



Entrepreneurship intentions and activities of students in Hungary

Global University Entrepreneurial Spirit Student's
Survey 2021

National Report

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Summary

In recent decades, the role of entrepreneurship in economic growth has become increasingly accepted (Carree & Thurik, 2010; Hope, 2016; Meyer & Krüger, 2021), and a considerable number of new approaches have emerged that capture its complexity, 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).

Today's changes, such as digitalisation and the consequent drastic transformation of the economy, which entails changes in the labour market (Leone & Cascio, 2020), also further increase the role of entrepreneurship. Personality traits and skills that are significant in business also prove to be beneficial within large corporations. The concept of intrapreneurship (Wennekers & Thurik, 1999) or corporate entrepreneurship (Bouchard & Fayolle, 2018) refers to the aspiration of large companies to achieve higher performance by increasing their entrepreneurial spirit.

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 conclusions of the research that education positively affects the probability of trying to be 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).

Recognizing 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).

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 2021 is used for this purpose. In 2021, the Hungarian questionnaire was sent to all higher education institutions offering training to over 1000 students and 10,104 valid responses from 20 institutions were received. After a brief introduction to 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 (Gubik & Farkas, 2014, 2016, 2017, 2019) in Hungary, and some articles (Gubik & Farkas, 2016, 2019, Gubik & Bartha 2018, 2021, Bartha, Gubik & Bereczk, 2019) that deal with specific aspects of the topic.

Key findings:

1. The larger proportion of young people currently studying in Hungarian higher education institutions intended to work as employees after graduation (74.4%), and entrepreneurship was not really attractive to them. Five years after graduation the attractiveness of the employee status decreased and entrepreneurial intentions increased to 36.4% among students.
2. 2021 was the first survey in which there is no longer a difference in entrepreneurial intentions by gender. There were differences within the choice of employee career, public sector preference is higher among women, and women had a higher proportion of other/do not know answers.
3. Economics and business students were most open to starting a business of their own. Whereas students of social sciences were the least willing to become entrepreneurs. Entrepreneurship education and the universities' entrepreneurial environment, in general, had a stimulating effect on students' start-up ideas.
4. Family entrepreneurial experiences had a positive impact on 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 up a company.
5. The low entrepreneurial propensity of Hungarian university students in international comparison is in line with data of the Visegrad countries.
6. 7.3% of the respondents (742 students) indicated that they ran a business of their own. A significant proportion of student entrepreneurs currently in business are self-employed and many consider their business as 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 not only prepared in their field of study but also 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.

The GUESSS research

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

Research Objectives

GUESSS investigates the entrepreneurial intentions and activities of students by employing a questionnaire survey. In order 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 most important characteristics of families' and students' own businesses, as well as the processes and factors that may be decisive in starting a business. Thus, individual motives and personal characteristics, as well as 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.

Surveys

The research, which began in 2003 with the participation of two countries, has gradually become one of the most significant data sources on the topic. In 2021, at the 9th data collection, responses of 267,366 students from 58 countries were collected. In 2021, 10,104 valid questionnaires were received in Hungary.

As a result of the repetitive surveys and continuous feedback, changes across time can also be analysed. Since Hungary joined the research in 2006, the results of 15 years can be compared. With the growing numbers of participating countries and universities, a geographical comparison is also possible.

In the course of the research all Hungarian higher education institutions where the number of students exceeded 1,000 were contacted. They were asked to send the survey call to their students via their Neptun systems. There were some institutions that addressed their students through other channels (e.g. student newsletter, university website or Facebook).

A brief presentation of the 2021 database

The database contains 10,104 students' responses. Before presenting the basic 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 2021 survey participants by higher education institution

	N of respondents	Percent	N of students 2020/21 Fall*	Response rate
Budapest Business School	621	6.18%	16,718	3.71%
Budapest University of Technology and Economics	1,988	19.80%	20,526	9.69%
Corvinus University of Budapest	40	0.40%	11,985	0.33%
Edutus University	60	0.60%	921	6.51%
Eötvös Loránd University	226	2.25%	33,247	0.68%
Eszterházy Karoly University, Eger Campus	456	3.92%	6,336	6.22%
Kodolányi János University	218	2.17%	2,687	8.11%
Óbuda University	646	6.43%	11,959	5.40%
Pázmány Péter Catholic University	776	7.73%	8,097	9.58%
Semmelweis University	367	3.65%	11,584	3.17%
Széchenyi István University	453	4.51%	12,128	3.74%
University of Debrecen	1,889	18.81%	29,045	6.50%
University of Miskolc	558	5.56%	9,021	6.19%
University of Nyíregyháza	122	1.21%	3,357	3.63%
University of Pannonia	420	4.18%	5,351	7.85%
University of Pécs	78	0.78%	21,281	0.37%
University of Physical Education	108	1.08%	2,293	4.71%
University of Sopron	78	0.78%	2,682	2.91%
University of Szeged	911	9.07%	21,805	4.18%
University of Veterinary Medicine Budapest	59	0.59%	2,112	2.79%
Other	30	0.30%	54,358	0.06%
Total	10,104	100.00%	287,493	3.49%

Own calculation based on GUESSS 2021 database and https://dari.oktatas.hu/fir_stat_pub (*latest available data)

Students from 20 universities responded to the questionnaire, with significant differences in their willingness to answer. The differences were largely due to the way in which the university was able to deliver the questionnaire to the students (we achieved higher response rates through Neptun and lower response rates through newsletters or website calls).

