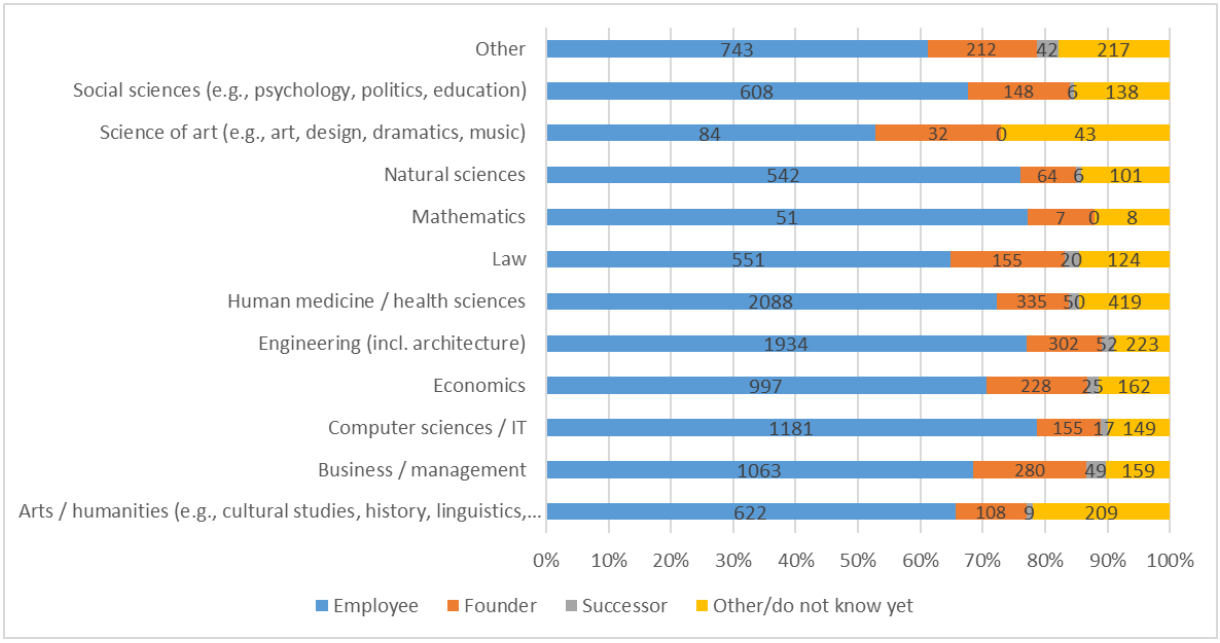
3.1.2 Differences in responses by fields of study

The choice of being an employee after graduation is the highest among students majoring in Computer Sciences/IT, 78.6%; Mathematics, 77.3%; engineering (incl. architecture), 77.0%; and Natural Sciences, 76%, right after studies. Five years after graduation, the percentage of students choosing a career as an employee decreases in all fields of study. However, it remains the highest in these areas.

As for entrepreneurship (as a founder), the proportion of students preferring working as entrepreneurs was the highest among the Sciences of art (e.g., art, design, dramatics, music) (20.1%), Law (18.2%), and Business/Management (18.1%). Social sciences (e.g., psychology, politics, education) (16.4%) and Economics (16.1%) also showed relatively high ratios.

