



ERASMUS  
CENTRE FOR  
ENTREPRENEURSHIP

# Global University Entrepreneurial Spirit Students' Survey

National Report for the Netherlands 2013-2014

# / Colofon

## About the Erasmus Centre for Entrepreneurship

ECE (the Erasmus Centre for Entrepreneurship) is an initiative of the Erasmus University and has the ambition to empower a global community of entrepreneurs to solve worldwide challenges. ECE provides value through research from an economic and management perspective that is among the best in the world. Through academic and practical education, individuals with backgrounds ranging from startup entrepreneurs to corporate employees are reached. To further enhance the growth of entrepreneurs, state-of-the-art facilities are provided where entrepreneurs

can meet, learn and work. This results in a thriving community of entrepreneurs, experts, partners, and enthusiasts who support and inspire each other to grow.

For more information about the Erasmus Centre for Entrepreneurship, please visit:

[www.eur.nl/entrepreneurship](http://www.eur.nl/entrepreneurship).

## Authors

- | Sofia Karali  
Erasmus Centre for Entrepreneurship, Erasmus University Rotterdam
- | Ingrid Verheul  
Rotterdam School of Management, Erasmus University Rotterdam
- | Roy Thurik  
Erasmus School of Economics, Erasmus University Rotterdam
- | Hendrik Halbe  
Erasmus Centre for Entrepreneurship, Erasmus University Rotterdam

## ECE Partners



International Project partner:



## **/ Acknowledgements**

The authors are grateful for participating in the international GUESSS project initiated and coordinated by Philipp Sieger and his colleagues of University of St. Gallen, Switzerland. We acknowledge the financial support of Erasmus Centre for Entrepreneurship (ECE). We owe a big thank you to Petridis Andreas for his input and support during this research project. We are also grateful for the efforts of all representatives of the Higher Educational Institutions that participated in the Dutch data collection. Special thanks go to the following university representatives: Maryse Brand and Haibo Zhou (University of Groningen), Joost Wouters (Eindhoven Technical University), Jolien van der Meché (Yes!Delft), Harmen Jousma (Leiden University), Martin Carree (Maastricht University),

Aard Groen (University of Twente), Erik Stam (Utrecht University), Geert Duysters (University of Tilburg), Erik Poutsma (Radboud University), Tijs van Es (Breda University of Applied Sciences), Maaïke van Buul (The Hague University of Applied Sciences), Frans Donders, Brendina Dallinga and Jan Wever (Hanze University of Applied Sciences, Groningen), Roelof Eleveld (INHolland University of Applied Sciences), Lex van Teeffelen (Utrecht University of Applied Sciences), Ozlem Akgün (Rotterdam University of Applied Sciences), Mark Eckhart (Leiden University of Applied Sciences), Ruud Drabbe and Lotte Geertsen (Fontys University of Applied Sciences) and Jan de Jager (Albeda College).

# / Table of Contents

Colofon	2
Acknowledgements	3
Table of Contents	4
Preface	6
<b>  1. Introduction</b>	<b>7</b>
1.1 Starting Point and Aim of GUESS	7
1.2 Theoretical Framework	8
1.3 Organisation and Data Collection Procedure	8
<b>  2. Participants and Sample in the Netherlands</b>	<b>9</b>
2.1 Universities and respondents	9
2.2 Student Demographics	10
2.3 University studies	10
<b>  3. Career Choice Intentions</b>	<b>14</b>
3.1 The General Level	14
3.2 Across fields of study	19
3.3 Across Gender	20
<b>  4. Determinants of Entrepreneurial Intentions</b>	<b>22</b>
4.1 A Closer Look at Entrepreneurial Intentions	22
4.2 University Context	23
4.3 The family context	26
4.4 The role of personal motives	27
4.5 Social and Cultural Context	29
<b>  5. Nascent entrepreneurs</b>	<b>30</b>
5.1 Personal Characteristics	30
5.2 The Planned Firm	32
<b>  6. Active Student Entrepreneurs</b>	<b>35</b>
6.1 Personal characteristics	35
6.2 The existing firms	37
<b>  7. Summary and Conclusion</b>	<b>41</b>
<b>  References</b>	<b>42</b>



## **/ Preface**

What are students' entrepreneurial intentions and activities across the world? This question is of highest social and economic relevance. Students represent the entrepreneurs of tomorrow; their entrepreneurial plans and activities will shape tomorrow's societies and the overall economic well-being.

Hence, it is of highest interest for different stakeholders such as academics, practitioners, educators, and policy-makers, to understand how many students intend to pursue an entrepreneurial career and how those entrepreneurial intentions come into being.

The important role of measuring these intentions, along with other related statistics is undertaken by GUESSS (Global University Entrepreneurial Spirit Students' Survey) on a national and international level. The Netherlands is one of the member countries that participated in the survey with 28 educational institutions and approximately 10,000 students who successfully completed the survey. The survey was conducted from October 2013 to March 2014.

Yours sincerely,

**The Dutch GUESSS Team**

The report derives from a dataset consisting of 9,907 responses about the students' entrepreneurial intentions<sup>1</sup> and activities not only right after their studies but also 5 years after the studies are completed. These intentions are also presented across the different educational institutions and field of studies, but there are also interesting correlations between intentions and other demographic characteristics. In line to the International report we see that the Netherlands belongs in the group of countries where the entrepreneurial intentions have declined compared to 2011/12.

The 2013/14 National survey exists only because of the significant contribution and assistance of all participating educational institutions and students who responded to our survey invitation. We want to thank you for that and we are looking forward to the next edition of GUESSS in 2015/16.

# 1 / Introduction

## 1.1 Starting Point and Aims of GUESSS

The international research project GUESSS stands for “Global University Entrepreneurial Spirit Students’ Survey” and was founded at the Swiss Research Institute of Small Business and Entrepreneurship, at the University of St.Gallen (KMU-HSG) in 2003. Until 2006 it was labeled ISCE (International Survey on Collegiate Entrepreneurship). Its research focus is on students’ entrepreneurial intentions and

activities. With every data collection wave, GUESSS has grown and has become more internationally oriented, culminating in the 6th edition in 2013/2014 with 34 participating countries. The Netherlands participated for the second subsequent year since 2011/2012.

### **The aims of GUESSS can be summarized as follows:**

- | Systematic and long-term observation of entrepreneurial intentions and activities of students
- | Identification of antecedents and boundary conditions in the context of new venture creation and
- | entrepreneurial careers in general
- | Observation and evaluation of universities’ activities and offerings related to the entrepreneurial
- | education of their students and aim for an even stronger impact on research and practice.

### **GUESSS intends to create value for different stakeholders:**

- | Participating countries generate insights on their respective basic conditions for entrepreneurship in general
- | Learning more about the entrepreneurial power of the students
- | Participating universities are enabled to assess the quantity and quality of their offerings in the context of entrepreneurship
- | Politics and public are sensitized for entrepreneurship in general and new venture creation in particular, and hopefully identify need for action
- | Students can benefit from the implementation of respective actions in the long term
- | Overall, GUESSS is maybe the largest entrepreneurship research project in the world.
- | We seek to further increase its global scope in the future and aim for an even stronger impact on research and practice.

## 1.2 Theoretical Framework

The theoretical foundation of this survey is the Theory of Planned Behavior (TPB) (Ajzen, 1991, 2002; Fishbein & Ajzen, 1975). Its underlying argument is that the intention to perform a specific behavior is influenced by three main factors: attitude toward the behavior, subjective norms, and perceived behavioral control. At GUESSS, we focus on career choice intentions in general and entrepreneurial intentions in particular.

