GUESSS
Global University Entrepreneurial Spirit Students' Survey

Entrepreneurship intention and activity of students in Hungary

Global University Entrepreneurial Spirit Student's Survey 2013

National Report

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Publications, based on the GUESSS database 2013

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Gubik, A.S. (2015). Understanding Career Aspirations of Hungarian Students (Chapter 9). In: Andrea S Gubik, Krzysztof Wach (eds.) Institutional Aspects of Entrepreneurship. 176 p. Miskolc: University of Miskolc, 2015. pp. 131-150. (ISBN:978-963-358-093-6) https://www.researchgate.net/publication/284446158_Understanding_Career_Aspirations_of_Hungarian_Students?ev=prf_pub

Gubik, A.S., Farkas, Sz. (2015). Impact of Changes in Career Motives on Entrepreneurial Intentions among Hungarian Students (Chapter 10) In: Andrea S Gubik, Krzysztof Wach (eds.): Institutional Aspects of Entrepreneurship. 176 p. Miskolc: University of Miskolc, 2015. pp. 151-164. (ISBN:978-963-358-093-6) https://www.researchgate.net/publication/284446170_Impact_of_Changes_in_Career_Motives_on_Entrepreneurial_Intentions_among_Hungarian_Students

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1. The role of entrepreneurship in the economy (Andrea S. Gubik)

Small and medium-sized enterprises (SMEs) are of high importance to economic growth (Blanchflower, 2000; Carree et al., 2002; Carree & Thurik, 2010), primarily through their favourable effects on knowledge spillover (Acs et al., 2005). They also play a significant role in innovation (Papanek et al., 2009). As early as 1980s small-sized enterprises started to play an outstanding role in lowering the rate of unemployment, which had considerably increased due to downsizing and restructuring activities in large companies (Audretsch & Thurik, 2001). Currently, decision-makers are also attempting to seek solutions for the problem of unemployment which grew considerably during the financial crisis of 2008 and the following economic recession. They believe that entrepreneurship as a career opportunity can be a viable solution also to youth employment.

Especially the high-growth so-called 'gazelles' play an important role in the above-mentioned areas. They are essential in the creation of workplaces. According to a study, 5 per cent of the fastest-growing companies contributed to the creation of 45.8 per cent of new workplaces, and 1 per cent of these companies contributed to 20 per cent of new jobs between 2002 and 2005 in Hungary (Békés & Muraközy, 2011). This type of company is more responsive to innovation than most SMEs, which cannot reach such fast growth levels (OECD, 2002; Autio et al., 2007; Papanek, 2010). The whole SME sector provided 85% of new jobs in the European Union between 2002 and 2010 (de Kok et al., 2011), while in Hungary its contribution to employment was 70% (KSH, 2011: 26).

That is why encouraging entrepreneurship and promoting entrepreneurial activities are considered to be high priority issues.

It is difficult to determine the fields of intervention targeting the creation of as many new and viable enterprises as possible. Education may play an important role in entrepreneurship (Storey, 1994; Wach, 2014). However, its direct impact on entrepreneurship has not been revealed so far. Although traditional educational methods (like lectures) develop entrepreneurial traits and attributes to a lesser degree (EC 2008), they still significantly affect entrepreneurial intentions (Gubik & Farkas, 2014). Skills crucial to running a successful enterprise are more likely to be acquired in existing businesses (Szirmai & Csapó, 2006). However, educational methods that seem to be more effective are very challenging for institutions to establish.

Apart from education, there are numerous other aspects that affect individuals when deciding whether or not to become an entrepreneur (Wach, 2015). Psychology investigates whether risk taking, problem solving or innovativeness have any special psychological background. Research studies differ in terms of factors included in the models and in the level of importance assigned to factors. Shaver and Scott (1991) use a psychological approach to investigate decisions on new venture creation and provide a psychological overview of this issue. Willingness to take risks and striving to become independent are considered to be of extremely important individual factors (Meager et al., 2003).

Sociology analyses the effects of culture, social classes, ethnicity or religion on decision-making processes. Autio and Wennberg's (2010) findings are very surprising. They believe that norms and attitudes of the social group have a stronger impact on entrepreneurial

behaviour than the personal attitudes and perceived self-efficacy of the individual herself[1]. According to Bartha (2015), institutional factors, like the taxation system, the level of transaction costs and the administrative burdens might have a significant effect on growth orientation of companies and lead to diverse business structure.

Entrepreneurship is so complex and wide ranging that no discipline alone can cover all its aspects (Reynolds, 1991). Hence, an integrated approach based on sociological, ecological and institutional theories is required to understand these activities (Thornton, 1999).

Since the threshold of active enterprises is entrepreneurial intention, a great number of business models can be adopted. Bandura's Social Cognitive Theory (Bandura, 1977), Shapero and Sokol's Entrepreneurial Event model (Shapero & Sokol, 1982) and Ajzen's Theory of Planned Behaviour (Ajzen, 1991) are considered to be complex models. All three models emphasise that obtaining the required resources is not enough in itself to start a business and is likely to be the least important element in decision-making processes. They believe that the role of the environment, the reaction of family and friends, the attitudes and impressions of the individual, and social capital are crucial factors. Furthermore, numerous attempts have been made to understand the role of entrepreneurial attitudes, activities, conditions, characteristics and aspirations in entrepreneurship (See: GEM, 2014, YBI, 2011).

There is a consensus among academics and researchers that education and training provide the knowledge and competencies that are indispensable for entrepreneurship. Particular entrepreneurial knowledge and competencies can be taught and improved by effectively incorporating some subjects in the standard curricular (business studies, marketing, etc.), while others can further be developed by applying innovative teaching methodology (entrepreneurial thinking) (Borsi & Dőry, 2015, Imreh-Tóth, 2015). Universities have not only teaching tasks and responsibilities, but they also play a determining role in shaping opinions and building relationships.

Autio (2005) found that students who live in a sound financial environment and who are highly qualified and target the exploitation of good business opportunities usually set up enterprises with significant growth potential. This means that students currently studying in higher education may become potentially successful entrepreneurs. Hence, such issues as what career paths they choose, whether they will become successful entrepreneurs or not or whether they can be channelled towards entrepreneurships are critical in terms of economic growth and job creation in the next few years.

[1] Self-efficacy refers to beliefs in one's capabilities to organise and execute the courses of action required to manage prospective situations.

2. The GUESSS research methodology (Andrea S. Gubik)

The GUESSS research project started in 2003 and is coordinated by the Swiss Research Institute of Small Business and Entrepreneurship at the University of St. Gallen (KMU-HSG).

Aim of the Research

The international research project GUESSS (Global University Entrepreneurial Spirit Students' Survey) investigates entrepreneurial intentions and activities of students. In order to have a better understanding of the start-up process, the survey explores the career intentions of students both immediately after graduation and several years later, examines families' and students' own businesses and investigates their future entrepreneurial visions. Using a systematic and long-term analysis, it helps identify the processes and factors that can be decisive in entrepreneurial intentions.

The primary aim of this research is to identify the individual motives and personal background traits that significantly affect the process of entrepreneurship. The study makes it possible to analyse the impact of cultural and institutional factors on start-up activities. Within the framework of the research, it is also possible to identify the types of services and programmes that higher educational institutions offer to students to support the students' entrepreneurial intentions and the ways to create an entrepreneur-friendly environment. Due to the international character of the research, the surveyed universities can be compared at both national and international levels.

Surveys

The survey is conducted every second year. The first survey was conducted in 2003 with the participation of two countries. Since then the international character of the survey has grown and the circle of countries and universities participating in the research has been constantly expanding (Table 1.). In 2013 34 countries joined the project and 109,026 students answered the questionnaire from 759 higher institutes. In Hungary only the institutions where over 1,000 students studied were selected for the survey. Finally, 8,839 Hungarian students filled in the questionnaire.

The questionnaire provides an opportunity to follow particular changes through time, and to understand the underlying factors. Moreover, with the growing numbers of participating universities and countries, there is more room for geographical comparisons.

Table 1. Participants of the surveys between 2003 and 2013

Year	Number of countries	Number of students	Title of the research
2003	2	N/D	START
2004	2	5,000	International Survey on Collegiate Entrepreneurship (ISCE)
2006	14	37,000	International Survey on Collegiate Entrepreneurship (ISCE)
2008	19	63,000	Global Entrepreneurial Spirit Students' Survey (GUESSS)
2011	26	93,000	Global Entrepreneurial Spirit Students' Survey (GUESSS)
2013	34	109,000	Global Entrepreneurial Spirit Students' Survey (GUESSS)

Source: http://www.guesssurvey.org

Theoretical Framework of the Research

The theoretical framework of the GUESSS research is based on Ajzen's Theory of Planned Behaviour (Ajzen 1991) (Figure 1.)

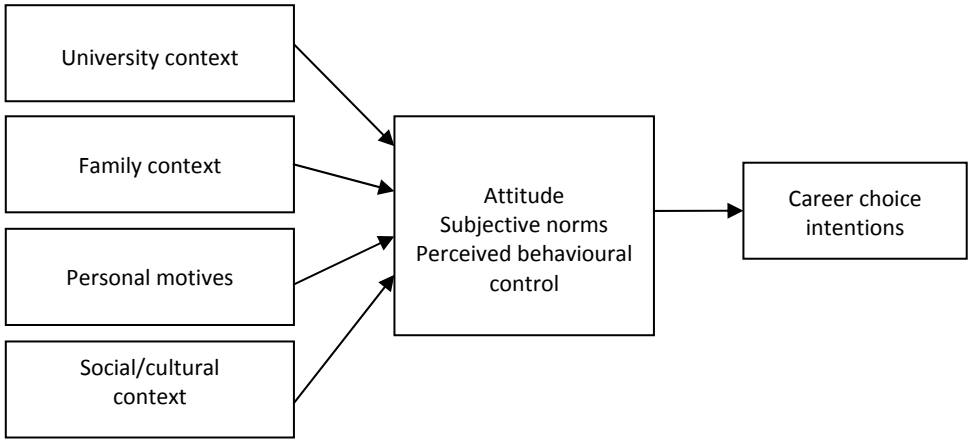

Figure 1. Theoretical framework of GUESSS 2013/2014
Source: Sieger et al. 2014

One of the main ideas of Ajzen's Theory is the difference between intentions and behaviours. If there is a serious entrepreneurial intention, it does not necessarily mean that the entrepreneurial activity will be pursued and an enterprise will be set up. Intentions depend on the attitudes towards behaviour, subjective norms and the perceived behavioural control. Actual pursued activities cannot be expected without serious intentions. Objective factors such as available financial resources and opened-up opportunities (money, time, etc.) that are required for carrying out intentions also influence business activities. These factors are termed as actual control in the revised Ajzen's Theory model (Ajzen, 2006). According to

this model, there is a direct positive relationship between the entrepreneurial attitude and the willingness to start up a business. The more favourable a person's attitude toward entrepreneurship is, the stronger the intention to run an enterprise is. A supporting social environment is also nourishing for entrepreneurial intentions. Thus, the more positively the individual's environment reacts to his entrepreneurial intention, the more likely he will show willingness to start up his own business.

The third factor, the perceived control over events, has also a direct influence on the individual's intention to start up an enterprise, and can also have a significant effect on his behaviour. The impact of the perceived behavioural control on intentions and actions is twofold. Firstly, the more an individual feels that he is in control of his surroundings, the more likely he is to be in favour of starting up his own venture. Secondly, self-efficacy also has a positive effect on entrepreneurial spirit. The more the person feels that he has acquired the appropriate skills and knowledge to start up an enterprise, the more likely he is to think that his own business can be launched.

The factors listed above are also highly influenced by the individual's personality, family background, macro- or microenvironment and the higher educational institution he attended. The importance of higher education lies in the knowledge and skill transfer needed for starting and running a successful business and in the ability to enhance entrepreneurial intentions and ease negative factors (unfavourable financial situation, disadvantaged family background, etc.) Apart from testing the factors in the Ajzen model, the questionnaire also focuses on these variables.