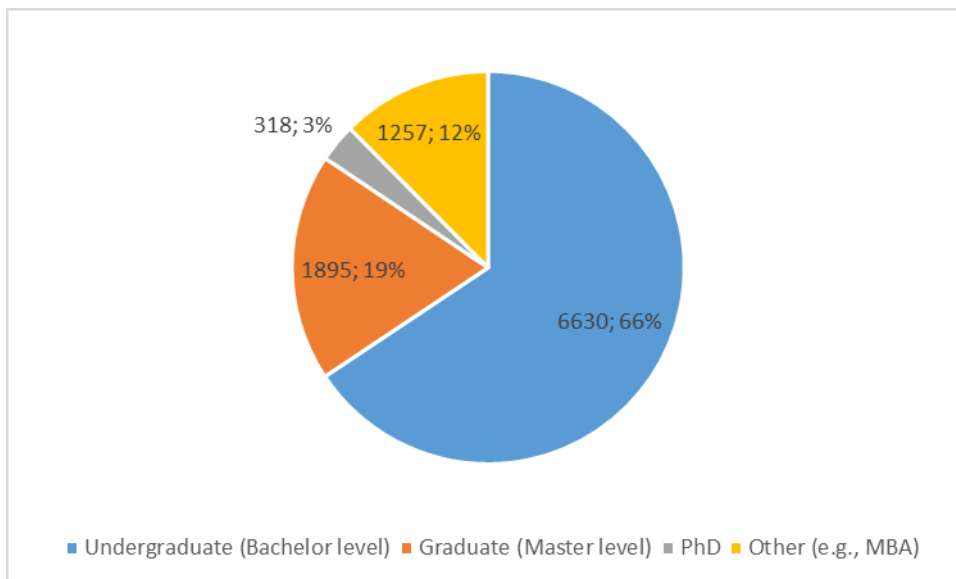
About 22.1% of respondents studied engineering, and 19.8% of students studied business and management and economics. Computer sciences/IT students represented 9.7% and Arts/Humanities students accounted for 8.6%. The sample of students in Human medicine amounted to 10.9%, in Social sciences 7.4% and both in Law and Natural sciences 6-6%.

Table 2: Distribution of GUESSS 2021 survey participants by field of study

	Frequency	Percent	Valid Percent	Cumulative Percent
Arts / Humanities (e.g. cultural studies, history, linguistics, philosophy, religion)	870	8.6%	8.6%	8.6%
Business / Management	988	9.8%	9.8%	18.4%
Computer sciences / IT	985	9.7%	9.7%	28.1%
Economics	1,008	10.0%	10.0%	38.1%
Engineering (incl. architecture)	2,234	22.1%	22.1%	60.2%
Human medicine / health sciences	1,103	10.9%	10.9%	71.1%
Law	605	6.0%	6.0%	77.1%
Mathematics	65	0.6%	0.6%	77.8%
Natural sciences	611	6.0%	6.0%	83.8%
Science of art (e.g. art. design, dramatics, music)	88	0.9%	0.9%	84.7%
Social sciences (e.g. psychology, politics, education)	743	7.4%	7.4%	92.0%
Other	804	8.0%	8.0%	100.0%
Total	10,104	100.0%	100.0%	

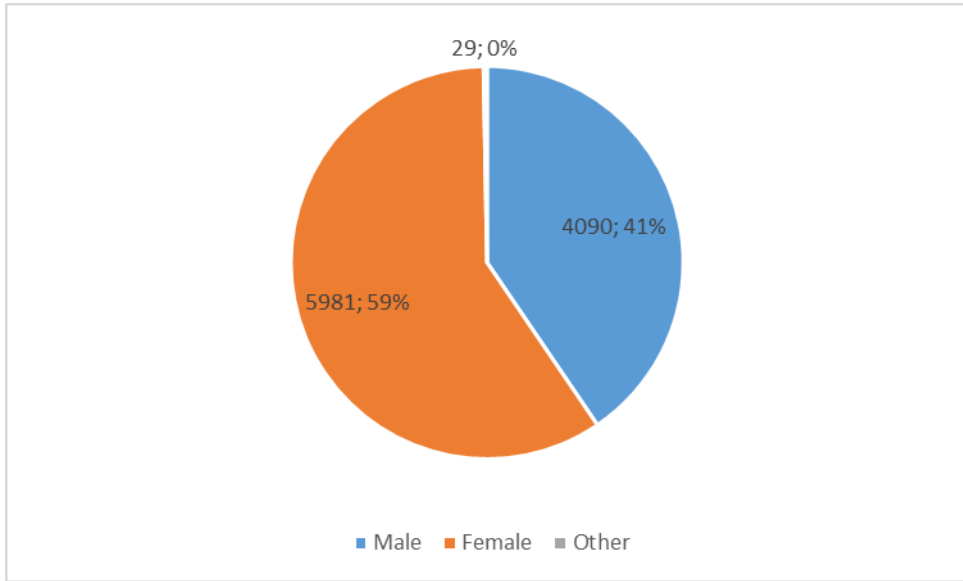
Own calculation based on GUESSS 2021 database

The vast majority of respondents (66%) attended BSc level studies. The proportion of MSc students in the sample was much lower (19%). Regarding the respondents' gender, the sample contained a larger female ratio (59%). The male-female composition reflects the gender composition of Hungarian higher education.