We investigate additional factors that may impact the evolvement of career choice or entrepreneurial intentions through the three main elements of TPB. Examples are the university context, the family context, personal motives, and the social/cultural context. The overall theoretical framework is illustrated in the following figure.

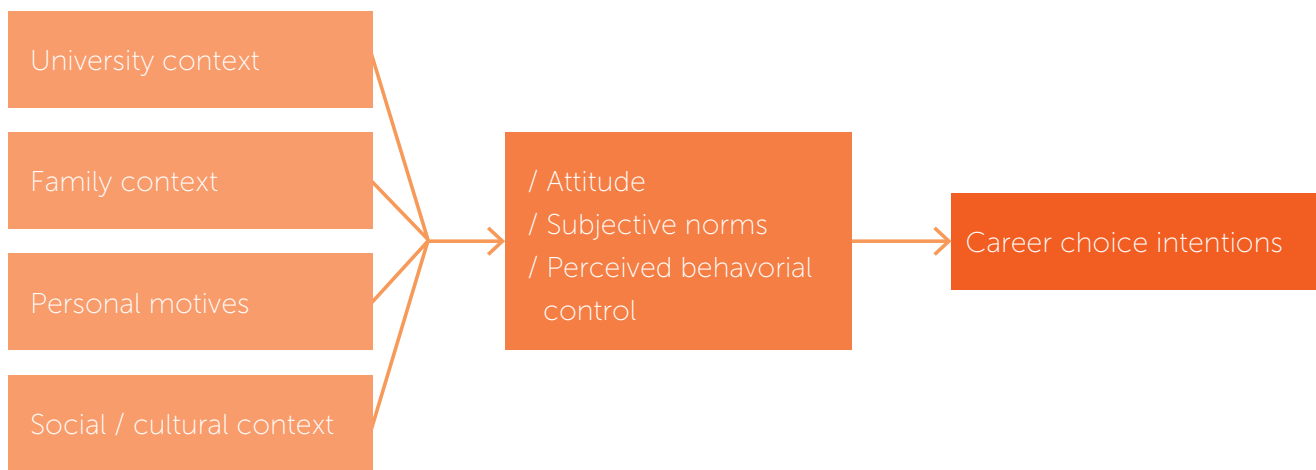


Figure 1: Theoretical framework of GUESSS 2013/2014

## 1.3 Project Organisation and Data Collection Procedure

On an international level, the GUESSS project is organized by the KMU-HSG at the University of St.Gallen (Switzerland). Participating countries are represented by one main country team.

In the Netherlands, the survey was conducted by Erasmus Centre for Entrepreneurship. We began organizing the project by contacting professors, entrepreneurial student associations, administrative personnel and colleagues in search of partner universities. The link to the online survey was then sent out to the University partners who forward it to their own students.



## 2 / Participants and Sample in the Netherlands

### 2.1 Universities and Respondents

Data were collected from students at higher education institutions within the Netherlands. An online questionnaire was distributed by institutional representatives at 28 Universities and Universities of Applied Science between October 2013 and March 2014. Two weeks after the initial mailing the representatives of the educational institutions were requested to send out a reminder to their students. To motivate students to participate, two Mini iPads were raffled off to students who completed the survey.

The complete GUESSS data set for 2013/2014 includes information from more than 100,000 respondents across 34 countries, of which 9,907 are from the Netherlands.

The following table indicates the Dutch educational institutions and number of respondents that participated in the survey.

Educational Institution	Population	Response	Response rate
<b><u>Universities of Scientific Education (WO)</u></b>			
Delft University	1000	32	3,2
Eindhoven University of Technology	400	59	14,75
Erasmus University Rotterdam	40000	1060	2,65
Maastricht University	13000	188	1,45
Leiden University	2500	140	5,6
Tilburg University	360	23	6,39
University of Groningen	31698	1402	4,42
University of Twente	3000	41	1,37
Utrecht University	9000	96	1,07
<b><u>Universities of Applied Sciences (HBO)</u></b>			
Fontys University of Applied Sciences	40000	1355	3.39
The Hague University of Applied Sciences	4000	297	7.43
Hanze University of Applied Sciences	26166	1476	5.64
INHolland University of Applied Sciences	27000	833	3.09
Rotterdam University of Applied Sciences	3000	540	18.00
NHTV Breda University of Applied Sciences	7000	150	2.14
University of Applied Sciences Leiden	4000	46	1.15
University of Applied Sciences Utrecht	52000	1838	3.53
<b><u>Universities of Applied Sciences (HBO)</u></b>			
Albeda <sup>2</sup>	n.a	147	n.a
Other <sup>3</sup>		184	
Total	264124	9907	3,75

Table 1: Participating educational institutions in the Dutch survey

<sup>2</sup> Albeda (MBO) is included among the educational institutions in an experimental base, since this is the first year that a MBO participates in the survey.

<sup>3</sup> Other educational institutes (with no systematic data collection and/or  $\leq 20$  responses) include the following Universities of Scientific Education: Radboud University Nijmegen, University of Amsterdam, VU Amsterdam, the following Universities of Applied Sciences: Amsterdam, HAN, Avans, Saxion, Windesheim, Zuyd.

## 2.2 Student Demographics

The average age of students who participated in the National survey is about 23 years (median = 22 years). The sample average of 23 years is similar to what is reported in the national GUESSS report for the Netherlands for 2011/2012.

Remarkably, and as can be seen from Figure 2, more female than male students participated in the Dutch survey: 62% versus 38%, respectively. Moreover, the majority of the students (i.e., 84%) have the Dutch nationality.

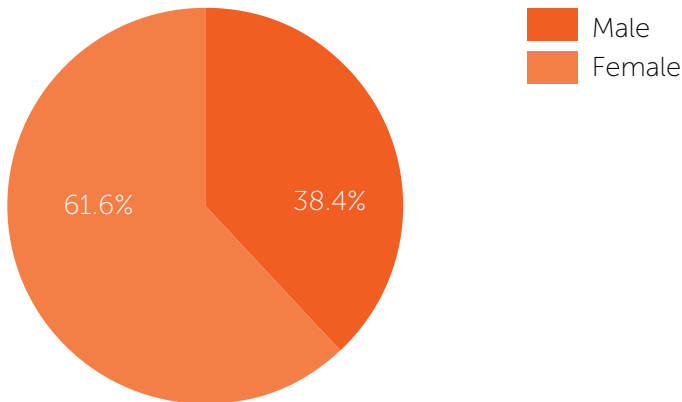


Figure 2: Gender distribution in Dutch GUESSS sample

## 2.3 University Studies

Figure 3 provides an overview of the study level of students who participated in the National survey. Most of the students are undergraduates enrolled in a bachelor program (81%), followed by students studying on a master level (17%). The share of students on other levels (e.g., PhD, MBA) is negligibly small.