Short Introduction to the Database of 2013

The database contains responses of 8,839 students studying in Hungarian higher education institutions.

Besides the most important demographic characteristics (gender, age, nationality), this chapter focuses on the composition of respondents by higher education institutions, field and level of study. Table.2 shows the distribution of Hungarian respondents by higher institution.

Regarding nationality, 97.4 per cent of the respondents were Hungarian. Foreign students were mostly Slovakian, Romanian, Ukrainian and Serbian. When students were asked about their reasons for choosing a Hungarian higher educational institution, most foreign students indicated geographical constraints (for example, Slovakian students usually prefer Győr or Miskolc, while a large proportion of Romanian students choose Debrecen, because these cities are relatively close to their hometowns).

Table 2. Distribution of respondents by higher education institution

Name of the institution	Number of questionnaires	Distribution
Budapest College of Management	3	0.0
Corvinus University of Budapest	1678	19.0
Budapest Business School	1630	18.4
University of Applied Sciences, Budapest	2	0.0
Budapest University of Technology and Economics	10	0.1
University of Debrecen	5	0.1
College of Dunaújváros	224	2.5
Edutus College	87	1.0
Eötvös József College	80	0.9
Eötvös Lóránd University	17	0.2
Eszterházy Károly College	351	4.0
Dennis Gabor College	1	.0
Károli Gáspár University of the Reformed Church in Hungary	1	0.0
Károly Róbert College	7	0.1
Kecskemét College	486	5.5
Kodolányi János College	247	2.8
University of Miskolc	627	7.1
National University of Public Service	3	0.0
College of Nyíregyháza	268	3.0
University of West Hungary	684	7.7
Óbuda University	5	0.1
University of Pannonia	396	4.5
Pázmány Péter Catholic University	1	0.0
University of Pécs	785	8.9
Semmelweis University [ETK]	208	2.4
Széchenyi István University	134	1.5
University of Szeged	125	1.4
Szent István University	540	6.1
College of Szolnok	62	0.7
King Sigismund College	153	1.7
Other	19	0.2
Total	8839	100.0

Source: Own calculation.

Distribution by Field of Study and Level of Study

As for the field of study, 41.5 per cent of the respondents studied business and economics, 35.5 per cent of them studied natural sciences, and the remaining 16.2 per cent studied social sciences.[2]

[2] Business and economics: business/management, economics

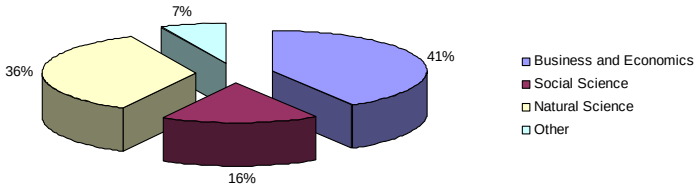

Figure 2. Distribution by field of study
Source: Own calculation.

Table 3. Distribution by level of education

	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Undergraduate (Bachelor)	7054	79.8	80.5	80.5
Graduate (Master)	1377	15.6	15.7	96.2
PhD (Doctorate)	198	2.2	2.3	98.4
Postdoc / Faculty member	15	0.2	0.2	98.6
MBA / Executive Education	122	1.4	1.4	100.0
Total	8766	99.2	100.0	
seen, but not answered	73	0.8		
Total	8839	100.0		

Source: Own calculation.

The vast majority of respondents were BSc students (80.4 per cent), while the MSc students amounted to 15.7 per cent. The questionnaire was filled in by 199 PhD, 122 MBA and 15 postdoctoral students.

Distribution by Gender

Regarding the respondents' gender, our sample contains a larger female ratio (57.4 per cent). The male-female ratio reflects the gender characteristics of Hungarian higher education.

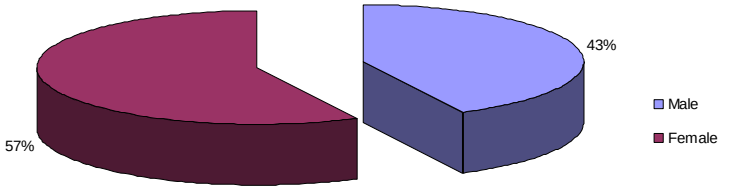

Figure 3. Distribution of Respondents by Gender
Source: Own calculation.

Social sciences: law, other social sciences and humanities (including education), linguistics and cultural studies (including psychology, philosophy, religion), art, science of art
Natural sciences: engineering and architecture, mathematics and natural sciences, information science/IT, medicine and health sciences, agricultural science, forestry, and nutrition science

Age Profile

The average age of the respondents was 23. About 27.0 per cent of all respondents were younger than 20 and 88 per cent were younger than 30 when filling out the questionnaire. The rate of single respondents amounted to 63.6 per cent. This is the result of the age structure of the sample.

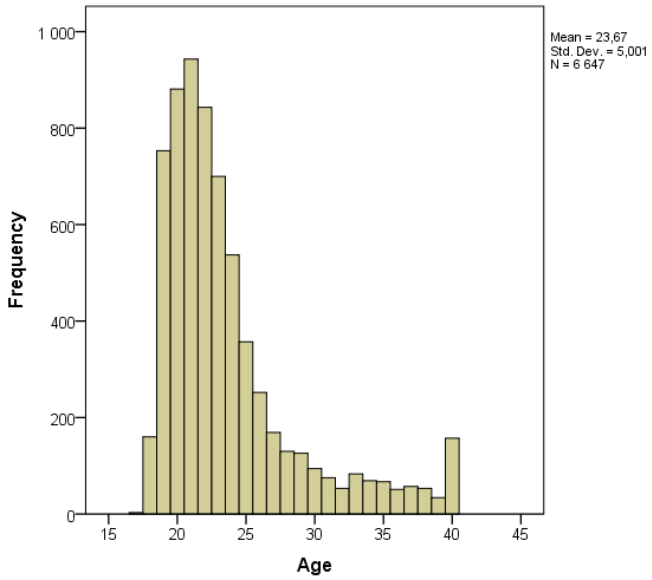

Figure 4. Age profile of respondents
Source: Own calculation, N=8839.

3. Career Choice intentions (Andrea S. Gubik)[3]

In Question 3 students were asked about their career aspirations after graduation. The responses to this question and to its additional variable computed from the original question and containing four attributes (Employee, Founder, Successor, Other[4]) highlighted the differences in career aspirations arising from three partially significant variables. These are gender, field of study and family business background. Figure 5 shows different career-choice intentions of students.

A significant proportion of students (5,535 students) reported wanting to work to work either for a large or a small and medium-sized company. They preferred working for a large company. Public service employment was also attractive among respondents. All in all 83 per cent of the students wanted to be employees after graduation.

When asked about the situation five years after graduation, the attractiveness of employee status decreased and the appealing force of business life increased (to 39 per cent). The responses revealed that students wanted to gain experience as employees first and start a business of their own afterwards.

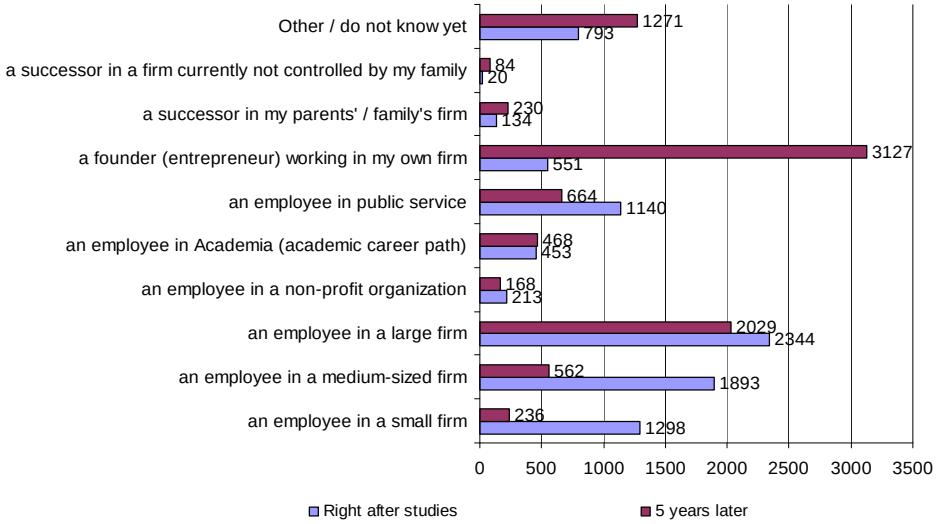

Figure 5. Career aspirations right after graduation and five years after studies
(Number of students)
Source: Own calculation, N=8839.

[3] This chapter is based on Gubik, A.S. (2015). Understanding Career Aspirations of Hungarian Students (Chapter 9). In: Andrea S Gubik, Krzysztof Wach (eds.) Institutional Aspects of Entrepreneurship. 176 p. Miskolc: University of Miskolc, 2015. pp. 131-150. (ISBN:978-963-358-093-6)
https://www.researchgate.net/publication/284446158_Understanding_Career_Aspirations_of_Hungarian_Students?ev=prf_pub

[4] Employee: in a small firm (1-49 employees); in a medium-sized firm (50-249 employees); in a large firm (250 or more employees); in a non-profit organization; in academia (academic career path); in public service. Founder: working in my own firm. Successor: in my parents'/family's firm; in a firm currently not controlled by my family. Other: Other / do not know yet.

Differences by Gender

Gender significantly influenced the career-choice intention of students. Figures 6 and 7 show the differences in career-choice intentions of the respondents by gender. The data clearly show that there was no change in gender variations regarding career-choice intentions right after studies or five years later:

- Almost the same ratio of women would like to work as employees as men. However, women prefer working in the civil service sector and for large companies (This preference remained hidden in Figure 6 and Figure 7 because of the aggregated data).
- Women's intention to found a business of their own or take over a firm lags behind that of men, independently of the time horizon.
- More female respondents indicated 'other' or 'do not know' than men, which can probably be explained by traditional gender roles played by women and men in a family and by the larger ratio of women whose (future) family takes higher priority over professional lives or careers

The responses showed that the attractiveness of employee status decreased and the appealing force of business life increased in both genders five years after graduation. The ratio of students who chose the 'other' option increased, especially among women. Five years after completing their studies, many women will have reached the age when they may be thinking of having children[5]. It would be interesting to compare the plans of female and male respondents for 10 or 15 years after graduation.

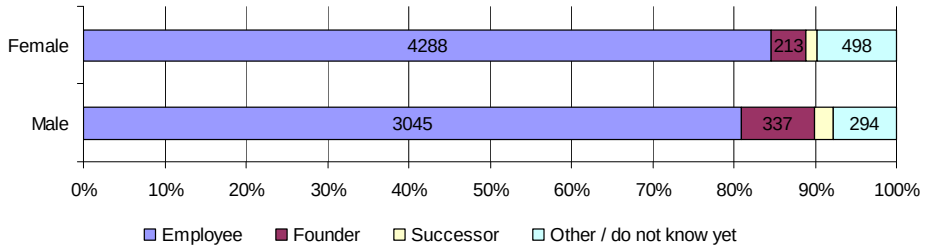

Figure 6. Career aspirations right after studies by gender (%)

Source: Own calculation.

[5] The average age for the mother at the birth of her first child among women with a degree was 30.9 in 2010 in Hungary.

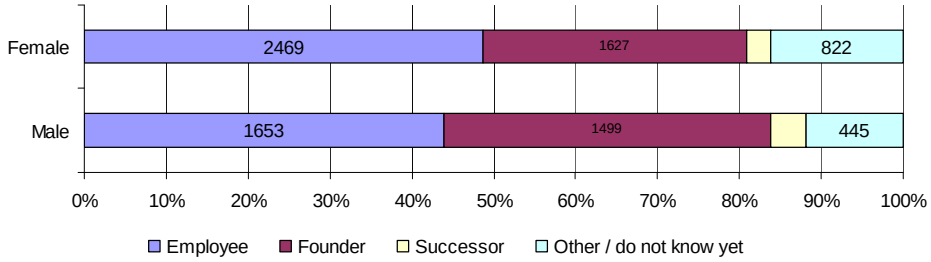

Figure 7. Career aspirations five years after studies by gender (%)

Source: Own calculation.