Own calculation based on GUESSS 2021 database, N=10,104

Figure 1: Distribution by levels of education (%)



Own calculation based on GUESSS 2021 database, N=10,104

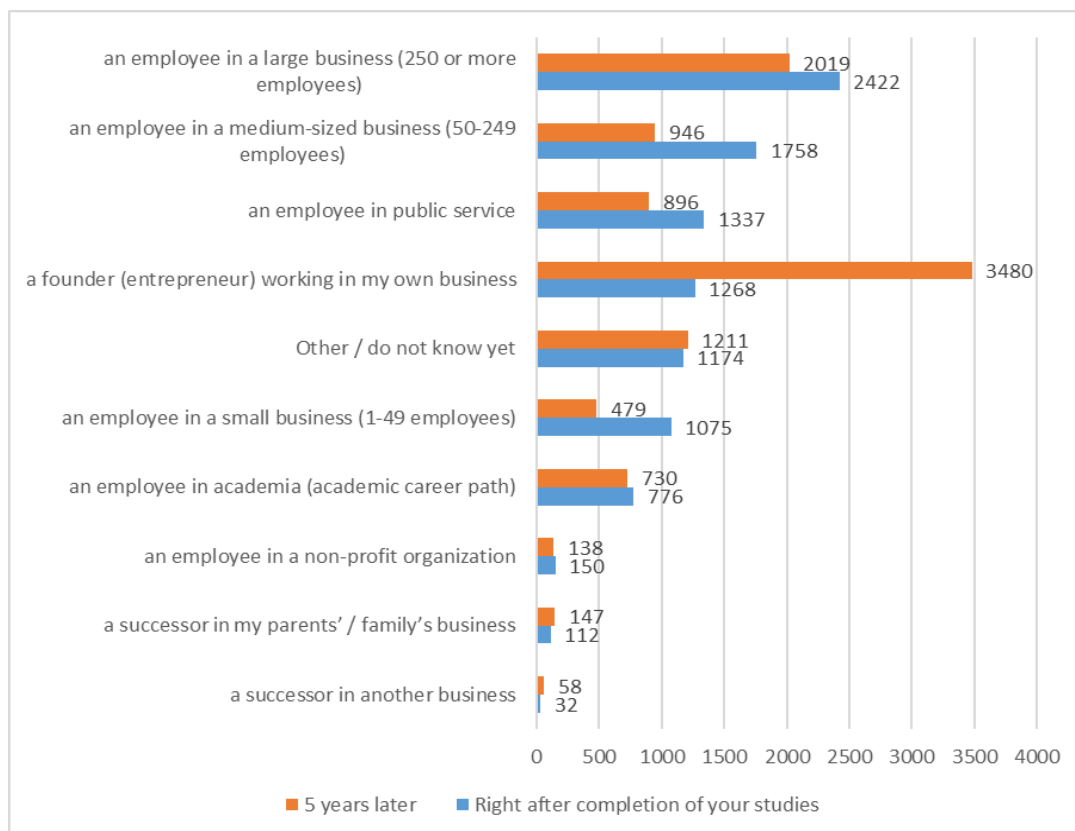
Figure 2: Distribution of respondents by gender (%)

Results

Aspects of career choice

In Question 2 students were asked about their career aspirations after graduation. The responses to this question and an additional variable computed from the original question (containing four attributes: Employee, Founder, Successor, Other) were further analysed.

Figure 3 illustrates the distinctive differences in future intentions. A significant proportion of students wanted to find a job in a large or in small and medium-sized company immediately after graduation and preferred to be employed. The public sector was also attractive. Overall, 74.4% of the students intended to become employees after graduation. 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 (nearly 12%).



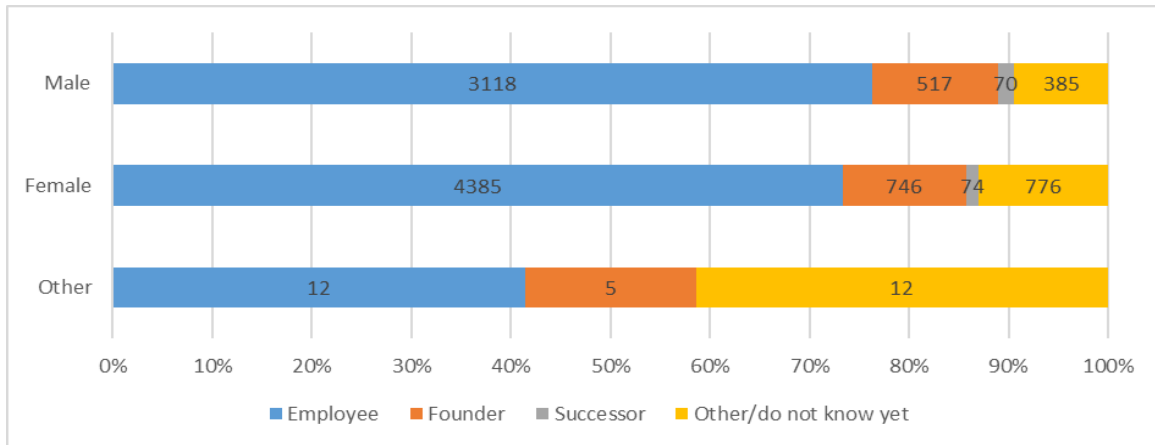
Own calculation based on GUESSS 2021 database, N=10,104