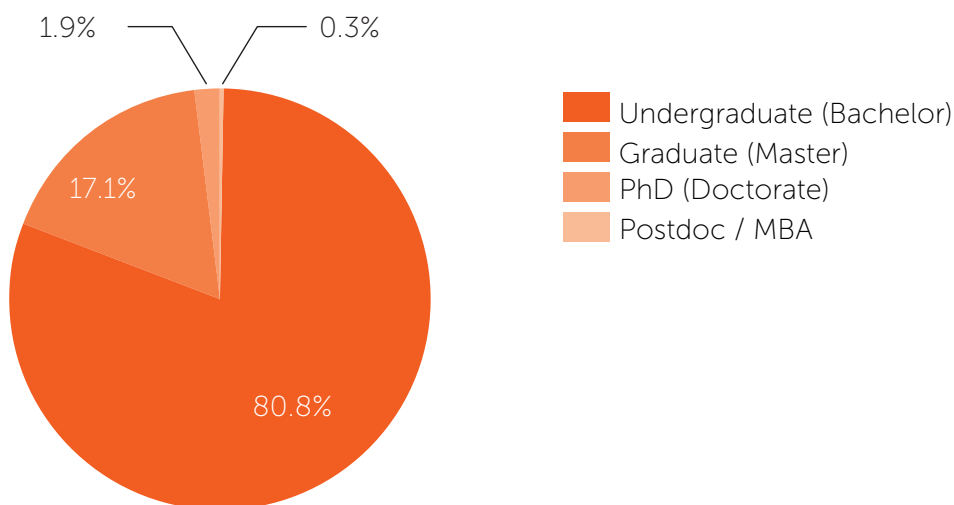


Figure 3: Study level in Dutch GUESSS sample

Following the procedure commonly used at GUESSS, the study fields are grouped into three main categories: Business, Economics and Law (BECL)<sup>4</sup>, Natural Sciences and Medicine (NSM)<sup>5</sup> and Social Sciences (SSC)<sup>6</sup>. Finally, "Other" includes the actual "Other" category plus "Art, Science of Art".

It is important to mention that originally the "Other" included many observations, since students actually typed in their exact faculty name. In order to be consistent and have valid results the GUESSS NL team went through these results and categorized them accordingly to the four main study field categories mentioned above.

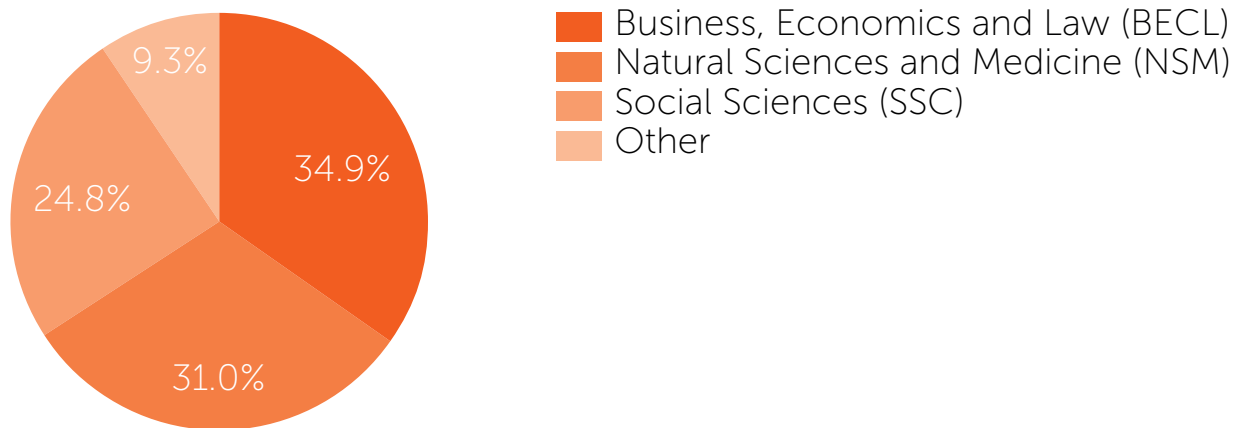


Figure 4: Study fields in Dutch GUESSS sample

The study field distribution across gender reveals that the majority of BECL students is male, while female students are more prone to Social Sciences, compared to male students.

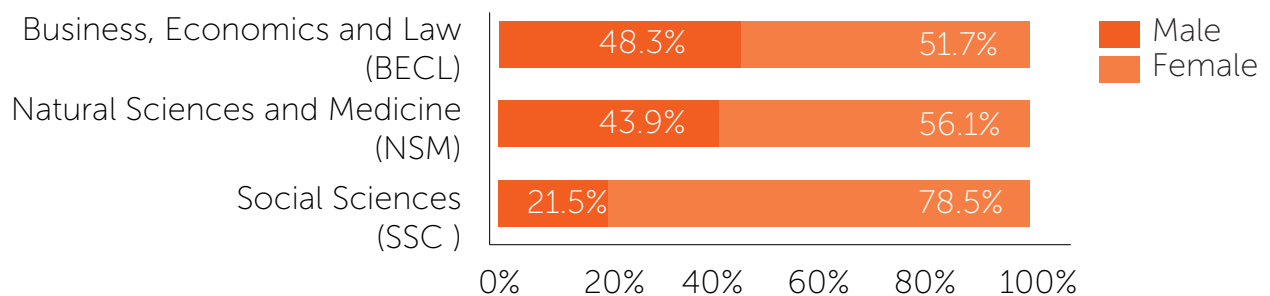


Figure 5: Students' gender across study field

<sup>4</sup> BECL consists of Business /Management, Economics and Law.

<sup>5</sup> NSM consists of Engineering and Architecture, Mathematics and Natural Sciences, Information Science/IT, Agricultural Science, Forestry and Nutrition Sciences and Medicine and Health Sciences.

<sup>6</sup> SSC consists of Linguistics and Cultural Studies (including Psychology, Philosophy, Religion) as well as Other Social Sciences (including Education).

Students were also asked if they have a regular job next to their study and on average how many hours per week they work. 40% of the students replied that on average they work approximately 17.5 hours per week.

Since study field is an important determinant of the career choice intentions and the intentions for involvement in entrepreneurship, a cross-educational institutions' comparison is presented below.