The results show huge differences in public service careers (sum of an employee in a non-profit organization, in Academia and in public service answers). The ratio of female respondents among all respondents who favoured working here amounted to 65.5 per cent and this ratio is 64.5 per cent for five years post-graduation.

Differences by the Field of Study

Analysing the career aspirations by field of study, we found that independently of the time horizon, the ratio of students who did not chose professional careers or the ratio of students having no clear intentions was significantly higher in social sciences compared to business and economics and well as natural sciences. (See Figure 8 and 9). This may be explained by poor employment rates, low wages and unclear career paths in these areas. Surprisingly, the ratio of respondents who preferred to work as employees right after studies was the highest in the case of business and economics students. In the same time entrepreneurial career is the most attractive here. This result overlaps with recent research findings about Polish students' entrepreneurial intention (Wach, Wojciechowski, 2016).

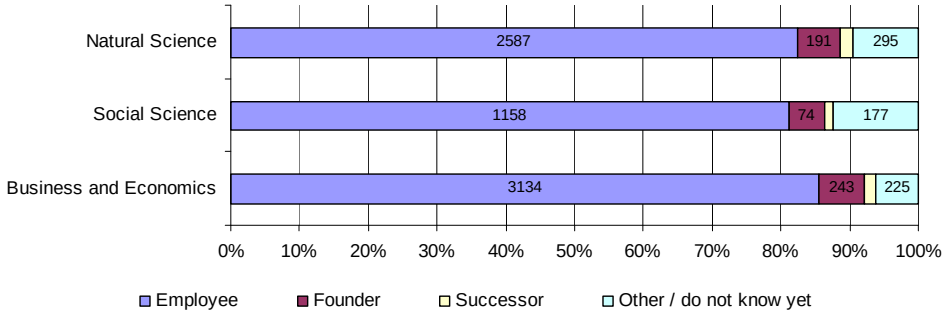

Figure 8. Career aspirations right after graduation by field of study (%)

Source: Own calculation.

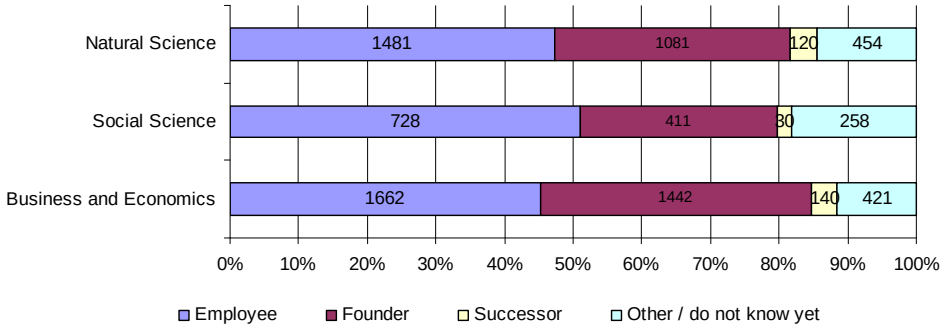

Figure 9. Career aspirations five years after graduation by field of study (%)
Source: Own calculation.

Behind the apparent data match, there are characteristic differences that the aggregated data fail to show. These differences stem from the judgement of corporate employment status by training areas. Science students preferred the career of a public servant, whereas economics and business students favoured employment in a company. This difference in preferences remained even five years after graduation, despite the fact that the ratio of those who intended to start or take over a company increased in all three fields of study.

Family business background

The family business background also shaped career aspirations and business start-ups. The survey results showed that business experience of parents had the greatest impact on the respondents' career aspirations. Figures 10 and 11 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 a majority stake in a business at the time when the survey was conducted. If a student came from a family that had no previous business experience, his chances of favouring employee status over being an entrepreneur increased. Also, this fact enhances the possibility of uncertainty ('do not know') in future career plans.

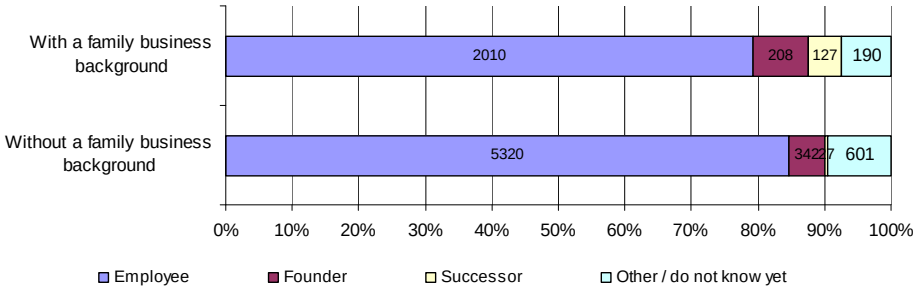

Figure 10. Career aspirations right after studies by family business background (%)
Source: Own calculation.

The results of the survey revealed that a family business background increased the probability of respondents' becoming an entrepreneur, either as a founder or as a successor,

independently of time horizon. The lack of such experience did not only increase the probability of employment preferences, but also the respondents' uncertainty regarding their career choice intentions ('other/do not know').

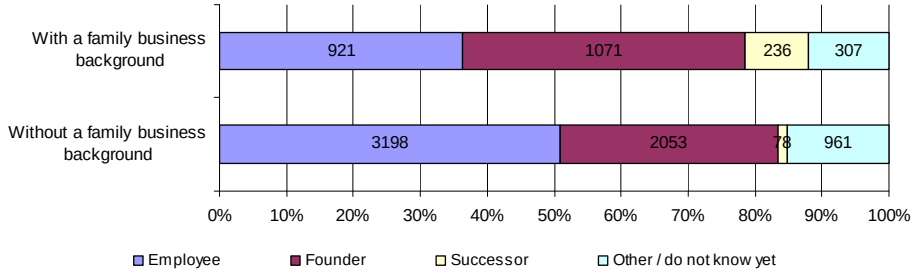

Figure 11. Career aspirations five years after studies by family business background (%)
Source: Own calculation.

For five years after studies, the intention of becoming an entrepreneur increased even among students without a family business background. However, the family background greatly influenced the respondents' career aspirations for five years after studies, and the difference between the two groups remained the same as right after studies.

The survey revealed that the enterprises of the extended family and friends also increased the students' entrepreneurial intentions.

Combined effect of the analysed variables

In order to measure the combined effect of these variables on intentions, multinomial logistic regression was used. The results of the regression suggest that the gender, the field of study and the family business background also contributed to future entrepreneurial career plans (every variable is significant). Family business experience is considered to have the strongest effect. The odds ratio (Exp(B)) of a founder is 1.58 right after studies, which means that parental entrepreneurial experience increases the respondents' possibility to become a 'Founder' instead of working as an 'Employee' by 1.58 times (58 per cent). In the case of being a 'Successor' instead of 'Employee' this value is 12.39 right after studies and 10.42 after 5 years. Here parental enterprises had by far the greatest influence on the respondents' intentions, because if a family has a business, the challenge of taking over the firm will have to be faced sooner or later.

Similarly, the field of study also had a positive, though weaker, effect on the students' career plans but his effect is significant only after 5 years (see the p values). Finally the gender of the students also influences the plans. In both time horizons, more male students prefer being an entrepreneur than female students.

The significance of the created model is justified by the Chi-square test. Its explanatory power is measured by Nagelkerke's R^2 value. This study applied Wald statistics to check the significance of each individual independent variable. The conditional odds ratios show the partial effect of each variable. The explanatory power of the model is 7,5 percent right after

studies and 7,6 per cent after five years, which suggests that there are further significant driving forces in career choice intentions that are worth investigating. An investigation targeting these forces has already been carried out in case of the GUESSS 2011 database (Gubik 2013).

Table 4. Combined effetc of the variables

Career aspirations right after studies	Variables	B	Std. Error	Wald	Sig.	Exp (B)
Founder	Intercept	-1,467	,180	66,734	,000	
	Gender	-,801	,092	75,855	,000	,449
	Field of study	-,040	,045	,800	,371	,961
	Family business background	,459	,092	24,624	,000	1,582
Successor	Intercept	-4,727	,377	156,945	,000	
	Gender	-,478	,168	8,109	,004	,620
	Field of study	,083	,082	1,023	,312	1,086
	Family business background	2,517	,214	138,660	,000	12,392

Career aspirations 5 years after studies	Variables	B	Std. Error	Wald	Sig.	Exp (B)
Founder	Intercept	,253	,101	6,273	,012	
	Gender	-,333	,049	46,464	,000	,717
	Field of study	-,084	,024	12,146	,000	,920
	Family business background	,581	,053	118,694	,000	1,788
Successor	Intercept	-3,039	,263	133,601	,000	
	Gender	-,451	,122	13,712	,000	,637
	Field of study	,012	,059	,040	,842	1,012
	Family business background	2,343	,136	296,721	,000	10,416

The reference category is being an employee.
Nagelkerke R^2=0,075 right after studies and 0,076 after 5 years.
Source: Own calculation.

4. Motivations and future job expectations (Andrea S. Gubik)[6]

The questionnaire included items related to career motives. The respondents scored the items in the range between 1 and 7 (1 = unimportant, 7= very important) on the Likert scale. Figure 12 shows high mean values. Hence, respondents considered all the listed motives to be important. However, 'realising a dream' was scored the highest (6 out of 7).

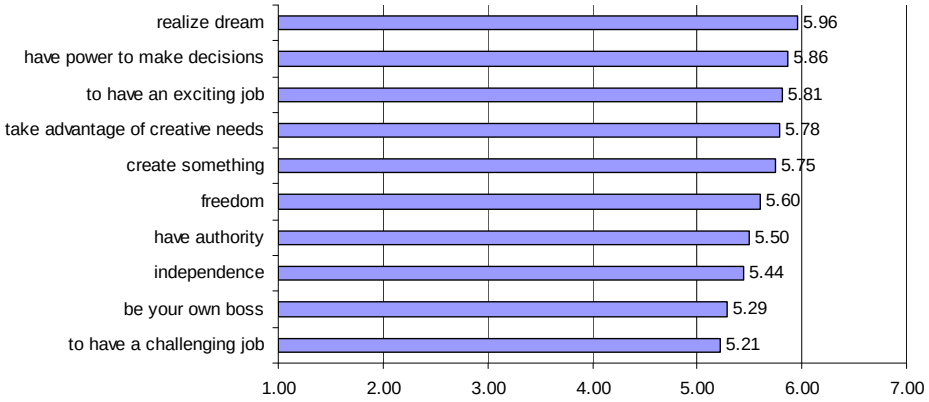

Figure 12. Career motives

Source: Own calculation.

Paradoxically, students had high expectations and yet attempted to mitigate risks they undertake. The item 'I am generally a person who is fully prepared to take risks' was scored 4.1 on the Likert scale ranging between 1 and 7.

The respondents were requested to express their expectations regarding their future jobs. The survey found that as many respondents wanted to enjoy job flexibility as wanted to implement their ideas whilst working as independent entrepreneurs, that is 4.98 and 4.93, respectively, on the Likert scale ranging between 1 and 7. There is a weak negative significant correlation between being employed and being an independent entrepreneur items, which expresses the trade-off between one motive and another one. If elaborated, this means that the respondents preferred either one solution or the other and were not able to imagine both careers as their future jobs. There is a weak significant positive correlation between flexible and fixed forms of work, which indicates that respondents favouring the employee status did not reject either form of work.

They preferred being employees and did not indicate their preferences regarding forms of work.

There are slight differences in terms of age, gender, family business background and fields of study. The older respondents were, the more attractive they found entrepreneurship (see the section Career objectives).