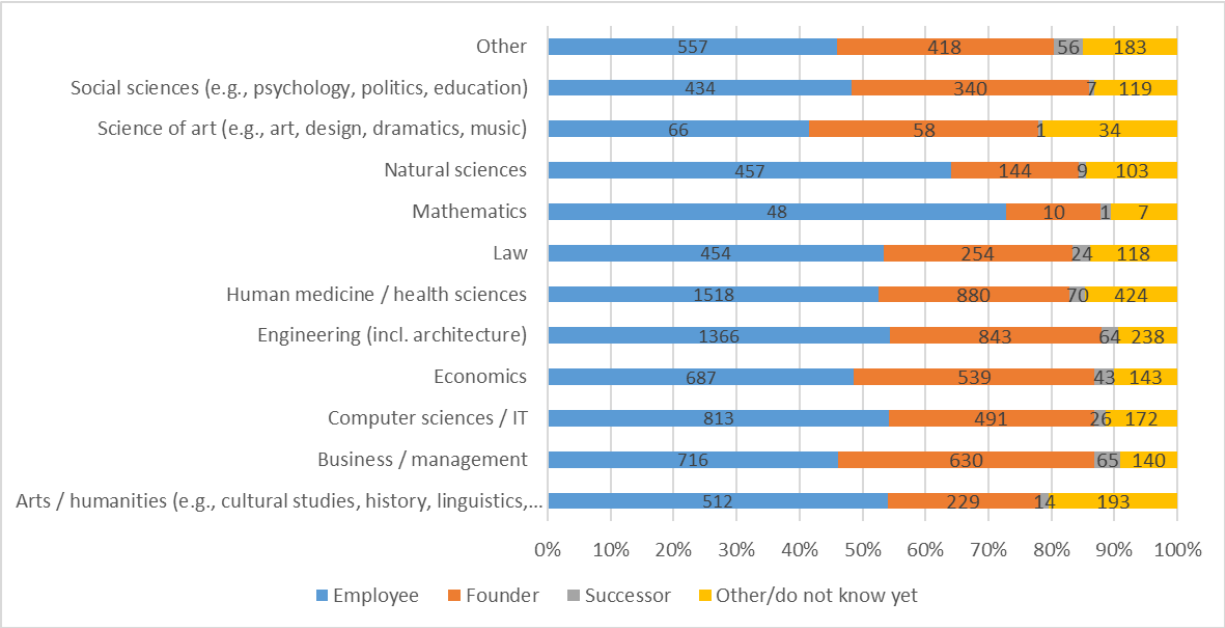
The analysis of career aspirations by fields of the study revealed that the ratio of students who did not choose professional careers or have no clear intentions ('Other/do not know yet' answer) was significantly higher among majors in Science of art (e.g., art, design, dramatics, music) with 27.0% right after studies and 21.4% five years later), Arts/humanities (e.g., cultural studies, history, linguistics, philosophy, religion) with 22.1% right after studies and 20.4 five years later, compared to those studying business and economics, and natural sciences irrespective of the time horizon (see Figure 6 and Figure 7).

Five years after the studies, the proportion of respondents who were planning to start their own business increased in each of the study fields, with the highest rate in the Business/Management field (40.6%).



Own calculation based on GUESSS 2023 database, N=14,720

Figure 6: Career aspirations right after graduation by fields of study



Own calculation based on GUESSS 2023 database, N=14,720

Figure 7: Career aspirations five years after graduation by fields of study

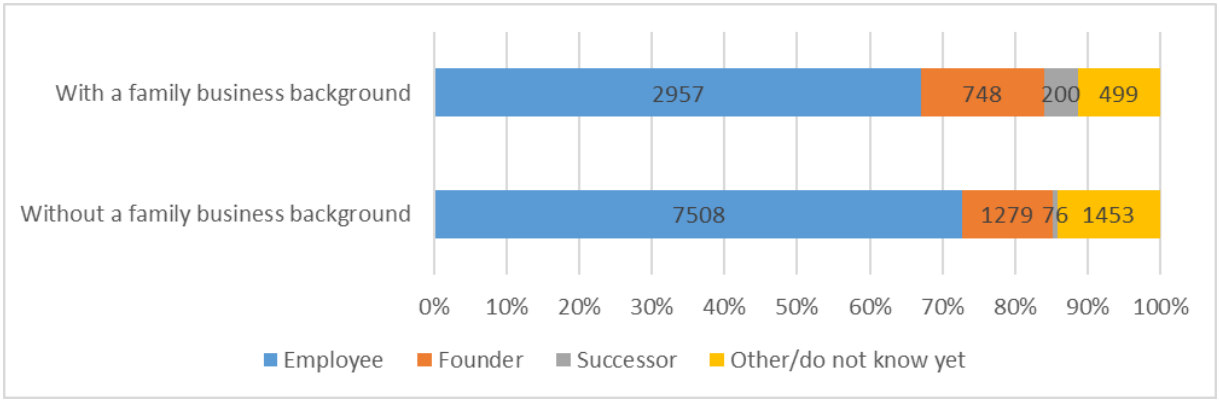
3.1.3 Differences in responses by family business background

The family business background also shaped career aspirations and business start-ups. The term 'parents' business background' referred to a state in which one parent (or both) was self-employed or had majority business ownership at the time the survey was conducted.