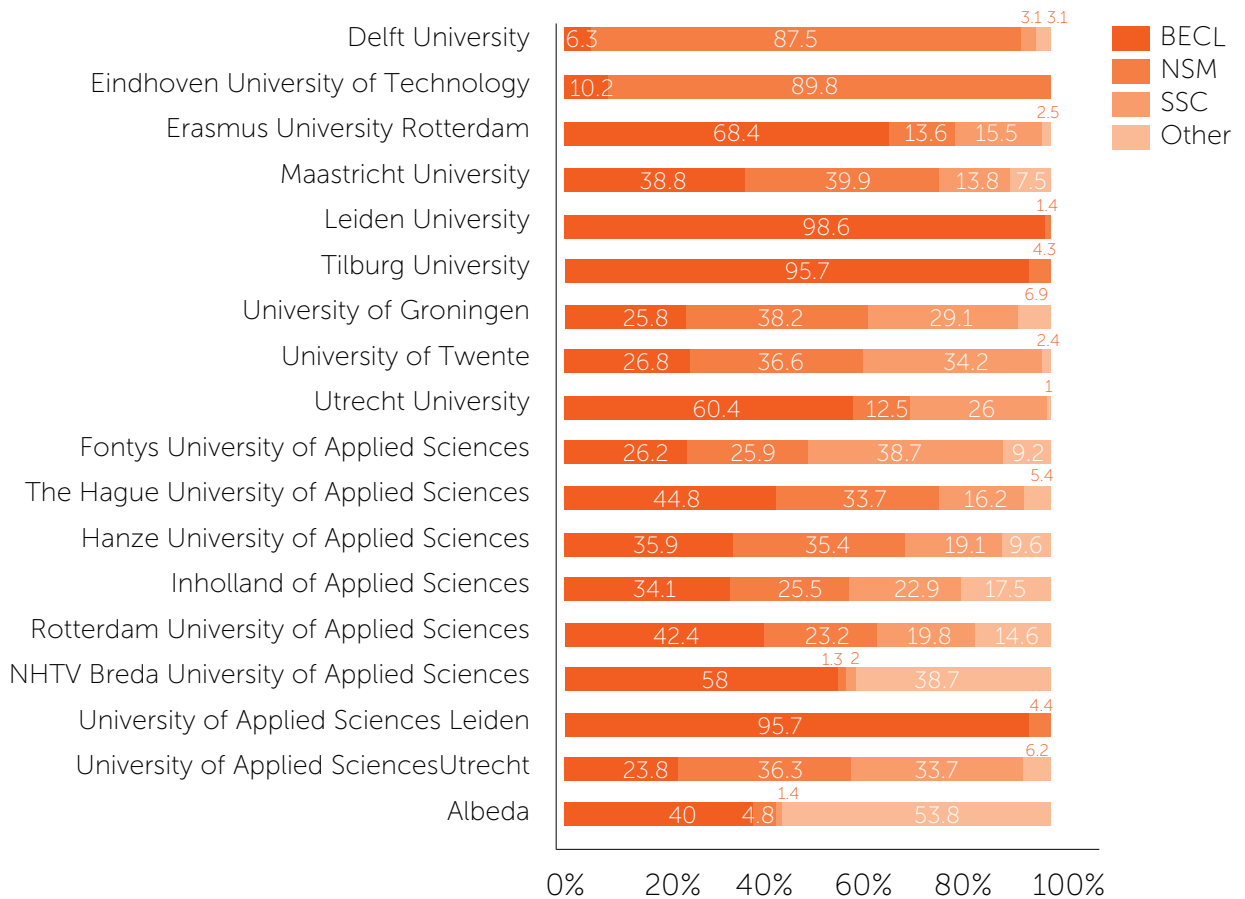


Figure 6 : Share of BECL, NSM, and SSC students across educational institutions

In the Netherlands students can choose between two types of tertiary education: the applied higher vocational education ('Hoger Beroepsonderwijs': HBO) that emphasizes skill development to prepare for a certain occupation or job, and the scientific university education ('Wetenschappelijk Onderwijs': WO) that is aimed at developing analytical skills. Figure 7 below shows the distribution of students across the two different types of higher education.

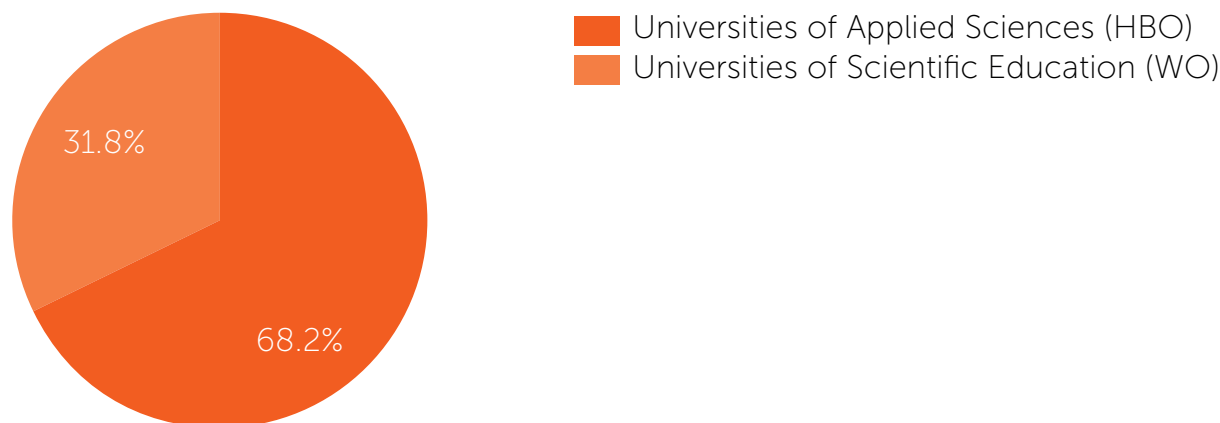


Figure 7: Scientific or applied higher education

The distribution of students in Universities (WO) and Universities of Applied Sciences (HBO) across the four main study fields is presented in Figure 8. It is remarkable that Universities of Applied Sciences (HBO) are double in size to the category "Other", compared to the University (WO) students. This probably indicates that for HBO students it is more difficult to classify their study according to the GUESSS classification.

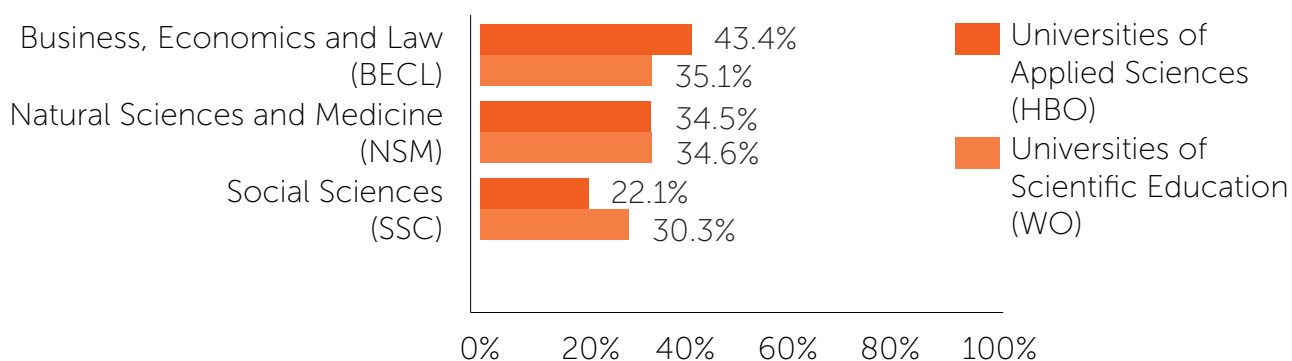


Figure 8: Study fields according to educational institutions

## 3 / Career Choice Intentions

### 3.1 The General Level

One of the most central questions for this survey is what students intend to do after their studies. Which career path do they plan to follow? What do they want to do directly after completion of their studies, and what is their long-term career plan? The following figure reports what the students in our global sample want to be right after completion of their studies (orange bars) and 5 years later (green bars). Figure 9 shows the distribution of the students across the different career choice intentions right after their studies and 5 years after completion of their studies.

The first six options represent alternatives as an employee in a small, medium or large sized firm, or an employee in a non-profit organization, in academia or finally public sector. The following three options represent a career path in entrepreneurship as a founder or successor of a family firm, while the last choice represents other alternatives than the one already presented.

The results reveal that most students have a preference for wage-employment directly after their study.

The majority of them (80%) intend to become employed in a small or medium-sized firm (SME) (44%), followed by working in a large firm (18%), academia (7%), a non-profit organization (6%) or in public services (5%). Only 5% of the students have entrepreneurial intentions and intend to start an own business (founders) directly after studies.

Five years following the completion of their studies, however, the percentage of student founders increases to 27% and somewhat more than 50% of the students aim to become wage-employed. It appears that an entrepreneurial career is not something students undertake directly after studies. It is common that students first want to gain relevant experience in the labor market before they start their own business. Taking over the family business is preferred by only 1 to 2% of all students, which indicates that it is generally difficult to find a successor and transfer the family business to the next generation.