[6] This chapter based on: Gubik, A.S. (2015). Understanding Career Aspirations of Hungarian Students (Chapter 9). In: Andrea S Gubik, Krzysztof Wach (eds.) Institutional Aspects of Entrepreneurship. 176 p. Miskolc: University of Miskolc, 2015. pp. 131-150. (ISBN:978-963-358-093-6)
https://www.researchgate.net/publication/284446158_Understanding_Career_Aspirations_of_Hungarian_Students?ev=prf_pub

Females preferred being employees (the results of prior analyses have already revealed this) and working flexible working hours. The mean value regarding starting a business was higher among male than among female respondents. Both genders were in favour of independent entrepreneurship and not of entrepreneurship operating a performance-related pay system. In the latter case, an entrepreneur works for one or several large companies and his or her pay depends on his or her personal performance. Also, it is the entrepreneur who manages his or her time.

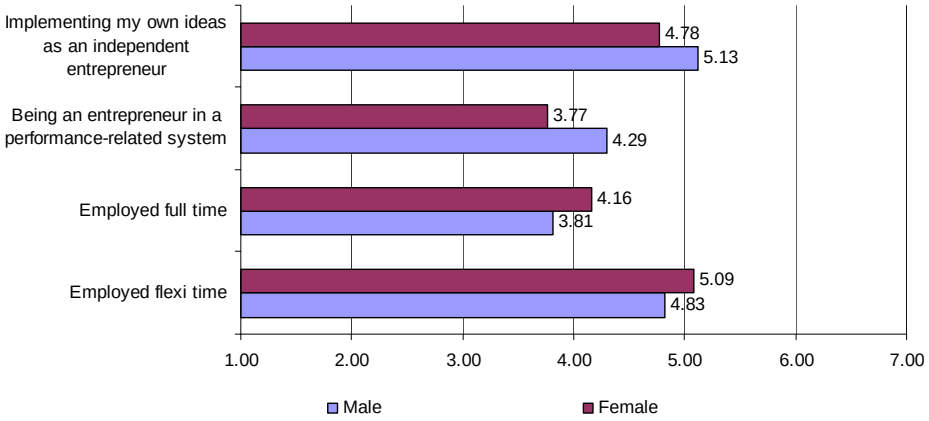

Figure 13. Deviations for motivation by gender

Source: Own calculation.

Respondents who were raised in an entrepreneurial environment considered entrepreneurship far more attractive than the mean value. Figure 14 illustrates that working fixed time is the least favoured form of work by them.

As for the fields of study, the survey data do not show any new correlations. Economics and business students turned out to be the most entrepreneurship-oriented, whereas students of social sciences were the least entrepreneurship-oriented.

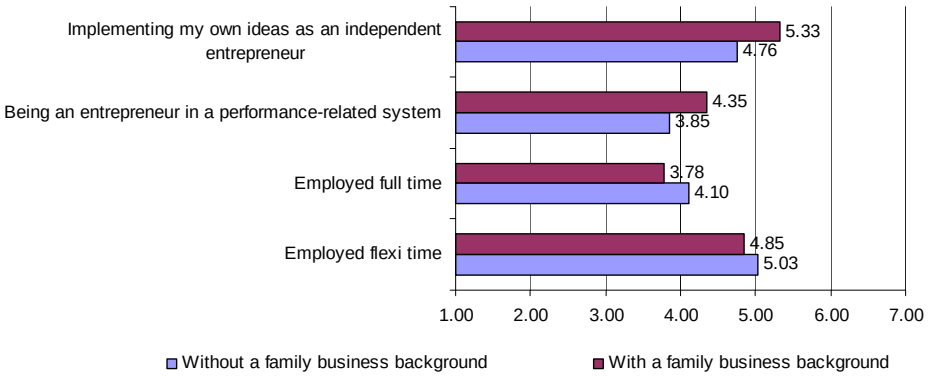

Figure 14. Deviations for motivations by family business experience

Source: Own calculation.

The next set of questions positioned the responses between two opposite statements with the help of the Semantic Differential Scale. The pairs of opposites were:

Fixed monthly salary	……	Performance-related pay
Full-time employment	……	Flexible working hours
Unvarying, routine duties	……	Varying, creative duties
Only earning money	……	Managerial career, personal development

The results show that the respondents preferred performance-related pay to fixed monthly salary, flexible working hours to fixed working hours, varying and creative duties to unvarying and routine duties, as well as earning money to managerial careers.

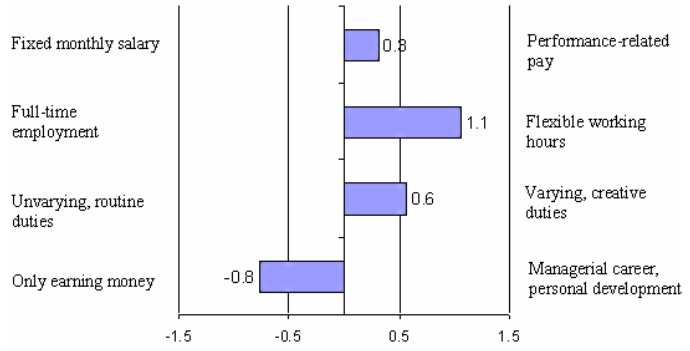

Figure 15. Job expectations

Source: Own calculation, mean values between -3 and +3.

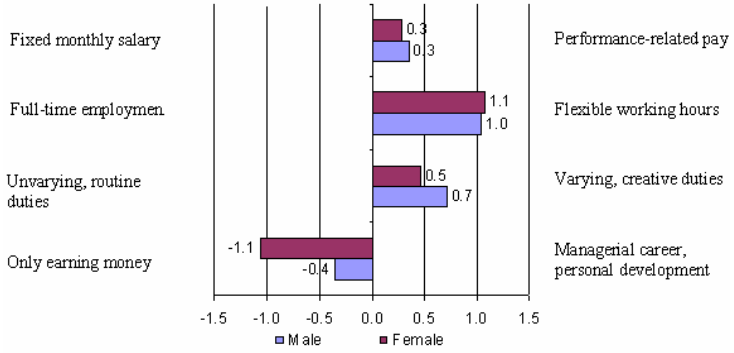

Figure 16. Job expectations by gender

Source: Own calculation, mean values between -3 and +3.

However, there were some contradictions in respondents' expectations. A job which offers a fixed salary and varying duties coupled with flexible working hours is rare, which the

respondents were not necessarily aware of, since most of them probably had little work experience.

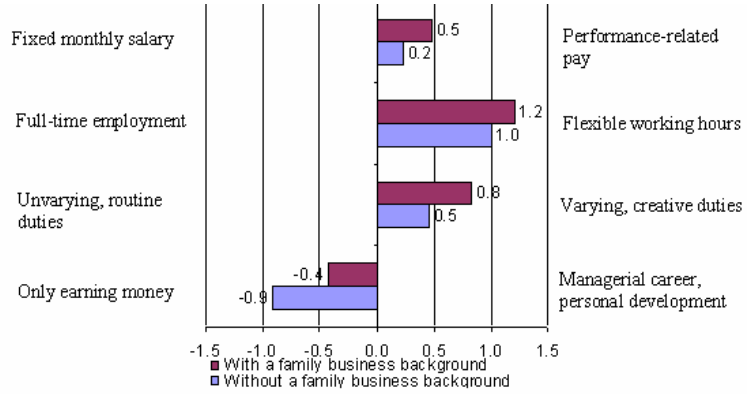

Figure 17. Job expectations by family business background

Source: Own calculation, mean values between -3 and +3.

The greatest differences experienced between female and male responses were in the item of earning money versus a managerial career. Female respondents favoured personal development less than their male counterparts.

Family business background influenced the respondents' career aspirations. Respondents with some family business background gave priority to professional career and personal development as well as to creative work, in contrast to respondents without any business background. In this context, they also preferred performance-related pay (see Figure 17).

There were no significant differences in career aspirations by fields of study.

The research results suggest that employers should apply new communication tools which focus on the above motives if they want to reach students with their messages. Students undertaking paid work during their period of study gave significantly higher scores to these motives. Hence, work experience gained on the job market results in higher expectations. Consequently, companies should rethink their motivation systems and lay more focus on the above values if they want to retain their employees.

5. Changes in Career Motives and their main consequences on entrepreneurial intentions (Andrea S. Gubik, Szilveszter Farkas)[7]

Numerous sociological and socio-psychological studies deal with personality characteristics of the current generation, gaps between specific generations and the reasons leading to gaps. Studies and the often use the term Generation Y, which refers to the specific generation born between the 1980s to early 1990s. The cohort of people born in 1990 and onwards is called Generation Z. The concept 'generation' is usually described as the average interval of time between the birth of parents and the birth of their offspring, but the current generation should be defined as a sociological term rather than biological. Thus, a generation is a group of individuals who are born in the same historical age and are in the same life period (McCrindle & Wolfinger, 2009).

Representatives of Generation Y and Generation Z have made up the pool of students in higher education in the past few years. Their personal characteristics completely differ from those of previous generations. They have an aspiration for living in a creative environment and adapt well to different situations. These characteristics may also be useful for potential entrepreneurs. However, this generation is not interested in acquiring detailed knowledge and is considered to be unmotivated and disorganised (Tari, 2010, 2013). The latter characteristic feature is likely to be an obstacle to becoming a successful potential entrepreneur.

The lifestyle of Generation Z is internet-based. They get access to a staggering amount of information on a daily basis, which requires new skills in terms of processing regimes. Visualization and tangibility are given priority status over reading and data processing. As a result of their interaction with the digital world, speed has become a determining factor in their lives, at the expense of accuracy. Their need for face-to-face communication is decreasing. Means of communication have an impact on the way how they formulate what they want to say and what responsibilities they take for their decisions.

As for the career path visions of Generation Z, the impact of changing personality characteristics is also experienced. As employees, this generation has different expectations than their older colleagues and can be motivated in a quite different way. They are characterised by overconfidence and excessive assertiveness, which is accompanied by their high expectations for rapid career advancement and low level of commitment (Ferincz &Szabó, 2012).

Since Hungary joined the survey in 2006, four databases have been created and the questionnaires consisting of the same set of questions have allowed analyses of the changes occurred in the past 10 years.

Table 6 shows the distribution of Hungarian respondents by higher institution. While the differences in the sample characteristics over the years (2006-2013) make comparison

[7] This chapter based on: Gubik, A.S., Farkas, Sz. (2015). Impact of Changes in Career Motives on Entrepreneurial Intentions among Hungarian Students (Chapter 10) In: Andrea S Gubik, Krzysztof Wach (eds.): Institutional Aspects of Entrepreneurship. 176 p. Miskolc: University of Miskolc, 2015. pp. 151-164. https://www.researchgate.net/publication/284446170_Impact_of_Changes_in_Career_Motives_on_Entrepreneurial_Intentions_among_Hungarian_Students

across time difficult, the table 5 shows the most important characteristics of the survey database of each year.

Table 5. The most important characteristics of the GUESSS Hungarian database

	2006	2008	2011	2013
No. of completed questionnaires	3,346	11,366	5,677	8,839
Gender (%)				
Male	51.6	38.6	40.6	42.6
Female	48.4	61.4	59.4	57.4
Level of education (%)				
BSc	40.5*	78.9	85.2	80.5
MSc	58.7*	19.2	13.4	15.7
Others (PhD, post-doctoral)	1.2	2.0	1.4	3.8
Field of study (%)				
Business and Economics	50.8	14.7	46.3	41.5
Natural Sciences	37.1	33.7	36.8	35.5
Social Sciences	12.1	47.8	16.9	16.2
Others	-	3.8	-	6.8

* The Hungarian higher education system underwent considerable reforms in 2006. Alongside the existing traditional higher educational system, the Bologna system was gradually introduced, which resulted in some complications in terms of classifying the responses and respondents in 2008: the categories of undergraduate (Bachelor) or graduate (Master) students were difficult to distinguish, as well as whether the study field was economics or business.

Source: Own calculation based on the databases of 2006, 2008, 2011 and 2013.