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

Differences in responses by gender

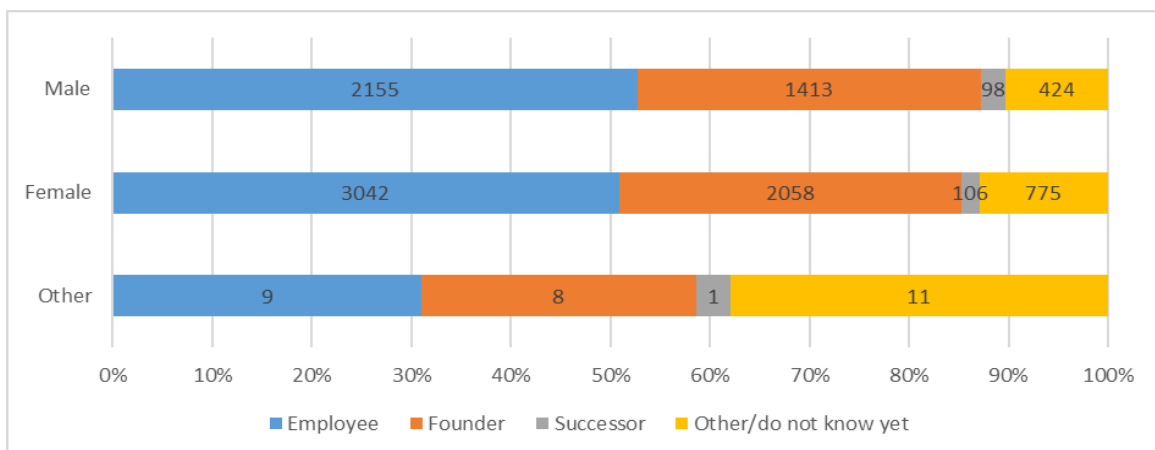
There is no significant difference between men and women in their choice of entrepreneurial career either after graduation or after 5 years. The gender gap observed in previous years (Gubik & Farkas, 2014,2016,2017,2019) has thus disappeared.

Slightly more men plan to pursue a career as an employee. Within the employment career, however, there is a substantial difference: women plan to work in the public sector in higher proportions than men (17% in the case of women and 7,8% in the case of men within the total responses), while men prefer to work in large companies. Another difference is that women have a higher proportion of other/do not know responses for both time periods. As for the five-years-after-graduation figures, the attractiveness of the employee career decreases and the entrepreneurial carrier becomes more attractive among all respondents regardless of gender (36,2% and 36,9%).



Own calculation based on GUESSS 2021 database, N=10,104

Figure 4: Gender differences in career plans immediately after graduation



Own calculation based on GUESSS 2021 database, N=10,104

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

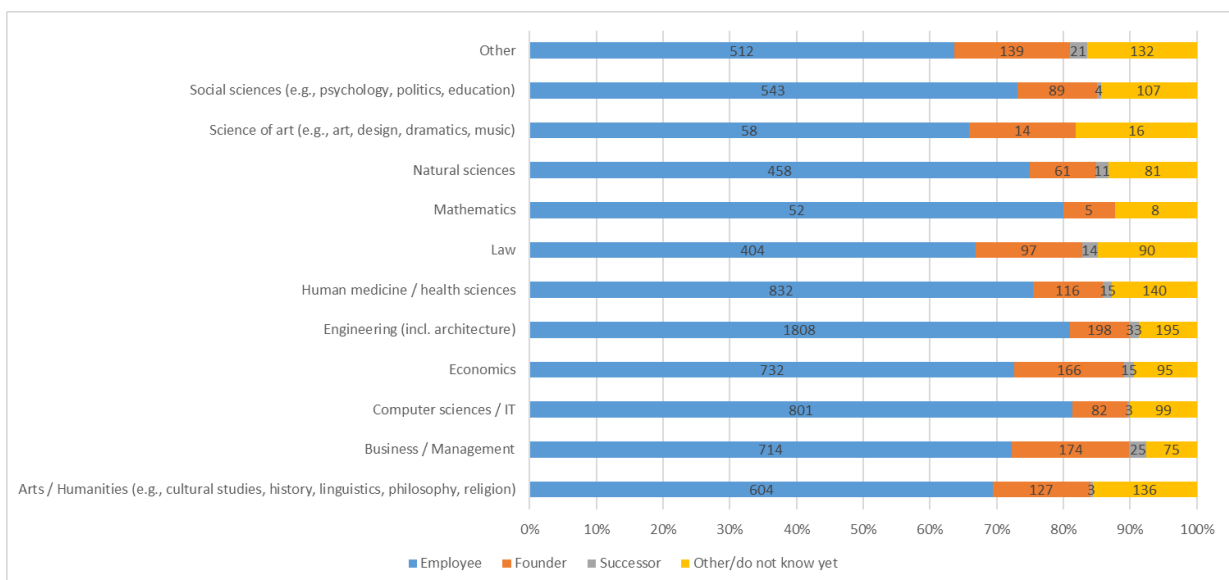
Differences in responses by fields of study

The choice of being an employee after graduation is the highest among students majoring in natural sciences (Computer sciences / IT 81.3%, Engineering (incl. architecture) 80.9%, Mathematics 80.0% right after studies). After 5 years, the share of students choosing a career as an employee decreases in all fields of studies but remains highest in these areas.