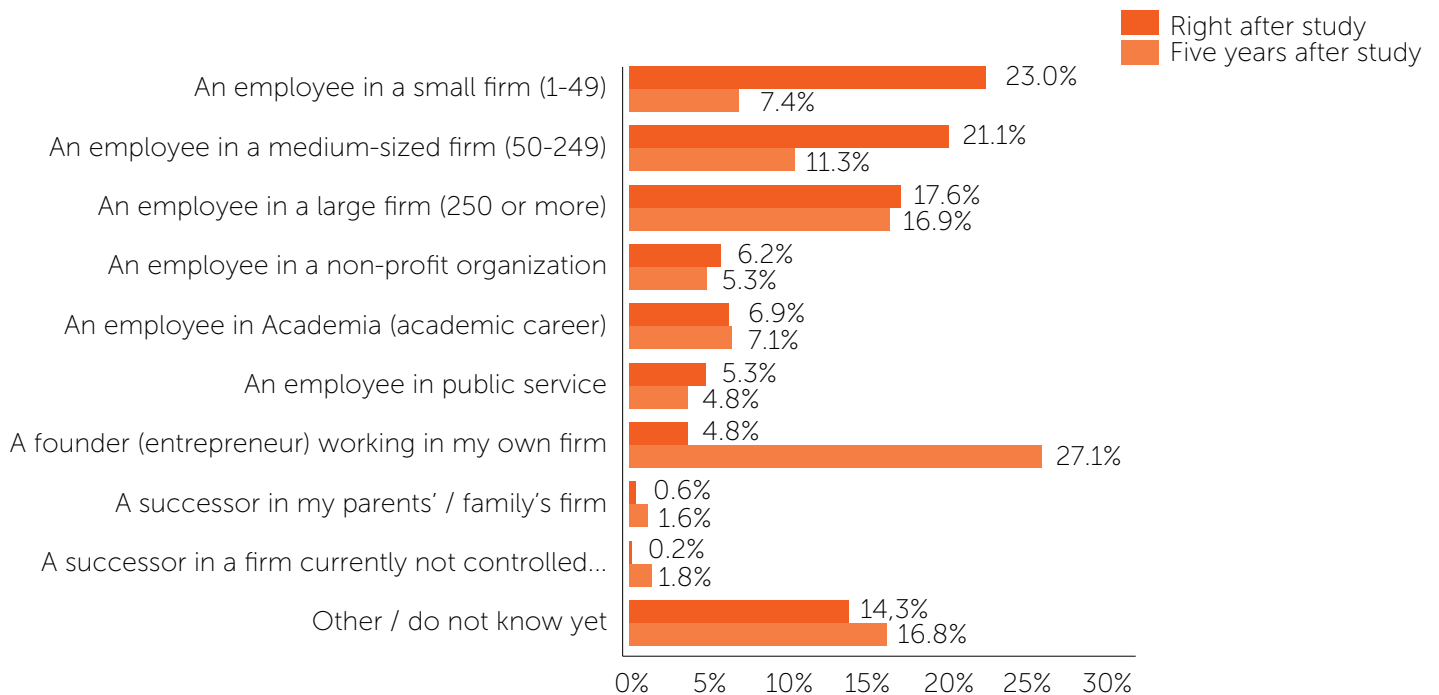


Figure 9: Study fields according to scientific and applied education

In Figure 10 we divided students' career choice intentions into four broad categories: employees<sup>7</sup>, founders<sup>8</sup>, successors<sup>9</sup>, and others<sup>10</sup>. We see that there is a striking difference in career choice intentions 'right after study' as compared to '5 years after study'. Whereas 80% of the students intend to start their career in wage-employment directly after graduation, this percentage drops to about 55% five years after study. For a career in entrepreneurship we see the opposite tendency:

directly after study only 5% indicates to be interested in a career in entrepreneurship, while this is the case for more than 25% of the students five years after their graduation. Apparently, students see the value of having (relevant) work experience before starting up their own company. Only a small percentage of students aim for a career as an entrepreneur by taking over an already established (family) business. Still, roughly about 15% of the students do not yet know what career to pursue after their study.

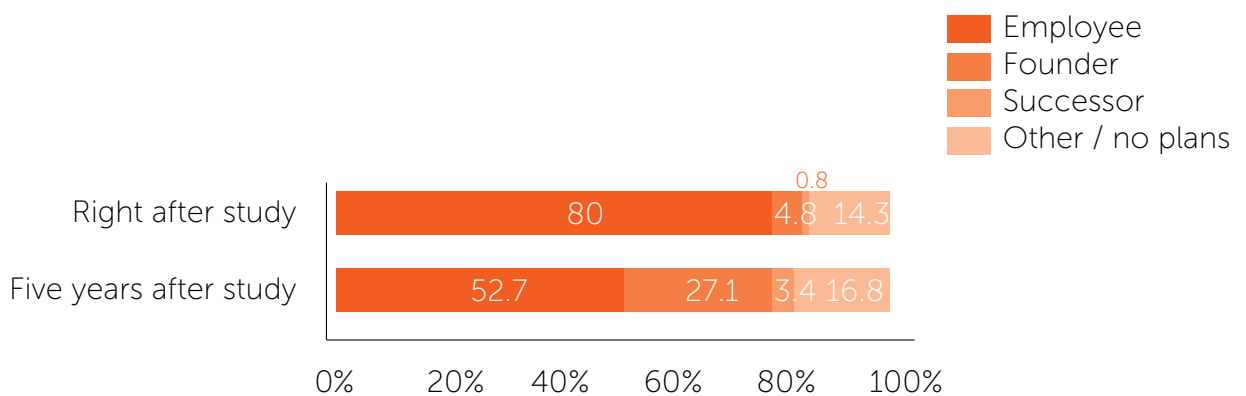


Figure 10: Shift in career groups on the national level

<sup>7</sup> Consists of SME, large firm, non-profit organization, University/Academia and public service.

<sup>8</sup> Consists of foundation of own company.

<sup>9</sup> Consists of successor in parents firm and successor in a firm owned by other persons. Strictly speaking, becoming a successor in the parents' firm or in a firm owned by other persons represents a type of entrepreneurial career.

<sup>10</sup> Consists of no professional career, do not know (yet) and other career paths.

The GUESSS sample for the Netherlands allows us to perform comparisons about the career choice intentions among the different educational institutions. Figure 11 represents in details the occupational intentions of students right after they complete their studies and Figure 12 represents the same career choice intentions for the same students, five years after they have completed their studies.