Table 6. Responses to the GUESSS questionnaire by higher educational institutions in Hungary

Name of Institution	2013	2011	2008	2006
ÁVF – Budapest College of Management (Általános Vállalkozási Főiskola)	3	147	134	-
BCE – Corvinus University of Budapest (Budapesti Corvinus Egyetem)	1678	201	502	543
BGF – Budapest Business School (Budapesti Gazdasági Főiskola)	1630	620	324	-
BKF –University of Applied sciences Budapest (Budapesti Kommunikációs és Üzleti Főiskola)	2	1	-	-
BME – Budapest University of Technology and Economics (Budapesti Műszaki és Gazdaságtudományi Egyetem)	10	5	57	387
BMF – Óbuda University (Óbudai Egyetem) *	5	5	26	-
DE –University of Debrecen (Debreceni Tudományegyetem)	5	538	1407	239
DF – College of Dunaújváros (Dunaújvárosi Főiskola)	224	158	491	-
EDUTUS – Edutus College (EDUTUS Főiskola) **	87	145	400	-
EJF – Eötvös József College (Eötvös József Főiskola)	80	65	188	-
EKF - Eszterházy Károly University of Applied Sciences (Eszterházy Károly Főiskola)	351	-	-	-
ELTE – Eötvös Lóránd University (Eötvös Lóránd Tudományegyetem)	17	175	877	-
GDF – Dennis Gábor College (Gábor Dénes Főiskola)	1	182	61	-
KE – Kaposvár University (Kaposvári Egyetem)	-	38	243	-
KF - Kecskeméti College(Kecskeméti Főiskola)	486	-	-	-
KJF – Kodolányi János University of Applied Sciences (Kodolányi János Főiskola)	247	423	42	-
KRF – Károly Róbert College (Károly Róbert Főiskola)	7	97	40	-
ME –University of Miskolc (Miskolci Egyetem)	627	620	1047	410
NYF - College of Nyíregyháza (Nyíregyházi Főiskola)	268	-	-	-

NYME – University of West Hungary (Nyugat-magyarországi Egyetem)	684	291	125	-
PE – University of Pannonia (Pannon Egyetem) ***	396	1	165	362
PTE –University of Pécs (Pécsi Tudományegyetem)	785	757	3124	656
SE – Semmelweis University, (Semmelweis Egyetem)	208	65	-	-
SZE – Széchenyi István University (Széchenyi István Egyetem)	134	681	499	345
SZF - College of Szolnok (Szolnoki Főiskola)	62	-	-	-
SZIE – Szent István University (Szent István Egyetem)	540	166	87	-
SZTE –University of Szeged (Szegedi Tudományegyetem)	128	254	1044	315
ZSKF - King Sigismund College (Zsigmond Király Főiskola)	153	-	-	-
Others	27	42	483	89
Total	8839	5677	11366	3346

Formerly known as: *Budapest Tech Polytechnical Institution; ** College for Modern Business Studies; *** University of Veszprém.
Source: GUESSS databases of 2006, 2008, 2011 and 2013.

Chapter 3 clearly illustrated that the majority of respondents preferred being employed (62.6%) and found that the idea of working for a large company was appealing. This career path was followed by public service, where almost 13% of respondents wanted to be employed. The attractive force of setting up an enterprise immediately after graduation was very weak. However, when asked about plans for five years after graduation, the students' career intentions changed. The rate of students who wanted to work in their own firm increased to 35.4%, decreasing especially in the categories of being employees in small and medium-sized enterprises and in public service. The aim of this chapter is to investigate the changes in the career choice intentions of students studying in higher education establishments and the impact of these changes on students' entrepreneurial intentions in the past ten years.

Changes in Entrepreneurship in 2006-2013

This chapter will henceforth investigate only the business start-up visions. The periodic data collection allows us to monitor entrepreneurship potential across time. The figures below show the rate of students with start-up intentions as a percentage of all respondents. Figure 18 illustrates the sudden growth in students' entrepreneurship intentions in 2008 both after graduation and five years later. After 2008 student interest in entrepreneurship decreased and in 2013 the value had declined almost by half compared to 2006 among those who intended to start a business immediately after graduation.

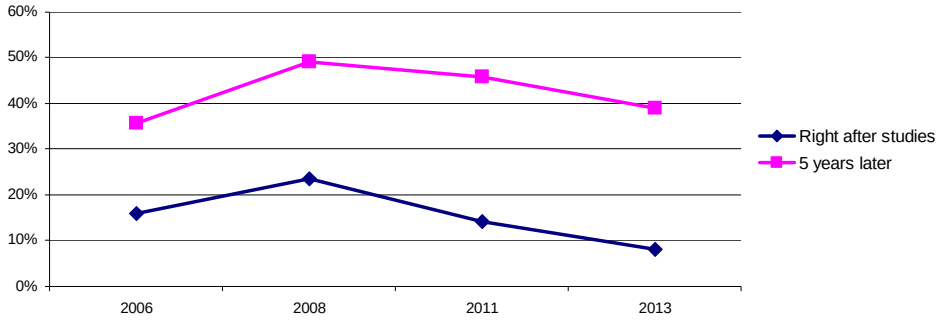

Figure 18. Career aspirations between 2006 and 2013 – the rate of students with start-up intentions
Source: Own calculation.

Several factors contributed to the decline in start-up intentions, but one of these factors seems to play a significant role in this process (despite the extreme complexity of this issue). This factor is the financial crisis in 2007. Figure 18 clearly shows that the business start-up intentions dramatically dropped after 2008. However, there are doubts about the students' awareness of the crisis and its possible long-term consequences when they were surveyed in the autumn of 2008 since it is hardly possible to provide such a prompt and effective response to the impact of economic and financial crises, but the chaos and sense of uncertainty were maybe clear.

The opinion-forming process of higher education environment and the social network provide a further explanation for the experienced decline. Neither higher education establishments nor the academic staff is in general very supportive of the students' start-up intentions and the crisis intensified this negative phenomenon. Short-term career examples and opportunities in 2008 promoted the career of an employee at large companies and of a civil servant.

This paper examines the diversities in the students' start-up business intentions by their field of studies, gender and non-entrepreneurial background in the past ten years. After that the main career motives were analysed in order to investigate the changes and their impacts on students' entrepreneurial intentions.

Differences by Field of Study

The start-up intentions immediately after graduation dramatically decreased in the examined period irrespective of the field of study, whilst five years after graduation, the respondents expressed more optimistic views on the likelihood of starting a business of their own. In all study fields the entrepreneurship intention increased, but the gap between specific fields became wider. The level of interest in business ownership among business and economics students was significantly higher than among other students. This was followed by social sciences (See Figures 19 and 20).

Figure 19. Start-up intentions by study fields immediately after graduation
Source: Own calculation.

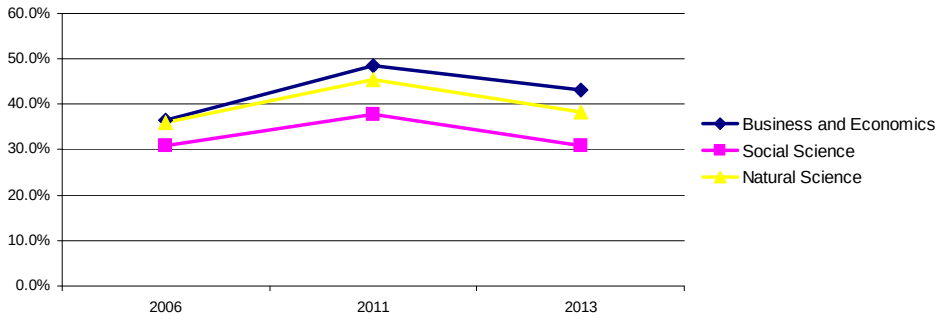

Figure 20. Start-up intentions by study fields 5 years after graduation
Source: Own calculation.

Differences by Gender

Male students had stronger entrepreneurial intentions than their female counterparts in the examined periods. The deviations in specific years were insignificant until 2008, when this gap became wider. For future considerations it is worth noting that the decrease in entrepreneurial intentions after graduation was more considerable than the expectations for 5 years after graduation (Figures 21 and 22).

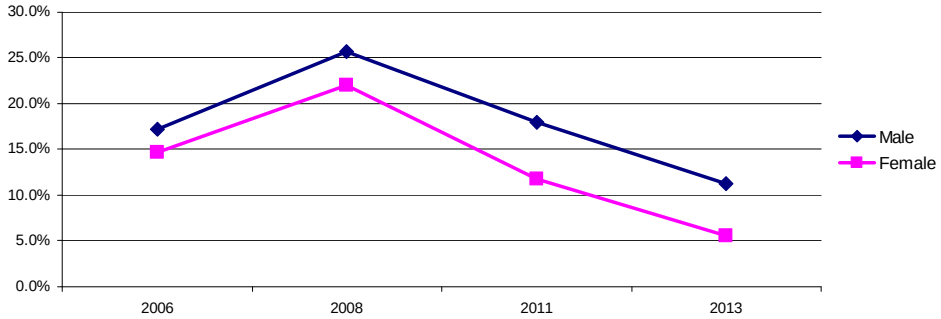

Figure 21. Start-up intentions by gender immediately after graduation
Source: Own calculation.

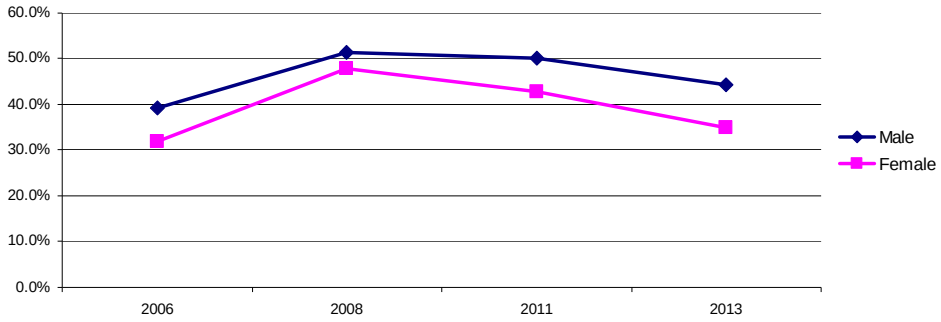

Figure 22. Start-up intentions by gender 5 years after graduation
Source: Own calculation.

Differences by Family Business Background

The role of family business background in shaping the students' career choice intentions is a determining factor in all surveys. The explanatory force of the variable is becoming higher year by year. The responses revealed that the entrepreneurial environment where the students were raised increasingly contributes to start-up intentions. This trend especially applies to intentions 5 years after graduation, where this variable shows larger deviations (See Figures 23 and 24).

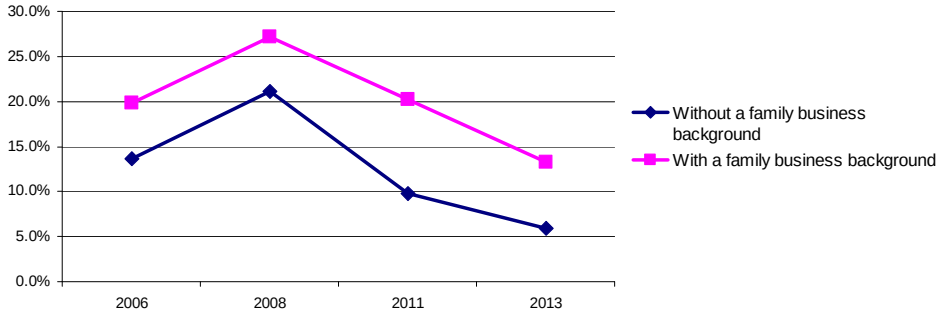

Figure 23. The rate of students with start-up intentions by family business background immediately after graduation
Source: Own calculation.