The survey results showed that the business experience of parents had the most significant impact on the respondents' career aspirations. Regardless of the timeline, family business experiences increased the chances of becoming an entrepreneur as a founder or a successor. After graduation, 17.0% of students who report a family business, plan to start a business, compared to 12.4% of those without a family business background. After five years, those without a family entrepreneurial background also have a greater intention of starting their own business. The proportions of those who intend to start a business are 30.8% and 37.6% for those with and without an entrepreneurial background. However, the entrepreneurial-non-entrepreneurial background preserves the divergences in career ideas in the long run. A further effect of a family entrepreneurial background is the possibility of taking over the family business, which is also reflected in students' entrepreneurial plans: 4.5% of students report a family entrepreneurial background and 5.9% five years later (the data for those without an entrepreneurial background is 0.7% and 1.2%).

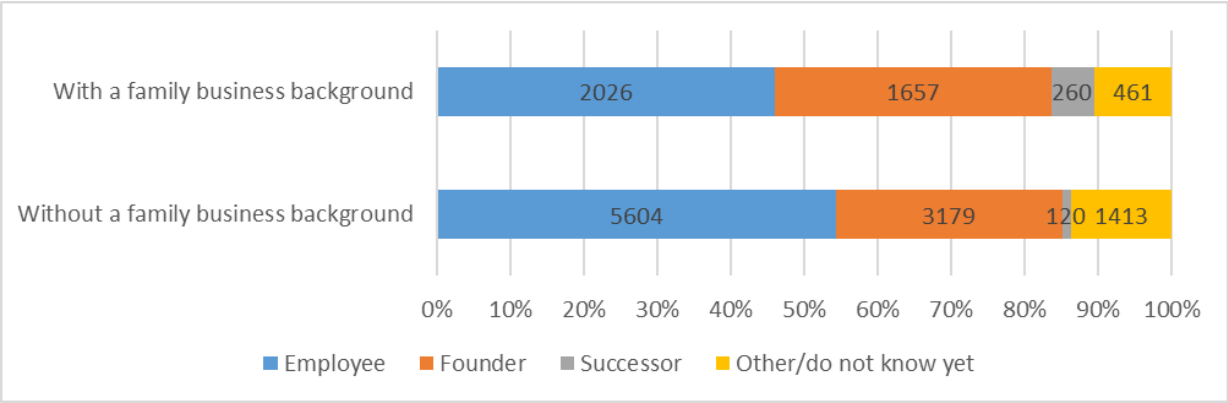
The lack of entrepreneurial experience increased not only the likelihood of employee preference but also the respondents' uncertainty about their future careers (' Other/Do not know' response).

Figure 8 and Figure 9 illustrate career aspirations based on parents' business background.