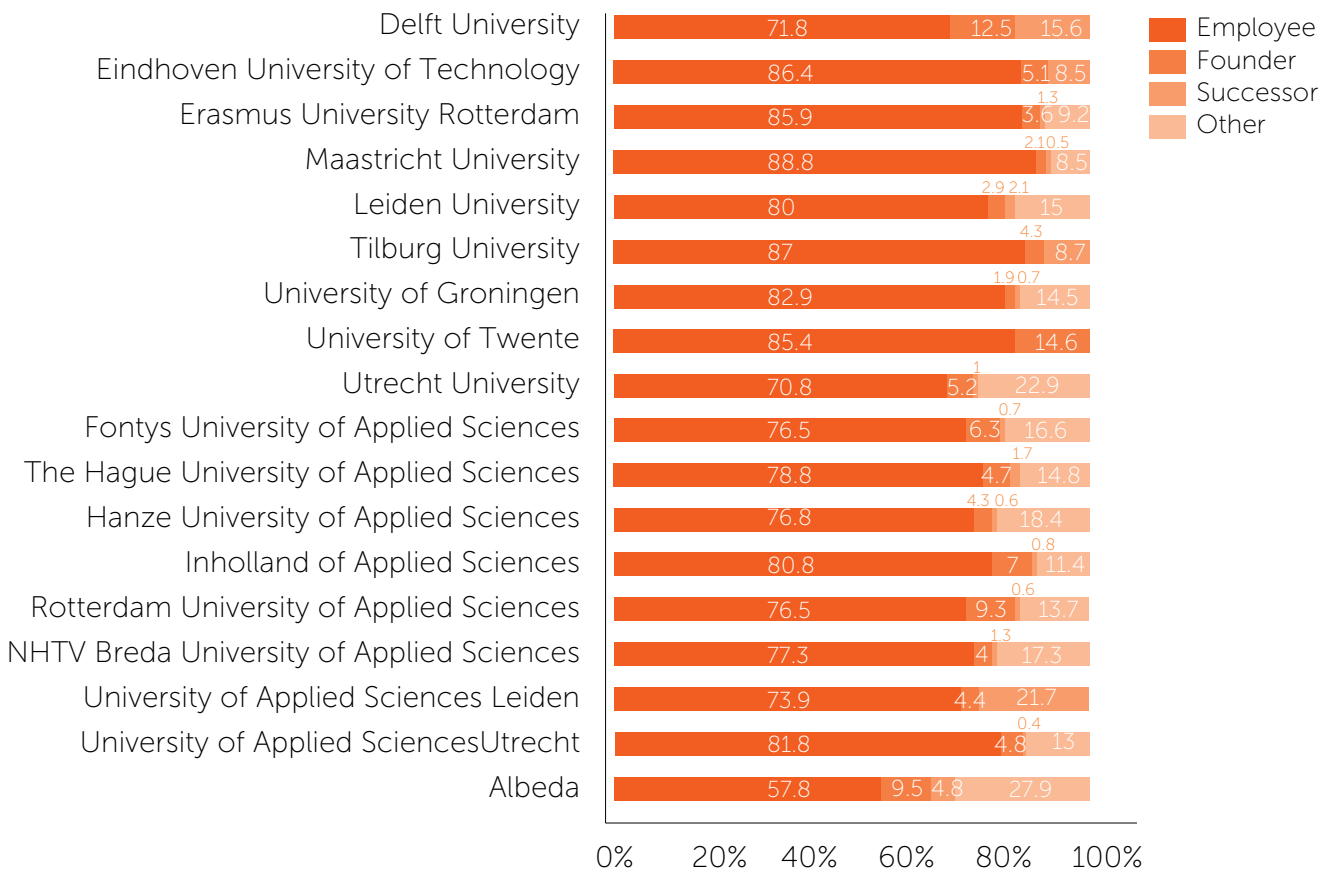


Figure 11: Career choice intentions in groups directly after studies across Dutch institutions



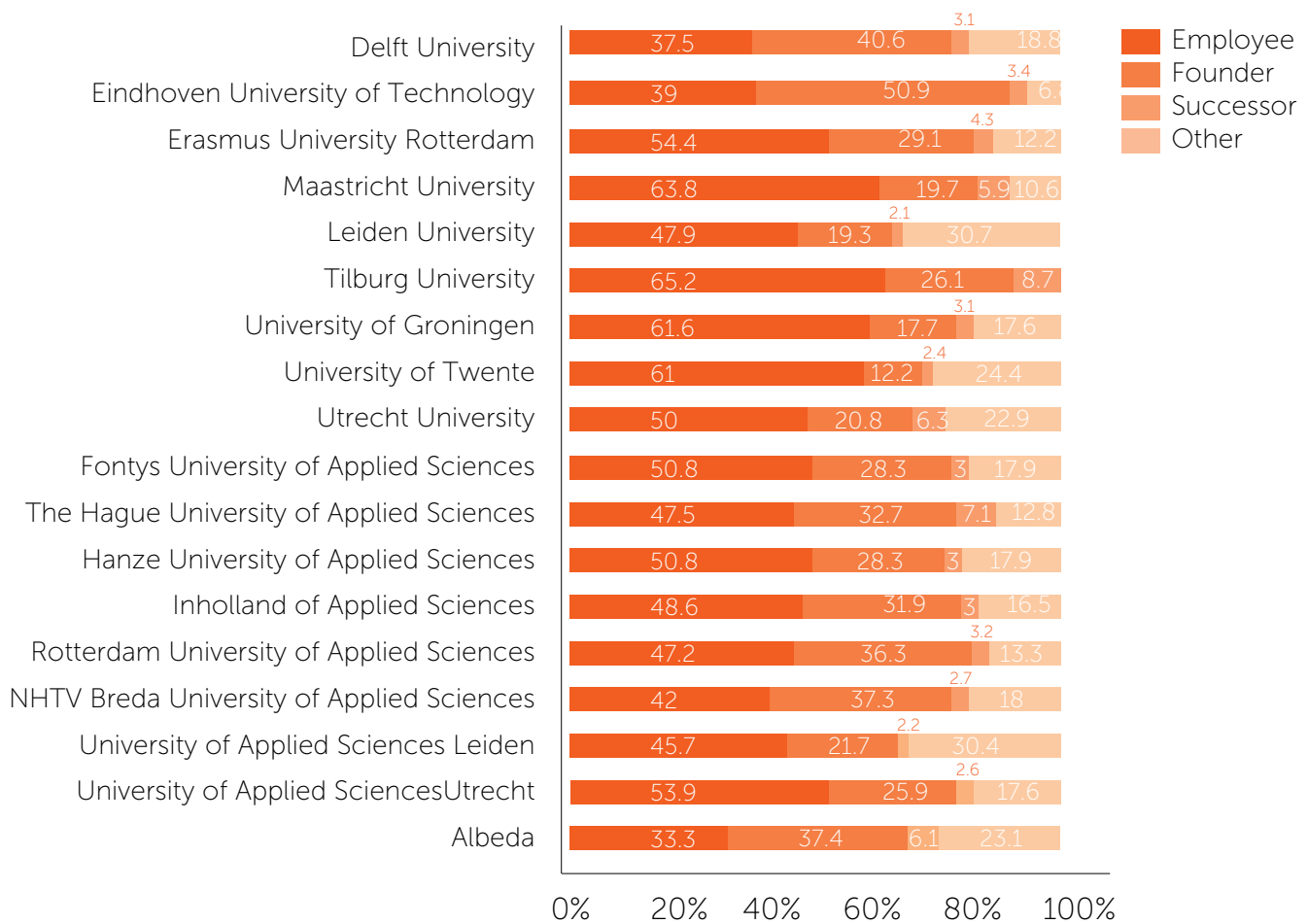


Figure 12: Career choice intentions in groups 5 years after studies across Dutch institutions

From Figures 13 and 14 we see that students in applied education (HBO) are somewhat more likely to have entrepreneurial intentions (both right after and five years after study) as compared to students following scientific education (WO). This is not surprising given that entrepreneurship has an applied rather than a scientific basis. However, for both types of students entrepreneurial intentions are more pronounced five years after study: 27% of the WO students have entrepreneurial intentions as a founder (23%) or successor (4%) against 32% of the HBO students.