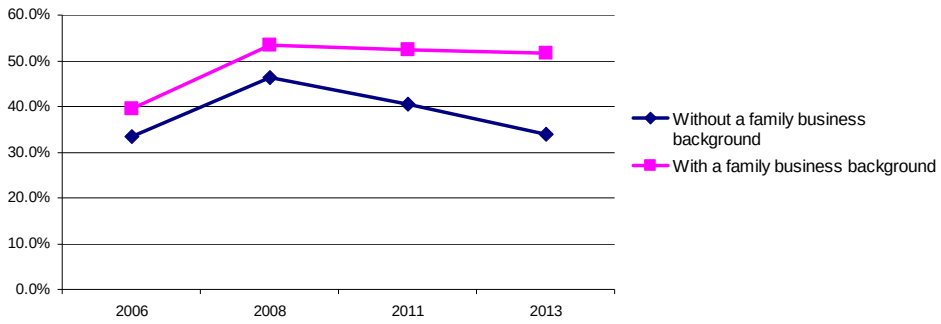

Figure 24. The rate of students with start-up intentions by family business background 5 years after graduation
Source: Own calculation.

Time Profile of Entrepreneurial Intentions

Motivation factors relating to students' career paths visions vary greatly in the periods when data were available. This paper also analyses how changes in students' personal characteristics could influence both the increase in entrepreneurial intentions before 2008 and the decrease after this year. There was a presumption that major entrepreneurial characteristics remained unchanged during the examined period. The personal characteristics that were believed to shape start-up intentions were as follow:

- creativity and desire to create,
- individualism,
- flexibility,
- risk taking,
- personal fulfilment.

Figures 25-28 show students' career motives as ranked by students. The motives are measured on a Likert scale every year. However, the scope of the scale varied every year. As a result of this, the absolute values of the response mean fail to provide essential information. They rather indicate the order in the motive ranking and identify particularly high or low values.

In the course of particular interviews, the questionnaires differed from each other to some extent. Hence, their complete comparison seems impossible. The findings clearly show that personal fulfilment variables (development, study, challenges) and income generation variables (financial security, higher income) lead the ranking list. Societal engagement and meeting the expectations of the surrounding environment score the lowest.

Figure 25. The ranked order of motives in 2006
Source: Own calculation.

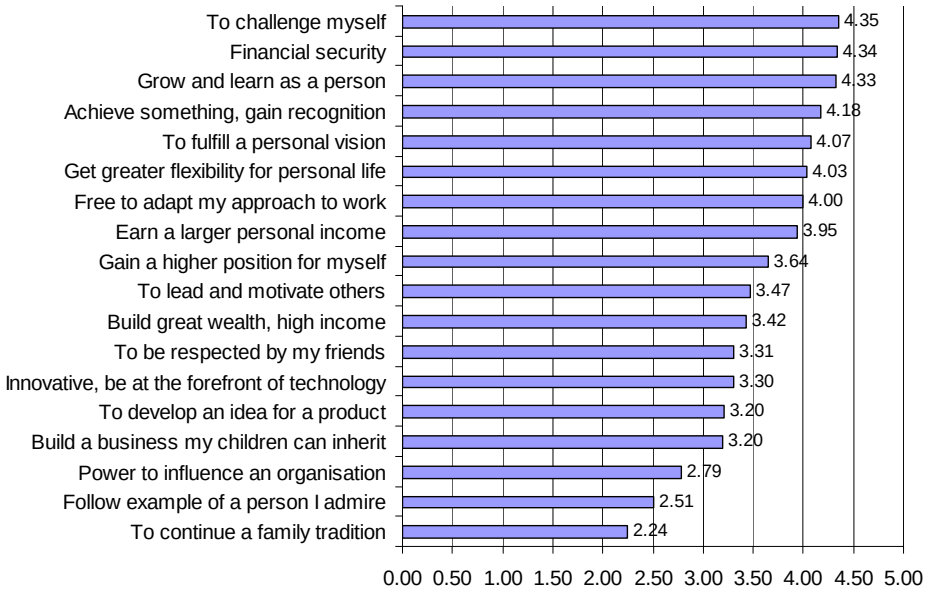

Figure 26. The ranked order of motives in 2008
Source: Own calculation.

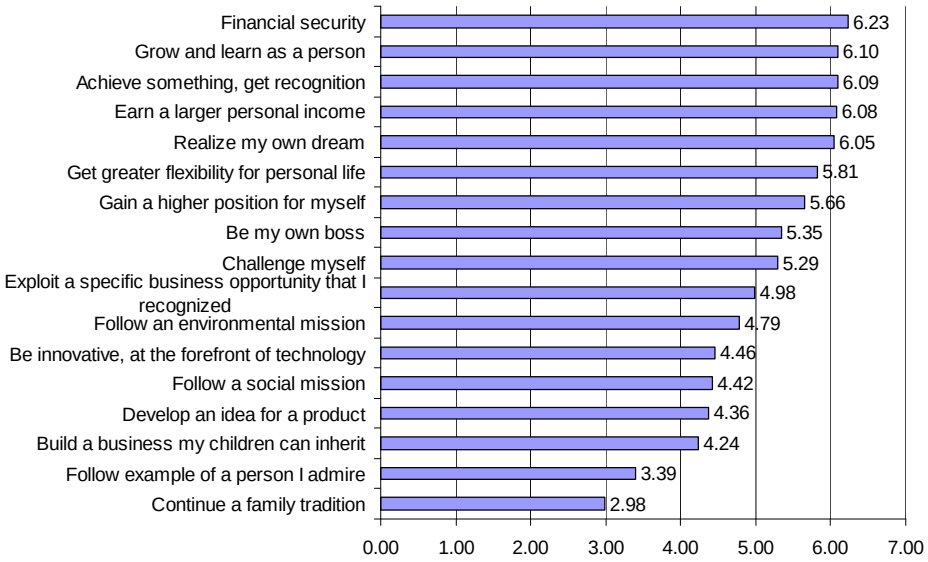

Figure 27. The ranked order of motives in 2011
Source: Own calculation.

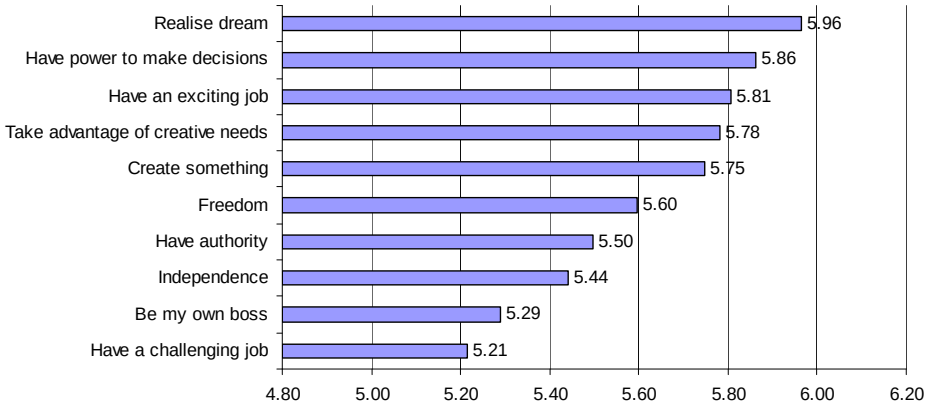

Figure 28. The ranked order of motives in 2013
Source: Own calculation.

In order to illustrate the lapse of time, the survey questionnaires of 2006 and of 2013 were compared. The findings may indicate whether the period of time under investigation has resulted in any significant changes in student career motives. Table 7 shows the order of the same responses.

Table 7. Comparison of the responses of 2006 and of 2013

	2006	2013
Realise dream	1st	1st
Take advantage of creative needs	2nd	3rd
Have a challenging job	3rd	8th
Freedom	4th	5th
Create something	5th	4th
Be my own boss	6th	7th
Have authority	7th	2nd
Independence	8th	6th

Source: Own calculation.

Changes in motives can be explained by different factors. First, changes in the external environment may play an essential role, as for instance, the economic crises in the examined period. However, the reasons for changes in motives should be sought somewhere else, as for instance in 'generation change'.

In both surveys 'realise my dream' was indicated in first place. Significant changes in ranking were observed in the case of two motives, namely, authority in decisions and a challenging job. 'Authority' ranked 7th in 2006 but shifted to the 2nd place in 2013, which indicates that the current generation appears eager to enjoy freedom in performing their work, scheduling their tasks and choosing the way the work is performed.

The variable 'having a challenging job' shifted from the 3rd to the 8th place. Ranking this variable the least important indicates that the current generation uses work as a tool and is less willing to sacrifice their personal comfort and life goals for a career than the previous generation. These changes in values are in line with psychological and sociological research findings on Generation Y.

There are no other significant changes in the students' ranking of the entrepreneurial personality characteristics (freedom or creative needs) in the examined period.

It is extremely difficult to define how the above changes influence students' start-up intentions. The nature of entrepreneurship has several specific features that may become attractive to self-centred and freedom-eager young people. Speed has become paramount for Generation Y. This generation expects immediate solutions and results promoted by rapid communication and simple access to information, which cannot always be ensured in the entrepreneurial process. Lack of commitment to hard work and of long-term visions may result in business failure if there is no immediate success. Hence, promoting students' looking-ahead abilities is one of the areas that is worth concentrating on.

As student characteristics change, education establishments face new education challenges. While the findings of previous studies indicate that traditional solutions in education (lectures and seminars) still have crucial importance in knowledge transfer (Gubik, 2013, 2014; Wach, 2014) and that these solutions will play a determining role in entrepreneurship education also in the future, the representatives of the new generation have a great demand for creative solutions. This poses great challenges to higher education establishments, and cannot be left to the individual efforts of a few dedicated academic staff members. Such change must be implemented on an institutional level if education establishments are to

offer the new generation of students customised programs and projects that simulate entrepreneurship processes or show them in practice.

6. Youth entrepreneurship (Andrea S. Gubik, Szilveszter Farkas)[8]

There are several documents dealing with youth entrepreneurship and its fostering. The Entrepreneurship 2020 Action Plan identifies three areas of intervention. One of these areas is entrepreneurial education and training. Both the Youth Entrepreneurship Strategies (YES), a project stimulating entrepreneurial aspirations of young people, and Erasmus for Young Entrepreneurs (EYE), a business exchange programme, aim at fostering entrepreneurship. These important documents have come to a common conclusion, namely, that students studying in higher educational institutions must be provided complex assistance to be able to create new businesses. They should be taught good practices, offered reformed entrepreneurial education and given access to financial support.

Youth entrepreneurship is defined as a 'practical application to enterprising qualities, such as initiative, innovation, creativity and risk-taking into the work environment (either in self-employment or employment in small start-up firms), using the appropriate skills necessary for success in that environment and culture' (Schnurr & Newing, 1997, as cited in Eurofound, 2015). The term 'youth entrepreneurship' constitutes an integral part of the general definition of entrepreneurship[9]. Half dozen or so common elements of youth entrepreneurship and entrepreneurship (opportunity recognition, risk-taking, commitment, etc) indicate that there are only age differences between the two concepts. As for the age of 'youth entrepreneurship', the United Nations (UN) uses the age band of 15-24 years. Eurostat includes people who are 15-29 years old in the group of 'youth entrepreneurs'. The Global Entrepreneurship Monitor (GEM) defines young entrepreneurs as people between the ages of 18-34 years. Although students studying in tertiary education make up only a special subset of the youth population, they are the target audience of this study.

Fostering entrepreneurship of students in higher education results not only in improving unemployment prospects of students, but also has some further benefits. According to GEM findings, the levels of entrepreneurial intentions of respondents belonging to this age group are 1.6 times higher than those of adults (Schot et al., 2015), whereas the proportion of respondents pursuing actual entrepreneurial activities is significantly lower. In addition, businesses run by young entrepreneurs have lower survival rates than those of older entrepreneurs (OECD, 2015). The surviving businesses are more growth oriented. The questionnaire survey on Factors of Business Success conducted by Eurostat shows that enterprises run by people under the age of 30 more than doubled their growth during the examined period of three years, whereas entrepreneurs aged 40 and over achieved only an average growth of 131% (Schrör, 2006).