Own calculation based on GUESSS 2023 database, N=14,720

Figure 8: Career aspirations right after studies by family business background



Own calculation based on GUESSS 2023 database, N=14,720

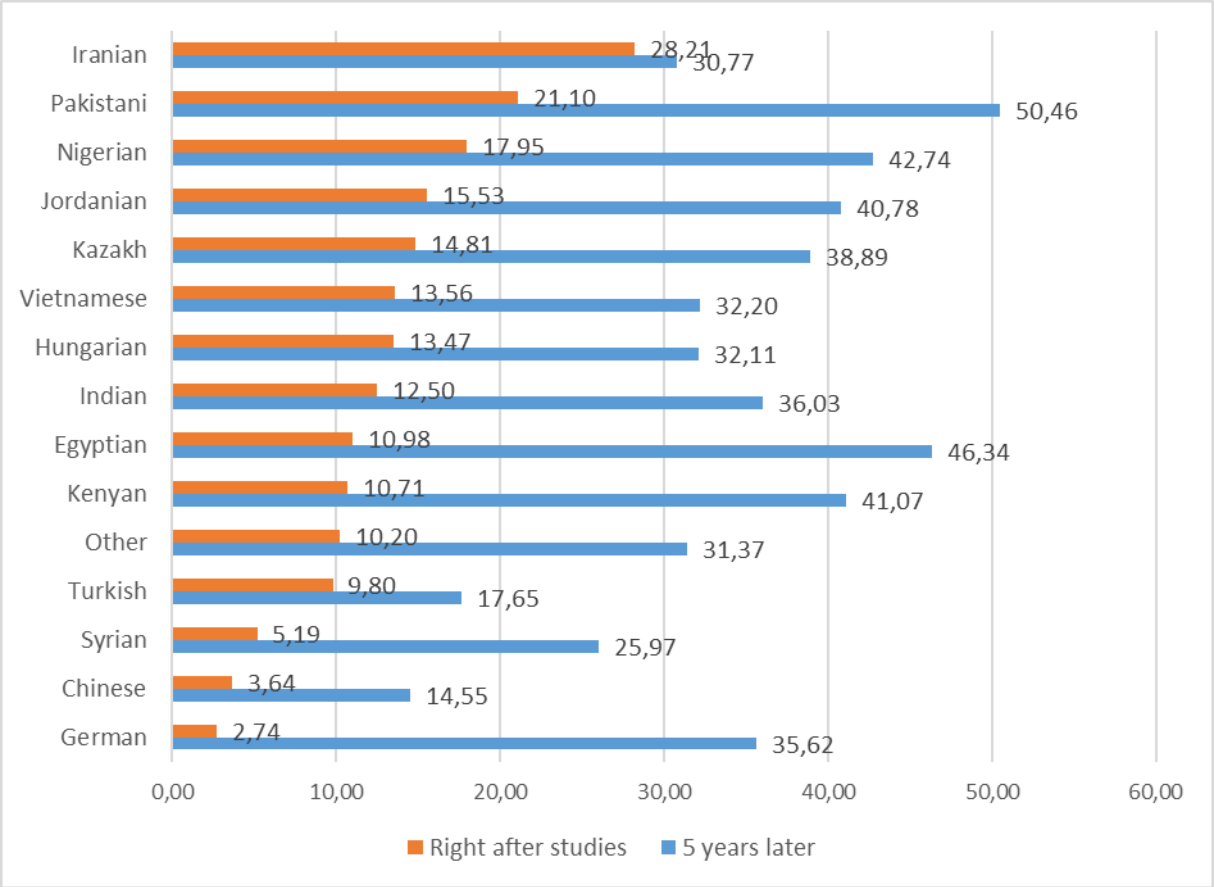
Figure 9: Career aspirations five years after studies by family business background

3.1.4 Differences in responses by nationality

In 2023, we made the questionnaire available in 2 languages, so foreigners studying in Hungary also had the opportunity to answer. Thanks to their responses, we were able to make comparisons according to nationality.

An average of 13.8% of students at Hungarian universities plan to pursue an entrepreneurial career after graduation. However, as shown in Figure 10, large differences can be observed according to nationality.

It can be seen that foreign students slightly increased the Hungarian statistics. Trends are similar to international differences (see section 3.4). However, the entrepreneurial intention of international students studying in Hungary is still below the level of those in their domestic countries.