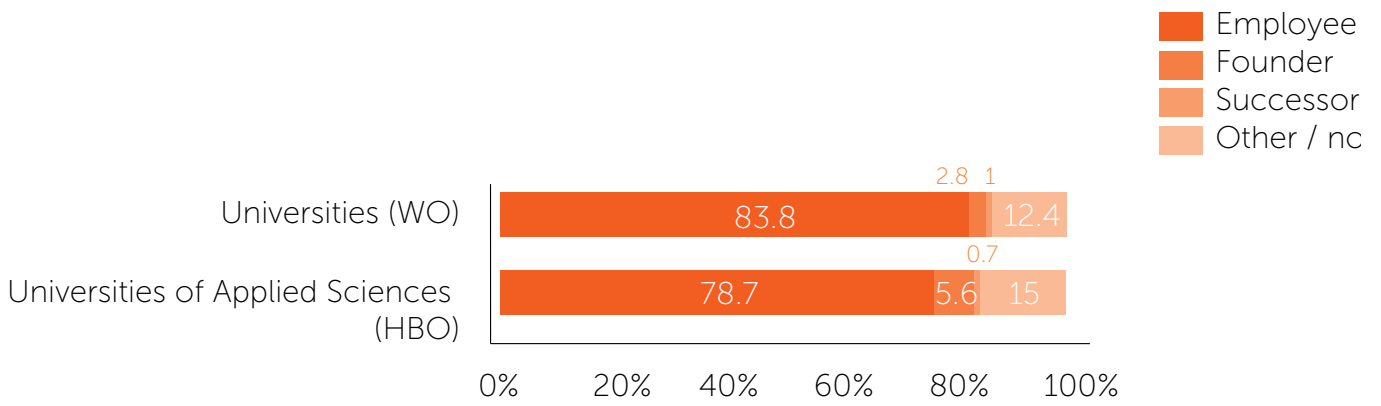


Figure 13: Career choice intentions by type of education right after study

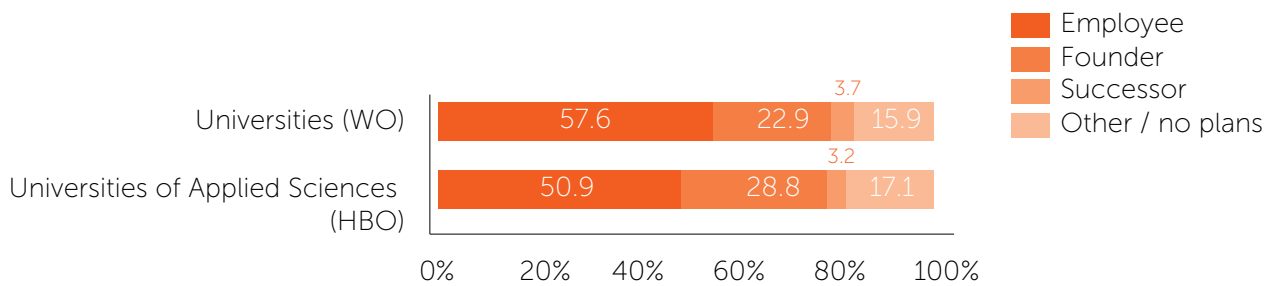


Figure 14: Career choice intentions by type of education five years after study

### 3.2 Across fields of study

As mentioned above the field of study is a significant factor in shaping career choice intentions in general and entrepreneurial intentions in particular. If we look at the career choice intentions (right after study) grouped by study field (see Figure 15) we see that there is a relative equal spread for students in the fields of 'Business, Economics & Law', 'Natural Sciences & Medicine' and 'Social Sciences'. However, there is a slight tendency for 'Business and Economics' students to be more likely to have entrepreneurial intentions (as a founder or successor) as compared to students in the other fields.

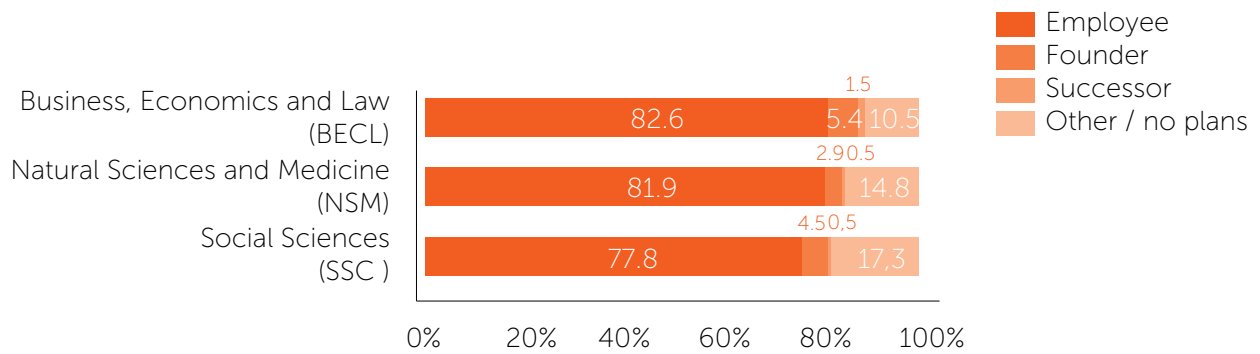


Figure 15: Career choice intentions by study field right after study

Again, the picture is quite different for the career choice intentions five years after study (see Figure 16). Independent of the study field, more students develop entrepreneurial intentions as compared to the period 'right after study'. These intentions are higher for 'Business and Economics' students (37%), followed by 'Social Sciences' students (27%) and students in 'Natural Sciences' (24.5%).

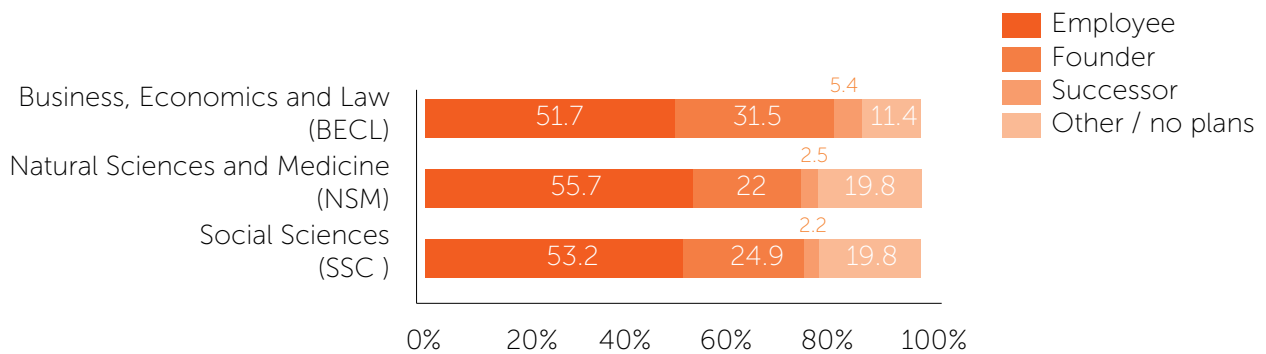


Figure 16: Career choice intentions by study field five years after study

### 3.3 Across Gender

In recent years, scholars and practitioners have shown an increased interest in the existing relationship between gender and entrepreneurship. For this reason, we also look the career choice intentions across males and females. As can be seen from Figure 17, directly after study, women are somewhat less likely than men to have the intention to found their own company: 7% of the

male students aim to start a business versus 3% of the female students.

On the other hand, the percentage of both female and male students who have entrepreneurial intentions increases dramatically five years after study, with 31% of the male students intending to start a company versus 24% of the female students (see Figure 18).