As for entrepreneurship (as a founder), the proportion of students preferring working as entrepreneurs was the highest among Business/Management (17.6%), Economics (16.5%), but also the fields of Law (16.0%) Science of art (e.g., art, design, dramatics, music) (15.9%) and Arts/Humanities (e.g., cultural studies, history, linguistics, philosophy, religion) (14.6%) showed relatively high ratios.

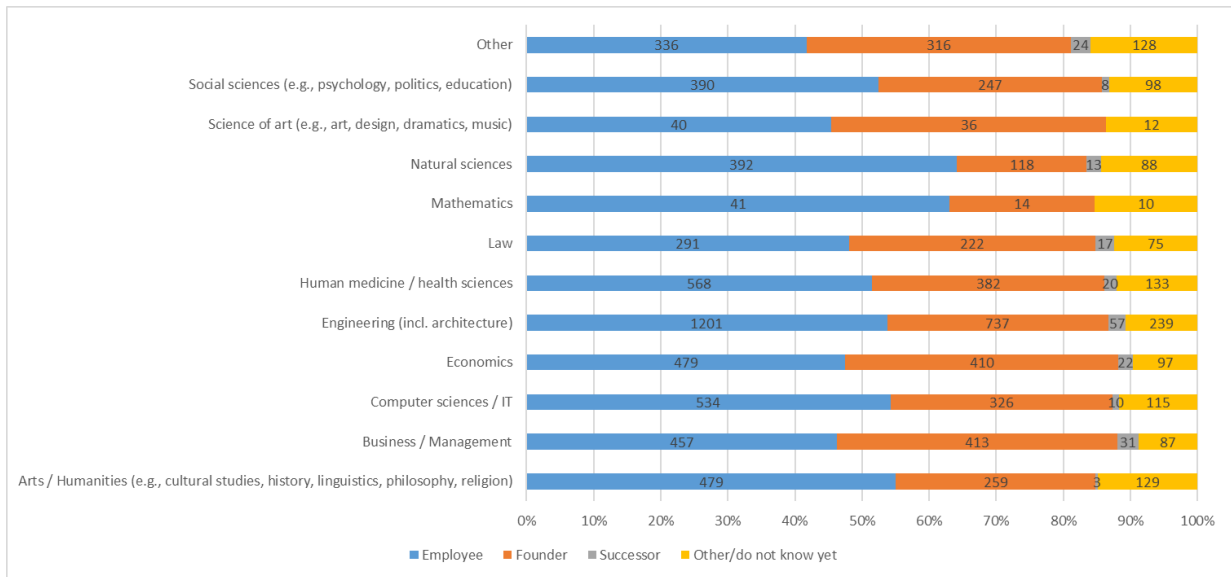
The analysis of the career aspirations by fields of the study revealed that the ratio of students who did not choose professional careers or the ratio of students having no clear intentions was significantly higher among majors in social sciences (Arts/Humanities 16.6% right after studies and 14.8% 5 years later; Science of art 18.2% and 13.6%, Social sciences 14,4% and 13.2%) compared to those studying business and economics as well as 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 (41.8%).



Own calculation based on GUESSS 2021 database, N=10,104

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



Own calculation based on GUESSS 2021 database, N=10,104

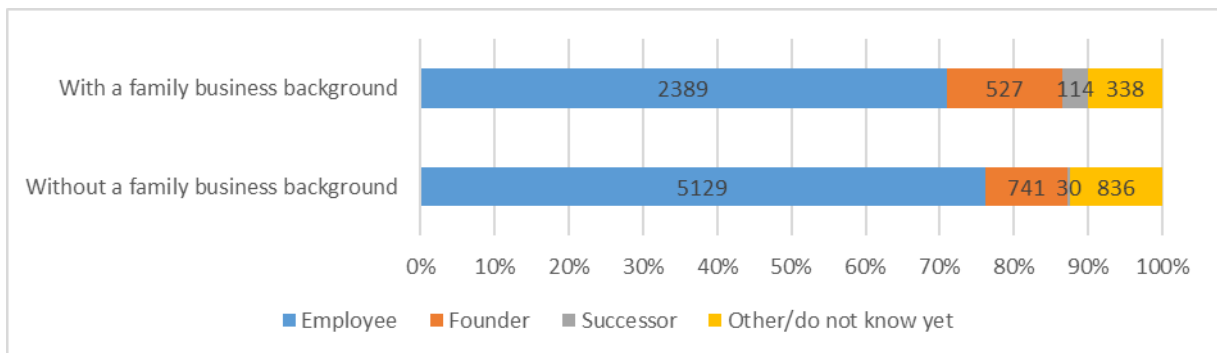
Figure 7: Career aspirations five years after graduation by fields of study

Differences in responses by family business background

The family business background also shaped career aspirations and business start-ups. The survey results showed that the business experience of parents had the greatest impact on the respondents' career aspirations. Figure 8 and Figure 9 illustrate career aspirations by parents' business background. The term 'parents' business background' referred to a state in which one parent (or both) was self-employed or had majority ownership in a business at the time when the survey was conducted.