Own calculation based on GUESSS 2023 database, N=14,720

Figure 10: Founder career right after studies and five year later by nationality

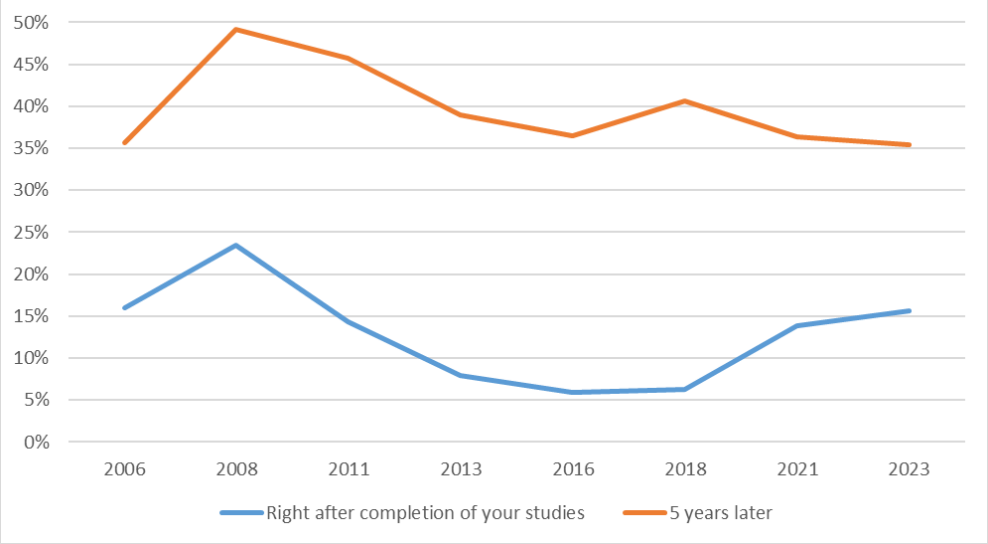
3.2 Changes in career motives over the last years

In all surveys, students were asked about their career aspirations so that the evolution of career plans over time could be analysed. Hungary has participated in 7 surveys covering 17 years of changes.

Figure 11 shows the proportion of students choosing an entrepreneurial career after graduation and after five years. Five years later, entrepreneurial career plans significantly outperformed those immediately after graduation at all time points examined.

Another notable trend was the fluctuation in the attractiveness of an entrepreneurial career across different surveys. This change could be attributed to various factors, including the state of the economy, such as the financial crisis in 2008 and the trends in the labour market, which are determining the situation of employment alternatives. COVID-19 also had a noticeable impact, increasing students' entrepreneurial intentions. Additionally, shifts in student motivations over time (the effects of generational differences) may influence students' perceptions of work-life balance, independence and other situations resulting from the choice between entrepreneurship and employment (Gubik & Farkas, 2016b).

In 2006, 16% of the students surveyed planned to start their own business after graduation. In 2008, the proportion of students who envisaged a career as an entrepreneur after graduation significantly increased. After that, the proportion declined presumably due to the impact of the financial crisis. In 2016, the proportion of people planning a business after graduation dropped to 5.9%. There was a slight recovery in 2018, but significant improvement was only observed in 2021 and 2023.



Own calculation based on GUESSS 2006, 2008, 2011, 2013, 2016, 2018, 2021 and 2023 databases

Figure 11: Entrepreneurial career plans 2006-2023

3.3 Perception of the university entrepreneurial environment and services

In addition to knowledge transfer, higher education plays an important role in shaping attitudes and values. In addition to teaching the tasks of entrepreneurship, it also has a role in instilling the personality traits attributed to entrepreneurs (flexibility, self-efficacy) and promoting the entrepreneurial way of life. One aspect of this is the creation of an entrepreneurial ecosystem.