As for the attained levels of education, the proportion of respondents with tertiary education background established more businesses in higher added-value industries (high-tech) and with higher initial capital (Richert and Schiller, 1994, as cited in Lüthje and Franke,

[8] This chapter based on: Gubik, A.S., & Farkas, S. (2016). Student Entrepreneurship in Hungary: Selected Results Based on GUESSS Survey. Entrepreneurial Business and Economics Review, 4(4), 123-139, DOI: http://dx.doi.org/10.15678/EBER.2016.040408

[9] Entrepreneurship is a complex concept. It is 'the mindset and process to create and develop economic activity by blending risk-taking, creativity and/or innovation with sound management, within a new or an existing organisation.'(EC, 2003, p.5).

2002). According to Autio (2005), enterprises run by well-qualified young entrepreneurs with a solid financial background who are motivated to utilise good business opportunities show higher growth potential.

In the 28 EU member states the rate of self-employed young people amounts to 6.5%, which translates into 2.67 million people. There are considerable differences between countries. Greece with its 16% shows the highest self-employment activity and Luxembourg the lowest with 3.5%. As for the rate of self-employed respondents, Hungary takes the middle position among 28 EU member states. Studies limited to investigating self-employment came to the same conclusion as above and state that there is a correlation between higher levels of education and self-employment rate, which means that the knowledge, competences and skills gained in higher educational institutions considerably contribute to entrepreneurship and business start-up intentions (Blackburn, 1997; Green, 2013). Generation role models are also significant in terms of self-employment because a high rate of children follow in their parents' footsteps (Mungal & Valemuri, 2011). 'Older' young people, especially males, are more likely to become self-employed than others (Dolton and Makepeace, 1990).

Main characteristics of the students' enterprises

In the sample 7.4% of the respondents (658 students) indicated that they ran a business of their own. Over 25% of the respondents running their own businesses were nascent entrepreneurs and had established their businesses in the year when the survey was conducted (2013) (Table 8). The rate of enterprises that were 3 years old or younger amounted to over 50%. Since a major part of enterprises were new or established not long ago, the students did not have much experience.

Table 8. Student enterprises by year of establishment

	Year of establishment	Frequency	%	Valid %	Cumulative %
Valid	2013	152	1.7	25.2	25.2
	2012	84	1.0	14.0	39.2
	2011	89	1.0	14.8	54.0
	2010	64	0.7	10.6	64.6
	2009	30	0.3	5.0	69.6
	2008	29	0.3	4.8	74.4
	2007	16	0.2	2.7	77.1
	2006	18	0.2	3.0	80.1
	2005	20	0.2	3.3	83.4
	Earlier	100	1.1	16.6	100.0
	Total	602	6.8	100.0	
Missing	left unanswered	56	0.6		
	System	8181	92.6		
	Total	8237	93.2		
Total		8839	100.0		

Source: own elaboration

Over half of the students running their own businesses were self-employed, 38.4% owned micro enterprises and 3.5% small-sized enterprises. The sample included only three medium-sized enterprises, which will be analysed only in an aggregate form, but they are not included in the comparative analysis of companies by size.

Table 9. Student enterprises by company size

		Frequency	%	Valid %	Cumulative %
Valid	Self-employed (0 employees)	350	4.0	57.7	57.7
	Micro enterprises (1-9 employees)	233	2.6	38.4	96.0
	Small enterprises (10-49 employees)	21	0.2	3.5	99.5
	Medium enterprises (50-249 employees)	3	0.0	0.5	100.0
	Total	607	6.9	100.0	
Missing	System	8232	93.1		
Total		8839	100.0		

Source: own elaboration

Table 10 shows the distribution of students' enterprises by activity areas and company size. The most popular sectors are 'Trade' (14.9%), 'Education and training' (14.4%) and 'Other services' (18.5%). In the sample 11.7% of the respondents listed their activities as 'Other services', where such sectors as food industry, sports and media were the most popular.

The self-employed students were the most active in 'Other services' (including finance and insurance) and 'Education and Training' (18.3%). The indicated services were very varied: cosmetic beauty advisor, insurance advisor, amateur artistic activities and so on. These illustrative examples of performed activities show that students established enterprises to supplement their income in order to finance their studies, and the performed activities contain very few real entrepreneurial elements that would differ from employee elements.

Most micro-enterprises operated in 'Trade' (17.2%) and 'Other services' (16.7%). In the sample businesses out of the 21 small-sized enterprises three operated in 'Trade', three in 'Education and training', three in 'Tourism and catering' and three in 'Other' sectors.

A considerable proportion of the students cannot be viewed as entrepreneurs if we define an entrepreneur is as a person, who takes risks, explores opportunities, is willing to experiment and is performance and future-oriented. Although most students are engaged in different types of enterprises, they perform activities that are very similar to activities performed by employees (e.g. insurance advisors and Avon advisors working on commission bases). It is obvious that these activities are very beneficial for entrepreneurship and entrepreneurial activities, because they allow students to gain an insight into the administrative burden related to entrepreneurship and specificities of entrepreneurial lifestyles (autonomy and working hours).

The high rate of self-employed students indicates how valuable this student group is. However, self-employed students rarely become entrepreneurs who operate ventures with substantial growth rates.

Table 10. Student enterprises by sector (%)

	Self-employed	Micro enterprise	Small enterprise
Information technology and communication	9.2	9.5	9.5
Trade (wholesale/retail)	12.9	17.3	14.3
Consulting (law, tax, management, HR)	9.2	10.4	0.0
Advertising / Marketing / Design	4.9	4.8	9.5
Education and training	18.4	9.1	14.3
Tourism and catering	1.7	6.9	14.3
Health services	4.6	2.6	0.0
Other services (including finance, insurance, etc.)	20.4	16.9	9.5
Architecture and engineering	3.7	3.5	9.5
Construction and manufacturing	1.4	4.3	4.8
Agriculture	3.2	2.2	0.0
Other	10.3	12.6	14.3
Total	100.0	100.0	100.0
N	348	231	21

Source: own elaboration

Company foundation process

More than half of the respondents started their businesses alone, without co-founders. The rate of respondents with one co-founder amounted to 31%, another 10% had 2 co-founders and the remaining respondents founded ventures with 3 or more co-founders (See Table 11).

Table 11. Number of co-founders in student enterprises

		Frequency	%	Valid %	Cumulative %
Valid	No Co-Founders	325	3.7	53.3	53.3
	1 Co-Founder	189	2.1	31.0	84.3
	2 Co-Founders	61	0.7	10.0	94.3
	3 Co-Founders	24	0.3	3.9	98.2
	>3 Co-Founders	11	0.1	1.8	100.0
	Total	610	6.9	100.0	
Missing	left unanswered	48	0.5		
	System	8181	92.6		
	Total	8229	93.1		
Total		8839	100.0		

Source: own elaboration

As for co-founder persons, they were mostly family members, as indicated by 189 respondents. A lower rate of co-founders (70 responses) came from non-university and non-college friends, 66 respondents had co-founders from professional networks and only 51 entrepreneurs founded their companies together with peers from higher institutions.

Questions related to company formation (Table 12) clearly show that students did not really express planned behaviour in the process of company formation. The table contains the mean values of the students' answers. Calculating mean of the scale values is also often used in the literature dealing with entrepreneurial intention and student entrepreneurship to aggregate different attributes of attitudes and other Likert scale statements (see for example Ozaralli & Rivenburgh, 2016, Sieger, Fueglistaller & Zellweger, 2014, Zellweger, Sieger & Englisch, 2012, Lüthje & Franke, 2002, Szerb & Márkus, 2007).

Table 12. Company foundation process

	Self-employed	Micro enterprises	Small enterprises
I designed and planned business strategies.*	4.06	4.56	5.25
I researched and selected target markets and did meaningful competitive analyses.*	3.93	4.42	4.60
I designed and planned production and marketing efforts.*	4.09	4.48	5.05
The product/service that I now provide is substantially different from the one I first imagined.	3.37	3.36	3.60
I tried a number of different approaches until I found a business model that worked.	3.94	4.08	4.67
I was careful not to commit more resources than I could afford to lose.	4.96	5.27	4.25
I was careful not to risk more money than I was willing to lose.*	4.96	5.06	4.05
I allowed the business to evolve as opportunities emerged.	5.16	5.18	5.20
I adapted what I was doing to the resources we had.	5.11	5.31	5.00
I was flexible and took advantage of opportunities as they arose.	5.28	5.39	5.71

(1=strongly disagree, 7=strongly agree)
*Significant effect of company size
Source: own elaboration

The company size significantly affected the assessment (business strategy, target and market analyses, competitiveness analyses and marketing). The larger the enterprise the students owned, the more thoughtful answers they gave to the questions related to company formation. Surprisingly, business family background did not really affect the evaluation of the statements with the exception of two statements 'I was careful not to commit more resources than I could afford to lose' and 'I was careful not to risk more money than I was willing to lose'. Hence, even respondents with family business backgrounds did not make any

serious preparations before forming a company. Neither the respondents' age, nor their field of education had any impact on the variables. Thus it is clear that the business and economics knowledge gained during studies is not incorporated in students' entrepreneurships. The analyses of enterprises by year of their establishment show the same results. It means that enterprises formed during students' studies also show an insignificant relationship with these variables.

Particular variables correlate with each other, which indicates that the respondents either considered themselves to be considerate and thoughtful or they did not.

The role of parental support

A family business background plays a significant role in students' career aspirations (Gubik, 2013, Gubik & Farkas, 2014). In the sample 38.1% of respondents had parents or other family members who were entrepreneurs compared with 28% of students with non-family business backgrounds.

The positive effect of family business background favourably influenced students' entrepreneurial aspirations and was also experienced in the provision of parental support. Parental support was measured on the Likert scale from 1 to 7. Table 6 clearly shows that parents with business experience provided substantial support to their children in all areas. Students had access primarily to contacts and networks. Also, knowledge and advice were highly valued.

Table 13. Parental support

	N	Without a family business background	N	With a family business background
Materials (equipment, facilities)	383	2.45	228	4.25
Contacts and networks	382	2.60	228	4.42
Knowledge and advice	384	2.89	228	4.54
Idea generation / evaluation	380	2.49	225	4.29
Financial resources (e.g., debt and equity capital)	383	2.43	226	4.21

(1=not at all, 7=very much)
Source: own elaboration

Performance

The responses to the question relating to hours spent at work showed that students worked 25.8 hours per week on average but there were significant differences. In larger companies respondents worked more than the average (Table 14). There was a significant correlation between company sizes and the invested amount of work (r=0.149, p=0.000). Students studying economics and business worked more than those studying social sciences (Eta=0.152, p=0.004).

Table 14. Hours worked per week by company size

	Mean	N	Std. Deviation
Self-employed	21.33	315	19.341
Micro-enterprises	31.00	226	20.281
Small enterprises	32.14	21	17.289
Medium enterprises	58.00	3	11.357
Total	25.79	565	20.308

Source: own elaboration

The average age of respondents involved in business activities (27.5) was higher than the age of those without enterprises (23.4). In the sample two-thirds of student running enterprises had regular jobs in addition to their studies, which may indicate that they were part-time students studying within the framework of correspondence or distance learning programmes (this was not part of the questionnaire). They are likely to have an established living standard and have an operating enterprise, when they voluntary decided to develop themselves. It was not their studies that inspired them to get engaged in entrepreneurial activities.

The surveyed entrepreneur students had to compare themselves with their competitors. The analyses of average scores provided only a limited basis for making any conclusions about competitors because respondents gave average scores to almost all questions (an average value of 4 on a 7-point Likert Scale) except to the question related to job creation. The majority of respondents generally considered that they lagged behind their competitors. When the company sizes were analysed, it turned out that the respondents who owned larger companies (and invested more efforts in their businesses) compared favourably with their competitors. This correlation is significant at p=0,000, Eta values are between 0.164 and 0.300 (Table 15).