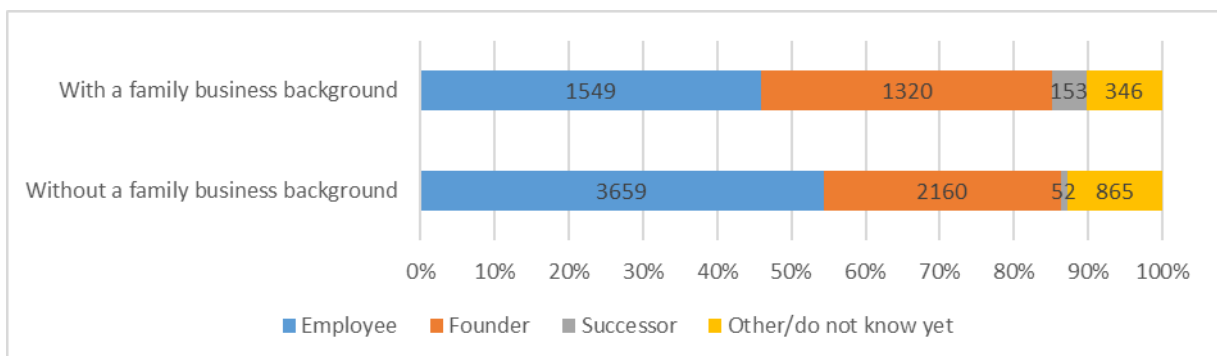
Regardless of the timeline, family business experiences increased the chances of becoming an entrepreneur, both as a founder and a successor. Lack of experience increased not only the likelihood of employee preference but also the respondent's uncertainty about their future career ('Other/Do not know' response).

After five years, those without a family entrepreneurial background also have a greater intention of starting their own business, but the entrepreneurial-non-entrepreneurial background preserves the divergences in career ideas in the long run.



Own calculation based on GUESSS 2021 database, N=10,104

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



Own calculation based on GUESSS 2021 database, N=10,104

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

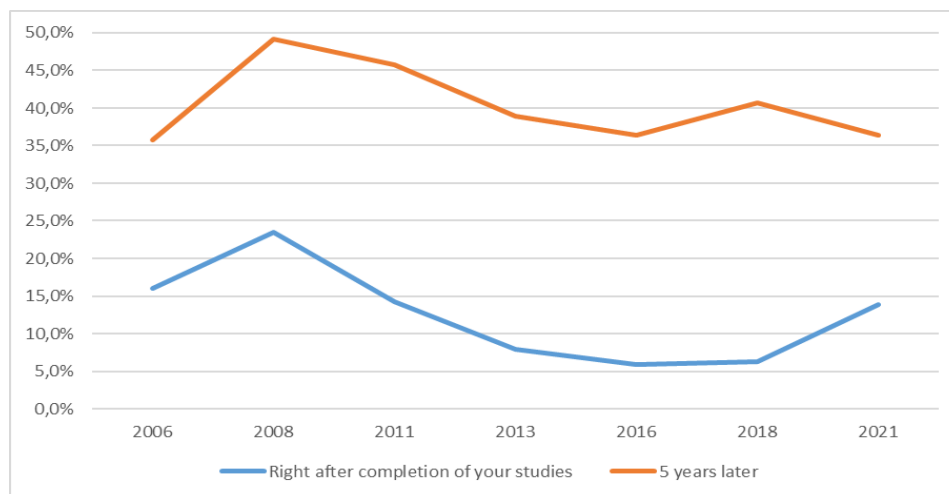
Changes in career motives over the last years

In all surveys, students were asked about their career aspirations, so the evolution of career plans over time can be analysed. Hungary has participated in 7 surveys so far, allowing 15 years of changes to be analysed.

Figure 10 shows the proportion of students who would choose an entrepreneurial career after graduation and after 5 years. As for entrepreneurial career plans 5 years later, they significantly outperformed those immediately after graduation at all time points examined.

Another interesting phenomenon was how the attractiveness of an entrepreneurial career from survey to survey changed. In 2006, 16% of the students surveyed planned to start their own business after graduation. In 2008, there was a significant increase in the proportion of students who envisaged a career as an entrepreneur after graduation, but there was a significant decline thereafter, due to the impact of the financial crisis. In 2016, the proportion of people planning a business after graduation was far below previous years (5.9%). In 2018 the ratio slightly improved, but significant improvement was only observed in 2021.

These statistics also showed the disruption caused by the financial crisis.