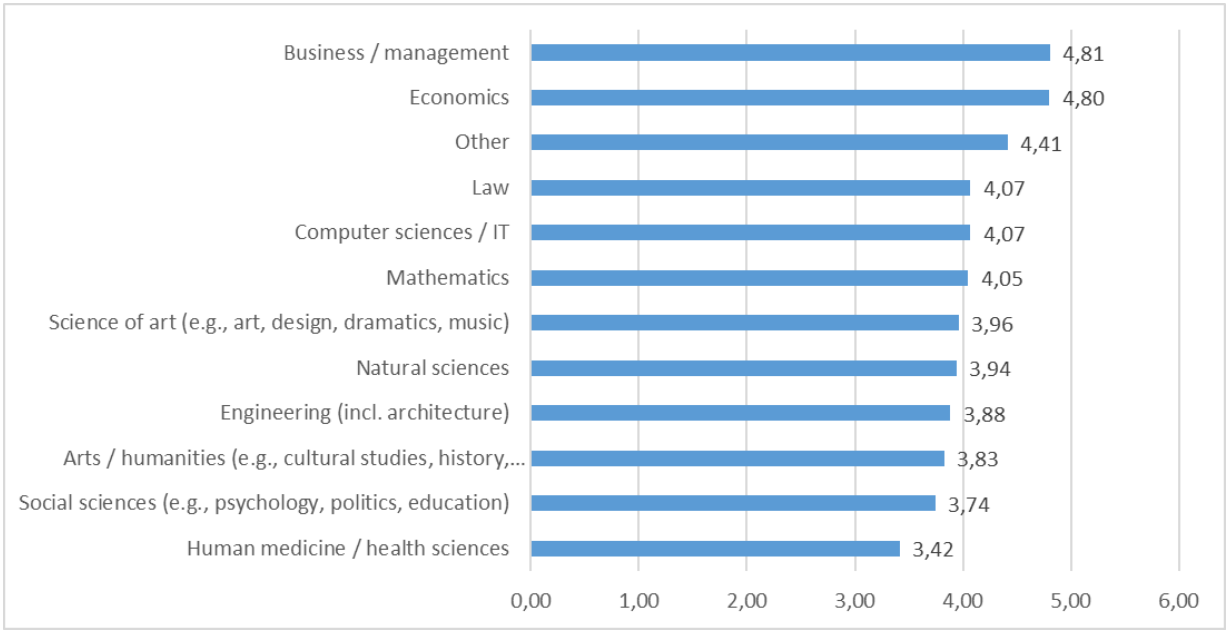
To assess the entrepreneurial ecosystem, first, we measured perceptions of the entrepreneurial character of the university environment using three items. The fourth item concerned the student's perception of the availability of education and training. The averages obtained are presented in Table 3. The higher figures than in previous years probably reflect the increasing efforts of Hungarian higher education, but there is still room for improvement.

Table 3. Evaluation of the university environment

	N	Mean	Std. Dev.
The atmosphere at my university inspires me to develop ideas for new businesses	14699	4.21	1.774
There is a favourable climate for becoming an entrepreneur at my university	14657	4.09	1.740
At my university, students are encouraged to engage in entrepreneurial activities	14665	3.75	1.770
At my university, students can get entrepreneurship-related advice and guidance easily	14659	4.12	1.839

Own calculation based on GUESSS 2023 database, N=14,720

The scores given by business/management and economics students are significantly higher, suggesting that the training structure plays a significant role in the perception of the ecosystem. Here, we worked with the mean values of the four items (Cronbach's Alpha is 0.893).



Own calculation based on GUESSS 2023 database, N=14,720

Figure 12: Assessment of the entrepreneurial ecosystem by field of study

The impact of university courses and services on entrepreneurial attitudes, values and motivation, start-up activities and management skills was perceived by the students surveyed as average, while the impact on networking and opportunity identification was slightly above average.