Table 15. Company performance compared to competitors

	Mean	Self employed	Micro enterprise	Small enterprise
Sales growth	4.05	3.81	4.32	4.63
Market share growth	3.73	3.43	4.06	4.47
Profit growth	3.97	3.73	4.22	4.65
Job creation	3.01	2.56	3.42	4.84
Innovativeness	3.99	3.67	4.25	5.62

(1=worst, 7=best)
Source: own elaboration

Future plans

In the sample 33.8% of the respondents did not plan any increase in the number of employees, 2.8% intended to decrease the workforce and the remaining entrepreneurs indicated growth intentions in the next five years. The company size had a significant impact on expansion plans since owners of larger companies had more positive visions regarding their growth potential. Some respondents (14 students) seemed to have unrealistic expansion plans. Owners of micro-enterprises intended to transfer into middle-sized companies within a couple of years. Half of these respondents were involved in 'IT/communication' and 'Other' sectors of industry. It was difficult to judge whether the surveyed students gave these responses to the questions in the questionnaire because of the anonymity and confidentiality guaranteed or because they really thought that there was a huge potential in their business ideas.

The same differences in the responses were experienced in students' intended career paths. Among active entrepreneurs 54.5% of students intended to work as employees after graduation. This rate among self-employed was the highest accounting to 62.3% and decreased with company size (see: Figure 29).

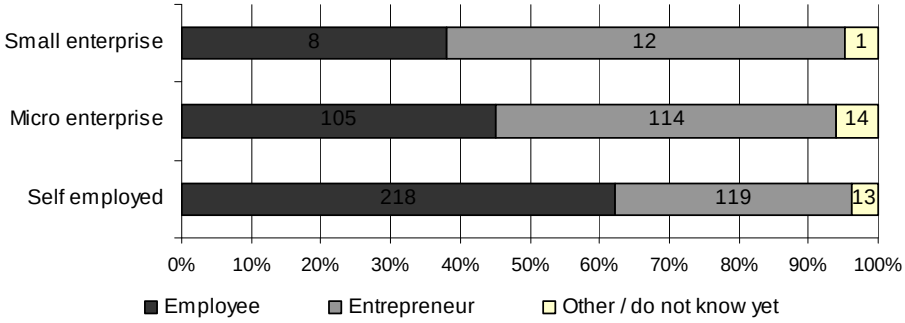

Figure 29. Career aspirations right after graduation by company size
Source: own elaboration

This correlation is also significant (Cramer V=0.148, p=0.000) and is related to the higher performance and longer working hours. Both long working hours and high performance are also experienced in major companies.

Motivations

'Making money and becoming rich' appeared to be the most important goal of entrepreneurial students (mean 5.0 on the Likert scale from 1 to 7). Respondents considered 'to advance my career' to also be important (4.8). The types of motivation such as solving societal problems, changing the conditions or changing the way the world works belonged to the least popular motives (Table 16).

Table 16. Motivations and goals

I created my firm in order…	N	Mean	Std. Deviation
…to make money and become rich	613	5.00	1.781
…to advance my career in the business world	612	4.80	1.877
…to solve a specific problem for a group of people that I strongly identify with (e.g., friends, colleagues, club, community)	611	4.34	2.034
…to play a proactive role in shaping the activities of a group of people that I strongly identify with	613	4.18	2.035
…to solve a societal problem that private businesses usually fail to address (such as social injustice, destruction of environment)	618	3.74	2.169
...to play a proactive role in changing how the world operates	611	3.84	2.210
Valid N (listwise)	605		

(1=strongly disagree, 7=strongly agree)
Source: own elaboration

Table 17 shows that the level of importance of different elements of motivations and goals decreased with the increase in age of entrepreneurs. Similar changes were experienced in the case of the companies' age (the significant correlation between the two variables, namely the age of entrepreneurs and the age of companies may provide an explanation for this). Money and success appear to be the driving force of young people. They would like to be powerful shapers of their environment. This idealism decreases with the age of the company.

The analysis of company sizes show significant relationship only in case of the motivation of 'to advance my career in the business world'.

Table 17. Effect of entrepreneurs' age and company characteristics on motivations and goals (correlation matrix)

	1	2	3	4	5	6	7	8	9
1. Your age?	1								
2. When did you found your firm (year)	0.492** (0.000)	1							
3. How many employees do you have today (full-time equivalent)?	0.056 (0.254)	0.063 (0.125)	1						
4. to make money and become rich	0.198** (0.000)	0.124** (0.002)	0.058 0.156	1					
5. to advance my career in the business world	0.205** (0.000)	0.162** (0.000)	0.135** (0.001)	0.563** (0.000)	1				
6. to solve a specific problem for a group of people that I strongly identify with (e.g., friends, colleagues, club, community)	0.084 (0.086)	0.111** (0.007)	0.071 (0.084)	0.084* (0.038)	0.331** (0.000)	1			
7. to play a proactive role in shaping the activities of a group of people that I strongly identify with	0.032 (0.519)	0.118** (0.004)	0.075 (0.068)	0.065 (0.109)	0.316** (0.000)	0.833** (0.000)	1		
8. to solve a societal problem that private businesses usually fail to address (such as social injustice, destruction of environment)	0.110* (0.024)	0.110** (0.007)	0.035 (0.390)	0.034 (0.395)	0.294** (0.000)	0.658** (0.000)	0.673** (0.000)	1	
9. to play a proactive role in changing how the world operates	0.123* (0.012)	0.139** (0.001)	0.033 (0.427)	0.067 (0.099)	0.280** (0.000)	0.585** (0.000)	0.620** (,000)	0.770** (0.000)	1

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).
Spearmans's rho values were calculated.
Source: own elaboration

7. Conclusions (Andrea S. Gubik, Szilveszter Farkas)

Promoting entrepreneurship with special emphasis on enterprises targeting growth is a critical economic issue. The aim of the GUESSS research, which started in 2003, was to analyse students' entrepreneurial intentions and formulate recommendations on entrepreneurship to decision makers. This issue is still topical, since more and more higher education institutions are participating in this project. In 2013 over 100,000 student responses were received from 759 higher education institutions in 34 countries.

In Hungary higher education institutions with over 1,000 students received the questionnaire and 8,839 responses were filled in. This study investigates students' career expectations after graduation and five years thereafter, their preferences related to choice of work and their expectations of future working conditions.

The key findings of this study are as follows:

- Students studying in higher education in Hungary intended to work as employees after graduation (83%) and exhibited low entrepreneurial intentions. However, thinking of five years after graduation, the attractiveness of the employee status decreased and entrepreneurial intentions increased (39%). The responses indicate that students would like to gain some experience as employees and start a business by exploiting the experience obtained.
- As potential business people, students preferred implementing their own ideas in an independent enterprise of their own to an enterprise operating in a performance-related pay system (working for one or more large companies).
- The survey data show significant differences in entrepreneurial intensions across gender. Female students exhibited lower entrepreneurial intensions irrespective of time. They preferred the public sector to the private sector. They valued a fixed-pay system more than a performance-related pay system and looked at their workplace primarily as a source of earning money. They were less motivated by career and personal development.
- There are also significant differences by the field of study. Economics and business students were the most open to entrepreneurship and students of social sciences were the least open to it.
- Family was a determining factor in entrepreneurship. However, decision makers and higher educational institutions had no effect on this factor. Family business background was likely to influence students' entrepreneurial intentions, since respondents raised in a business environment were more likely to undertake risks and additional responsibilities related to starting up a company. They had a greater need for challenges and flexibility than those without any business background.
- Students expected that their dreams would come true at their potential workplace. They expected their work to be challenging, exciting and enable them to use their creativity. However, their risk-taking willingness was low. The respondents who intended to start a business were more likely to attempt to achieve their own personal goals than community goals.

658 students reported to be an entrepreneur. After analysing their answers we can conclude that the composition of entrepreneur groups is very heterogeneous, starting from Avon

advisors through advisors selling financial products to owners of small processing businesses. Particular activities require different amounts of time, money and other investments, involve different risks and show specific characteristics of entrepreneurships. Major conclusions of students entrepreneurs are:

- The vast majority of entrepreneurial students work under conditions that are more characteristic of the status of employees and are considered to be students. Only a small group of respondents comply with the status of 'entrepreneurs' so it is they who make up the student-entrepreneur group.
- A significant part of students are self-employed. They invest less time in their work, are less considerate and growth-oriented than students with larger enterprises and prefer to work as employees after graduation. However, entrepreneurial activities of students who view entrepreneurship as a temporary source of living or supplementary income can also be beneficial because they have to resolve various entrepreneurial tasks and problems, make decisions in different situations and explore and acquaint themselves with entrepreneurship. Students belonging to this group are more likely to become entrepreneurs and are less uncertain about their career path than students who do not pursue entrepreneurial activities at all.
- Entrepreneurial training and courses offered at higher institutions are not reflected in students' entrepreneurial activities. To simplify the survey results, there are two extreme situations: a self-employment form that finances studies and studies that are accompanied by mature entrepreneurship.
- As for the size of enterprises, respondents who owned larger enterprises had a more serious approach to entrepreneurship. They worked longer hours and achieved better performance. The majority of them intended to be entrepreneurs and own enterprises with growth potential.
- Family business background plays a determining role in shaping the entrepreneurial intentions of students. Start-up intention highly depends on the amount of the financial support offered by parents and on a planned and proactive approach towards founding an enterprise.

The findings of the GUESSS research conducted in the past ten years revealed that a challenging job has become less important for young people. The research results indicates that the current generation uses work as a tool and is less willing to sacrifice their personal comfort and life goals for a career than the previous generation. This generation expects immediate solutions and results promoted by rapid communication and simple access to information, which cannot always be ensured in the entrepreneurial process. Lack of commitment to hard work and of long-term visions may result in business failure if there is no immediate success. Hence, promoting students' looking-ahead abilities is one of the areas that is worth concentrating on. In order to further enhance entrepreneurship, higher education establishments have to tailor their programs to the changed characteristics and elaborate new knowledge-transfer solutions, which are more practically oriented, for instance, incorporate simulation exercises or even focus on tasks and hurdles related to start-up activities by promoting real start-ups.

The business sector as an employer also faces new challenges as a result of this generation change. The changing character of the young generation of students is leading to new

expectations related to working conditions and life styles, which have an impact on start-up intentions too. Companies require new communication tools to raise and attract the interest of students with unrealistic visions. Also, new practices are needed to retain a young work force and maintain high quality standards, which may affect systems of interest and allow improvement in working conditions.

Students' entrepreneurial intentions are currently low in Hungary compared to international values. Hence, the enhancement of these intentions is an economic policy priority. It is obvious that it is impossible to achieve a sudden improvement in this issue. The regulatory framework of entrepreneurship, which can be modified and amended in a short time (taxes, regulations, administrative matters, government subsidies, etc.), can affect this process but not to a great extent. The survey results revealed that the societal feedback (that is, how the society assesses entrepreneurial efforts) and the quality of knowledge and experience the students obtain in the course of their studies also belong to important antecedents of students' entrepreneurial intentions.

On the other hand, there are many students who have hardly any knowledge about starting a business, start-up costs and expenses, as well as pitfalls involved in this activity. There is an endless list of self-employed people, which include language teachers, lawyers, financial consultants, artists and so on. Changes in working conditions (the increasing entrepreneurial nature of work) have further increased self-employment trends. Hence, to increase the number of programmes offering economic and financial courses to students who have different majors is worth considering.

Education policy makers should facilitate entrepreneurship education and integrate it into educational programmes, but not only in higher education. Companies could also contribute to entrepreneurship training by making it more entrepreneur-oriented if they realised its crucial importance and allocated financial resources and experience.

As this database contains more than 8000 answers from more than 30 higher education institutions, the results of the analysis can be generalised in terms of Hungarian students. At the same time, further econometric calculations and qualitative techniques are required to be carried out in order to identify the reasons for the existing differences between the analysed groups.

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