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

Figure 10: Entrepreneurial career plans 2006-2021

Perception of the university entrepreneurial ecosystem

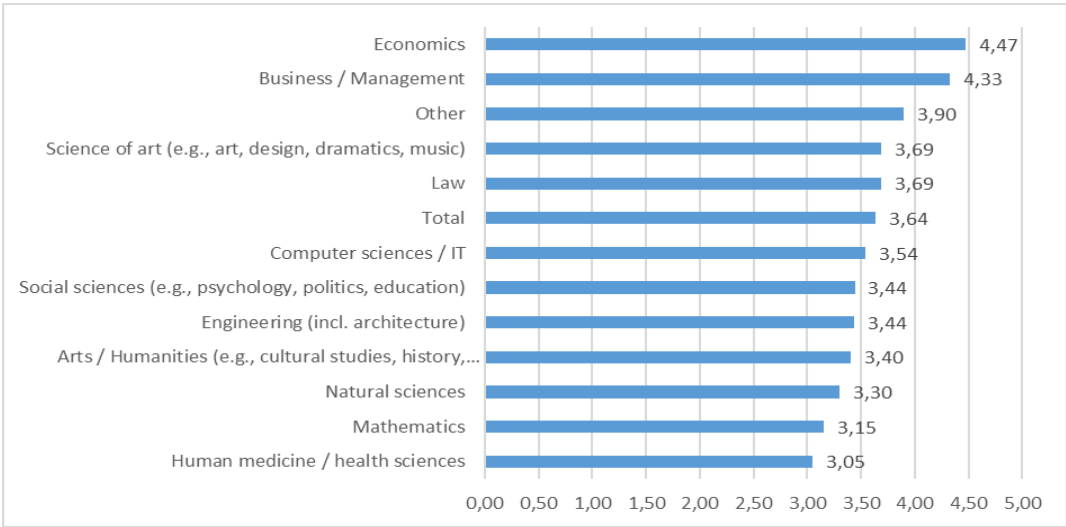
To assess the entrepreneurial ecosystem in universities, two questions were available, which respondents were asked to rate on a Likert scale of 1 to 7. The first question measured perceptions of the entrepreneurial nature of the university environment using 3 items. The averages obtained are presented in Table 3. For all three items, the average score was around 3.5.

Table 3. Evaluation of the university environment

	N	Mean	Std. Dev.
The atmosphere at my university inspires me to develop ideas for new businesses	10,078	3.74	1.791
There is a favourable climate for becoming an entrepreneur at my university	10,029	3.65	1.731
At my university, students are encouraged to engage in entrepreneurial activities	10,024	3.51	1.783

Own calculation based on GUESSS 2021 database, N=10,104

The scores given by students in business/management and economics 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 3 ecosystem items (Cronbach's Alpha is 0.871).



Own calculation based on GUESSS 2021 database, N=10,104

Figure 11: 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

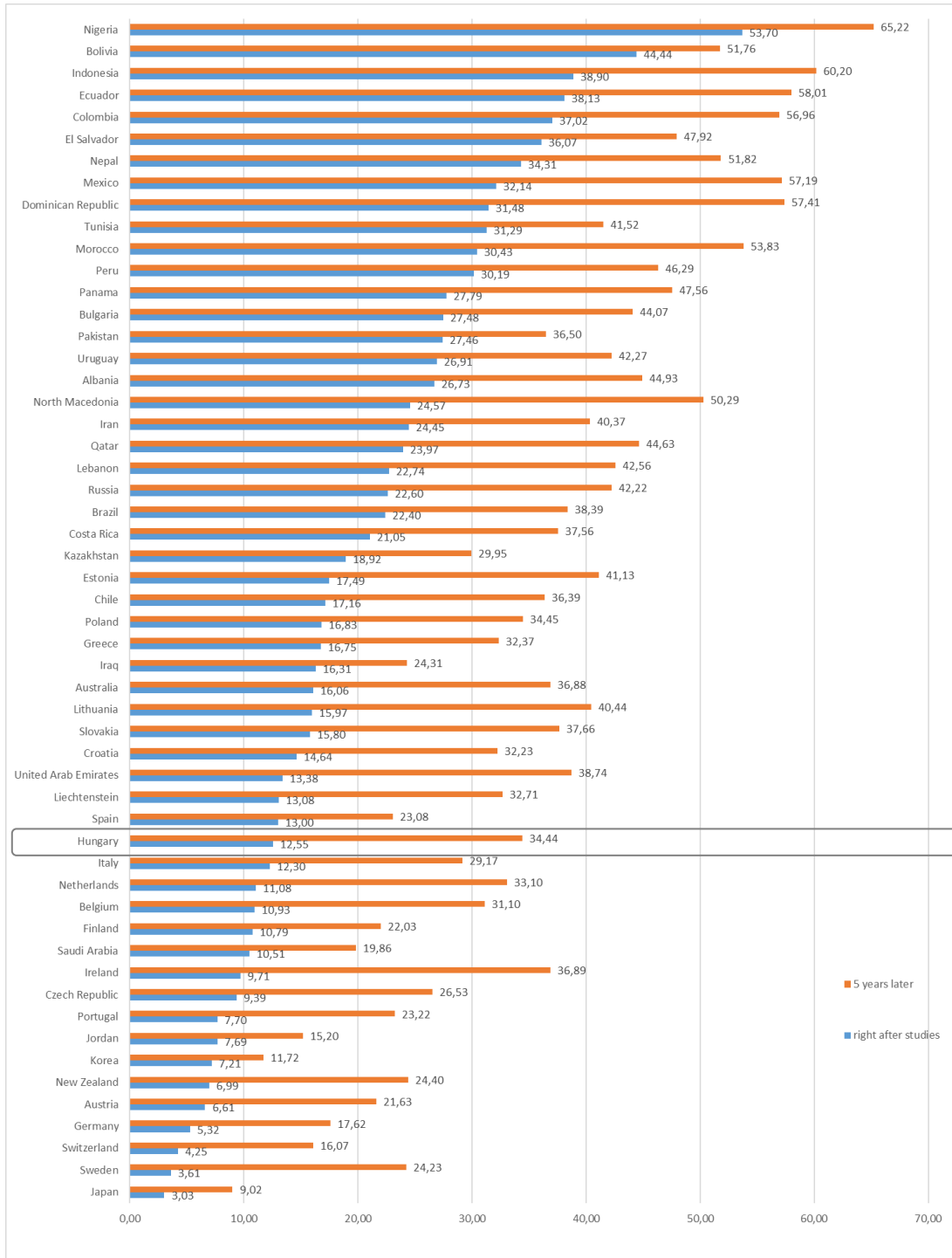
The courses and offerings I attended...	N	Mean	Std. Dev.
increased my understanding of the attitudes, values, and motivations of entrepreneurs	10,092	3.77	1.779
increased my understanding of the actions someone has to take to start a business	10,040	3.62	1.850
enhanced my practical management skills to start a business	10,047	3.53	1.887
enhanced my ability to develop networks	10,040	4.42	1.776
enhanced my ability to identify an opportunity	10,034	4.51	1.722