Table 4. Evaluation of courses and services

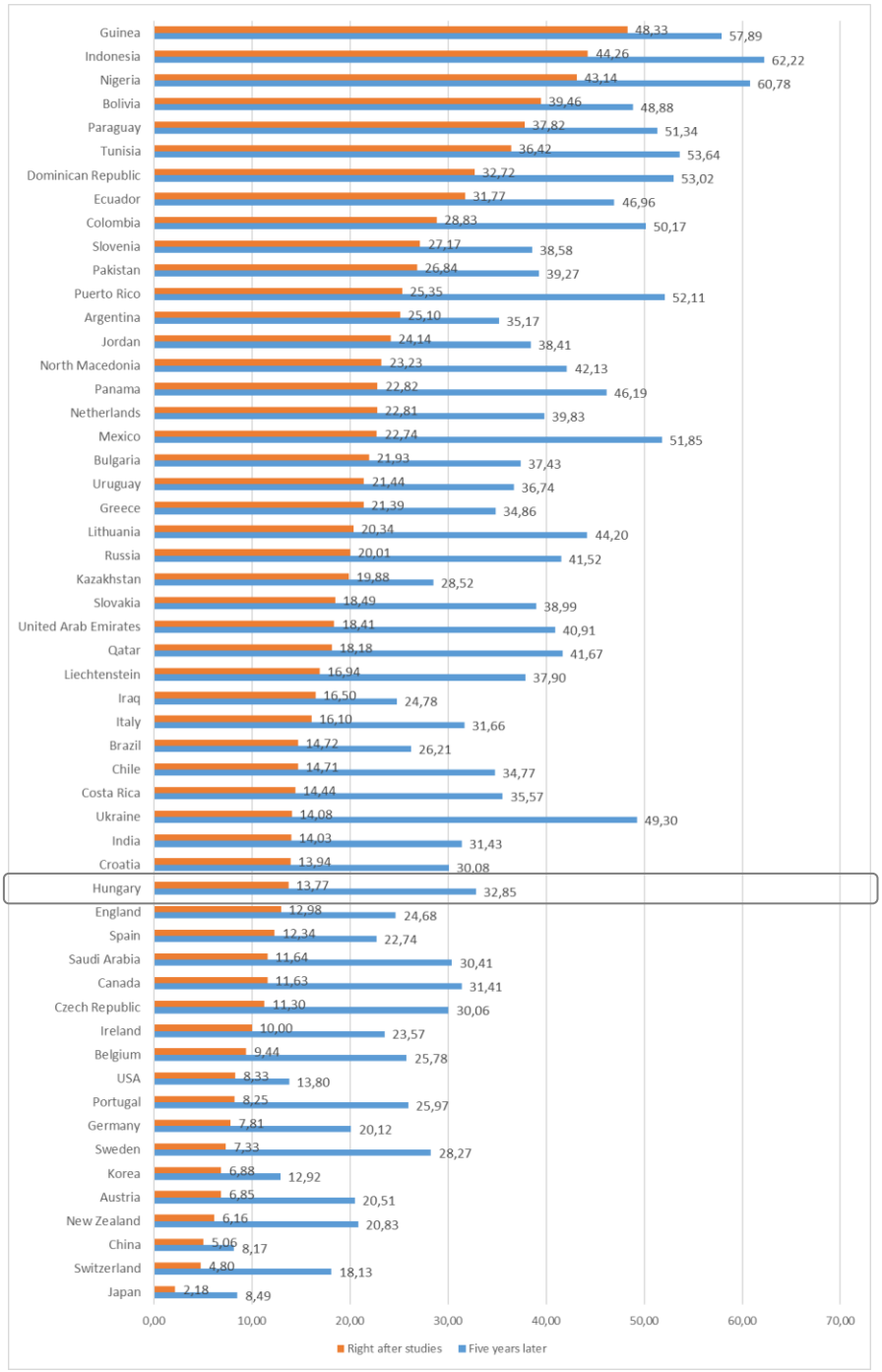
The courses and offerings I attended…	N	Mean	Std. Dev.
increased my understanding of the attitudes, values, and motivations of entrepreneurs	14467	3.82	1.855
increased my understanding of the actions someone has to take to start a business	14408	3.77	1.881
enhanced my practical management skills to start a business	14392	3.67	1.904
enhanced my ability to develop networks	14401	4.37	1.841
encouraged me to identify business opportunities closely aligned with my own knowledge and interests	14404	4.21	1.858
encouraged me to identify business opportunities closely aligned with current trends, shocks, breakthroughs, or other changes in the business environment	14386	3.94	1.852

Own calculation based on GUESSS 2023 database, N=14,720

Differences by field of study can also be found here, with similar patterns to those above and presumably for similar reasons. This confirms the role of education in transmitting not only entrepreneurial knowledge but values and attitudes as well.

3.4 Entrepreneurial intentions in an international comparison

The ratio of intentional founders (student who want to work in their own business) is low among students in Hungary in an international comparison. Compared with the Visegrad countries, there is little difference: Slovakia have slightly higher entrepreneurial intention (18.5% right after studies), while the Czech Republic has a bit lower value (11.3%). In 2023 Poland did not participate in the survey.



Own calculation based on GUESSS 2023 database, N= 226,718

Figure 13: Percentage of students with start-up ideas in an international comparison (%)

3.5 Youth entrepreneurship

In the sample, 7.3% of the respondents (1071 students) indicated that they ran a business of their own. Over 18.7% of the respondents running their businesses were nascent entrepreneurs. They established their businesses in the year the survey was conducted (2023). The rate of enterprises that were three years old or younger amounted to almost 50%. 37 students saw but did not answer the question (Table 5).