Own calculation based on GUESSS 2021 database, N=10,104

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 entrepreneurial knowledge and values.

Hungarian entrepreneurial intentions in an international comparison

The ratio of intentional founders is low among Hungarian students in an international comparison, but compared with the Visegrad countries, there is little difference: Poland and Slovakia have slightly higher entrepreneurial intention (Poland 16.8%, Slovakia 15.8% right after studies), while the Czech Republic has a bit lower value (9.4%).



Own calculation based on GUESSS 2021 database, N= 67,366

Figure 12: Percentage of students with start-up ideas in an international comparison (%)

Youth entrepreneurship

In the sample, 7.3% of the respondents (742 students) indicated that they ran a business of their own. Over 14% of the respondents running their own businesses were nascent entrepreneurs and had established their businesses in the year when the survey was conducted (2021). The rate of enterprises that were 3 years old or younger amounted to almost 50%. 13 students saw but did not answer the question (Table 5).

Table 5: Student enterprises by year of establishment

	N	Valid Percent	Cumulative Percent
2009 or earlier	90	12.3%	12.3%
2010	18	2.5%	14.8%
2011	14	1.9%	16.7%
2012	15	2.1%	18.8%
2013	20	2.7%	21.5%
2014	25	3.4%	25.0%
2015	34	4.7%	29.6%
2016	35	4.8%	34.4%
2017	51	7.0%	41.4%
2018	74	10.2%	51.6%
2019	99	13.6%	65.2%
2020	148	20.3%	85.5%
2021	106	14.5%	100.0%
Total	729	100.0%	

Own calculation based on GUESSS 2021 database, N=10,104

363 students reported that they had no employees, and 209 students replied that they had one employee. The proportion of micro-enterprises (less than 10 employees) reaches 97.6%. The ratio of small companies in the sample is 2.6%. There are no medium-sized companies in the sample and one student reported owning a large company.

Table 6 shows the distribution of students' enterprises by size and activity areas. It can be seen that respondents' businesses are mainly active in education (12.74%), financial (10.16%) and other services (10.30%). The larger the company size, the higher the share of engineering, construction and trade enterprises.

Table 6: Student enterprises by sector and size

	Self-employed		Micro enterprise		Small enterprise		Large enterprise		Total	
	N	%	N	%	N	%	N	%	N	%
Advertising / Design / Marketing	22	6.1%	14	4.3%	0	0.0%	0	0.0%	36	5.1%
Architecture and engineering activities	17	4.7%	21	6.4%	1	6.3%	0	0.0%	39	5.5%
Construction industry	6	1.7%	19	5.8%	2	12.5%	0	0.0%	27	3.8%
Consultancy (HR, law, management, taxes)	28	7.7%	18	5.5%	0	0.0%	0	0.0%	46	6.5%
Education, training	57	15.7%	32	9.7%	2	12.5%	0	0.0%	91	12.8%
Financial services (including bank, insurance, investment and real estate)	41	11.3%	31	9.4%	1	6.3%	0	0.0%	73	10.3%
Human health care, social care	27	7.4%	26	7.9%	2	12.5%	0	0.0%	55	7.8%
Informatics (IT) / communication (including software and IT services)	26	7.2%	22	6.7%	1	6.3%	1	100.0%	50	7.1%
Manufacturing industry	0	0.0%	3	0.9%	0	0.0%	0	0.0%	3	0.4%
Tourism and recreation	20	5.5%	17	5.2%	1	6.3%	0	0.0%	38	5.4%
Trade (wholesale and retail)	21	5.8%	39	11.9%	4	25.0%	0	0.0%	64	9.0%
Other services (shipping)	39	10.7%	32	9.7%	1	6.3%	0	0.0%	72	10.2%
Others	59	16.3%	55	16.7%	1	6.3%	0	0.0%	115	16.2%
Total	363	100.0%	329	100.0%	16	100.0%	1	100.0%	709	100.0%

33 students did not answer the question on the number of employees and 4 did not specify the field of activity.

Own calculation based on GUESSS 2021 database, N=10,104

Although these businesses are often very small and in their early stages, they are very useful because of the entrepreneurial experience they provide. Even if a significant proportion of students do not want this business to become their main occupation after graduation (34.8%) and many students are uncertain about this question (30.3%), they can still influence the students' decision in their future career choices.

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