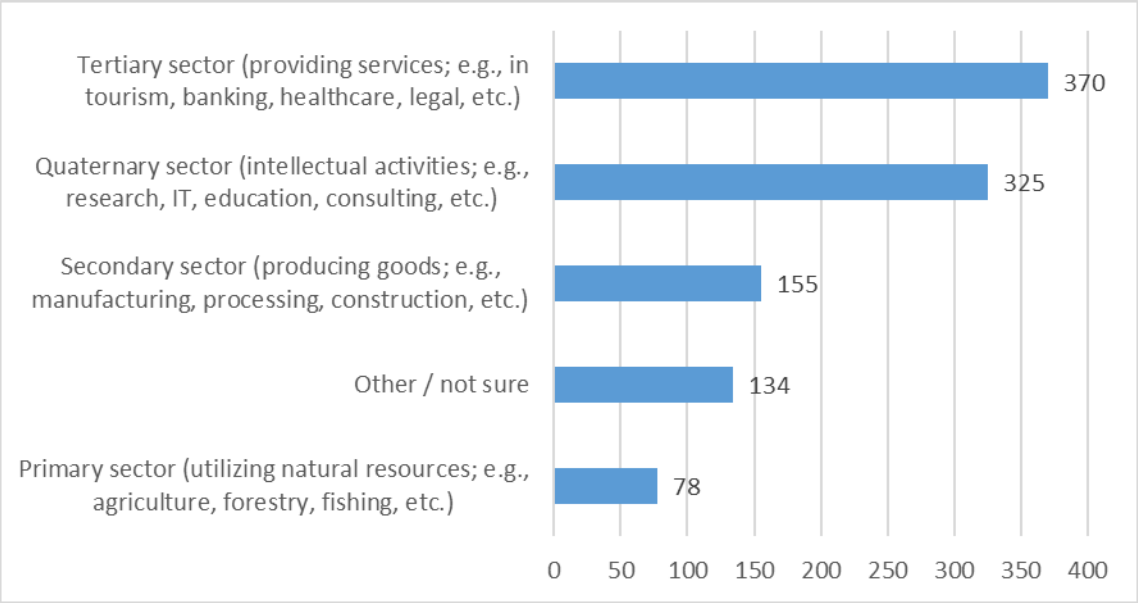
Table 5: Student enterprises by year of establishment

	N	Valid Percent	Cumulative Percent
2010 and earlier	133	12,9	12,9
2011	10	1,0	13,8
2012	15	1,5	15,3
2013	21	2,0	17,3
2014	16	1,5	18,9
2015	26	2,5	21,4
2016	32	3,1	24,5
2017	46	4,4	28,9
2018	62	6,0	34,9
2019	70	6,8	41,7
2020	99	9,6	51,3
2021	143	13,8	65,1
2022	168	16,2	81,3
2023	193	18,7	100,0
Total	1034	100,0	

Own calculation based on GUESSS 2023 database, N=14,720

Four hundred thirty-four students reported no employees, and 282 replied that they had one employee. The proportion of micro-enterprises (less than ten employees) reaches 95.6%. The ratio of small companies is 3.7%, and the medium-sized companies are 0.6% in the sample. One student reported having a large company.

Figure 14 shows the distribution of students' enterprises by activity areas. The respondents' businesses are mainly active in service providing, e.g., tourism, banking, healthcare, legal, etc. (34.8%) and intellectual activities, e.g., research, IT, education, consulting, etc. (30.6%). The share of companies in the primary and secondary sectors is below these.



Own calculation based on GUESSS 2023 database, N=14,720

Figure 14: Student enterprises by sector

A significant proportion of students (35.7%) do not want this business to become their main occupation after graduation, and many students are uncertain about this question (27.4%). Still, their activities influence the students' decisions about their future career choices. The proportion of those planning an entrepreneurial career is also higher than the average among those who reported that they do not plan to continue their current business after graduation.

Although these businesses are often very small and in their early stages, they may be useful. Students can gain entrepreneurial experience during the activity, which can influence their decisions about their future career choices.

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