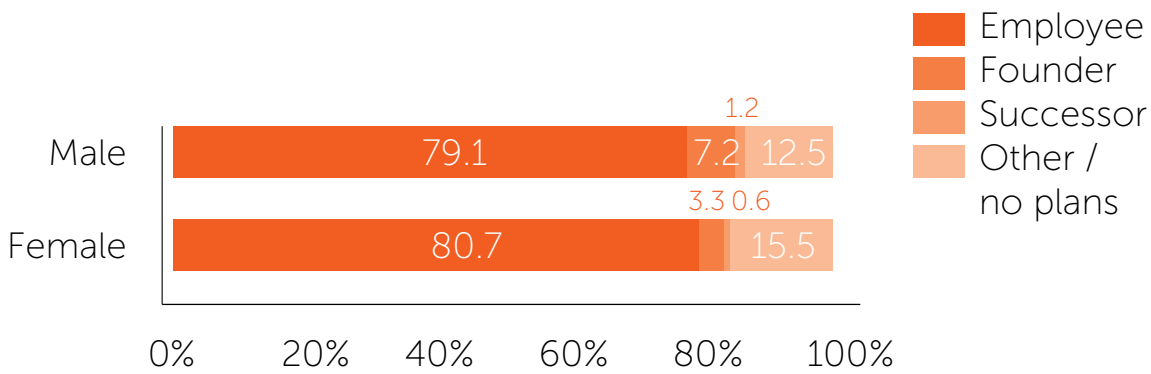


Figure 17: Career choice intentions by gender right after study

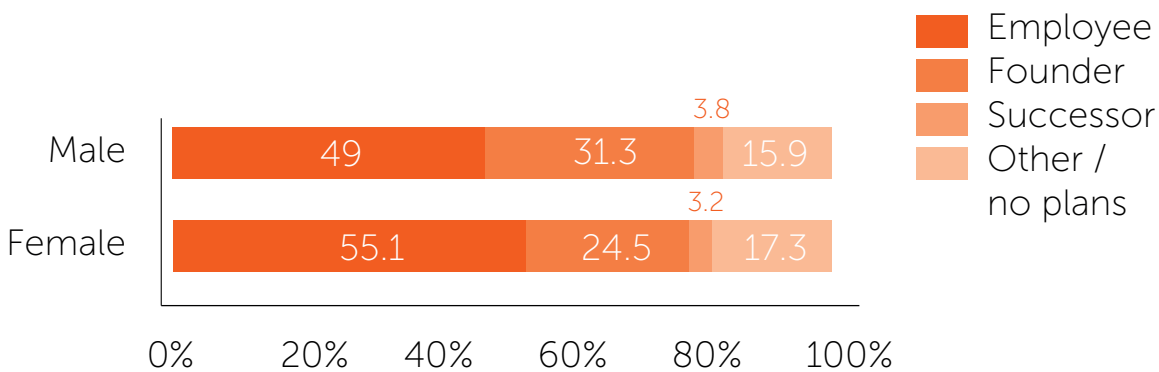


Figure 18: Career choice intentions by gender five years after study

In order to further examine the differences between males and females we will take a closer look into their career choice intentions 5 years after study for each study field separately (BECL, NSM, SSC). In the BECL field of study, males are substantially more entrepreneurial than females.

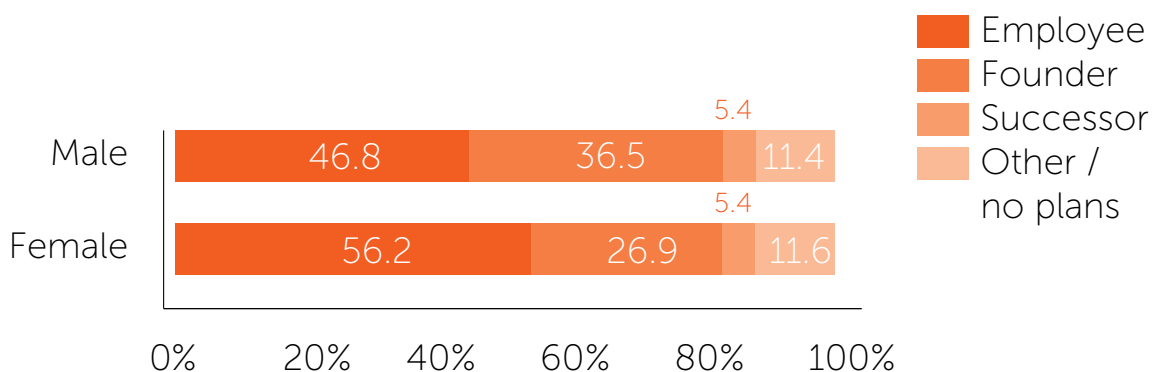


Figure 19: Career choice intentions of male and female BECL students 5 years after study

The same applies for the NSM field of study (see Figure 20). Among SSC students, the share of intentional founders is again higher for male students compared to female students (see Figure 21).

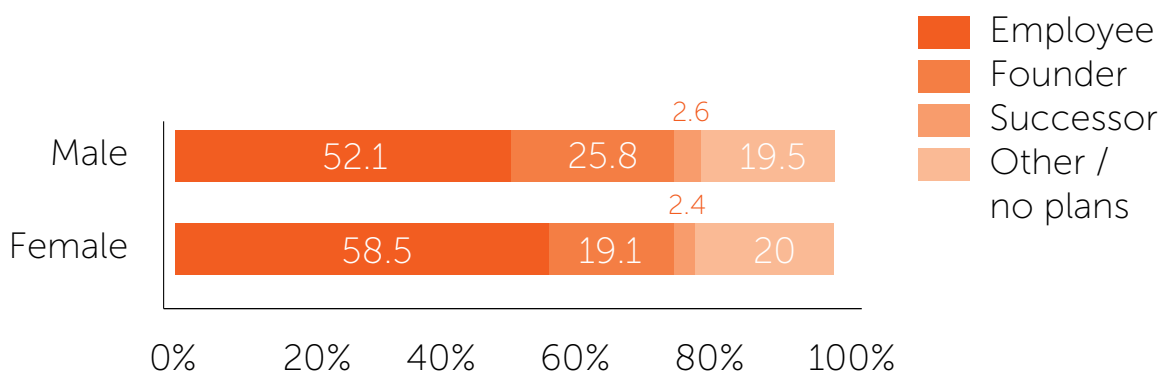


Figure 20: Career choice intentions of male and female NSM students 5 years after study

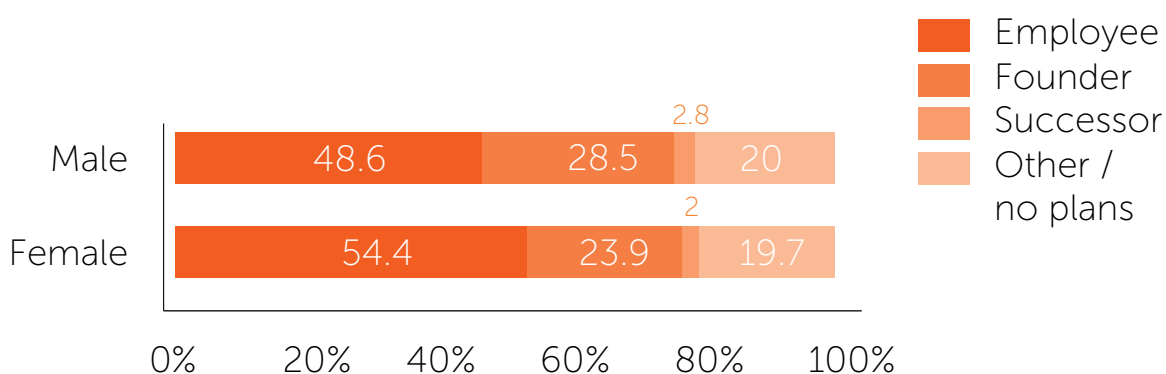


Figure 21: Career choice intentions of male and female SSC students 5 years after study

Nevertheless, it is very interesting that among the differences of entrepreneurial intentions between males and females, the difference for students in the field of Social sciences is the lowest in our sample. Overall, our results indicate that when we count for entrepreneurial intentions and intentional founders, the difference between genders does exist, with males being more entrepreneurial than females.

## 4 / Determinants of Entrepreneurial Intentions

### 4.1 A Closer Look at Entrepreneurial Intentions

In order to measure the entrepreneurial spirit, students were asked to indicate their level of agreement in a number of statements that capture the general intentions for a future entrepreneurial career (Linan & Chen, 2009). Students reported

their entrepreneurial intentions on a scale from 1 to 7, where 1 stands for "Strongly disagree" and 7 stands for "Strongly agree". As can be seen from Figure 22, students are relatively indifferent in terms of their attitude and thoughts towards entrepreneurship

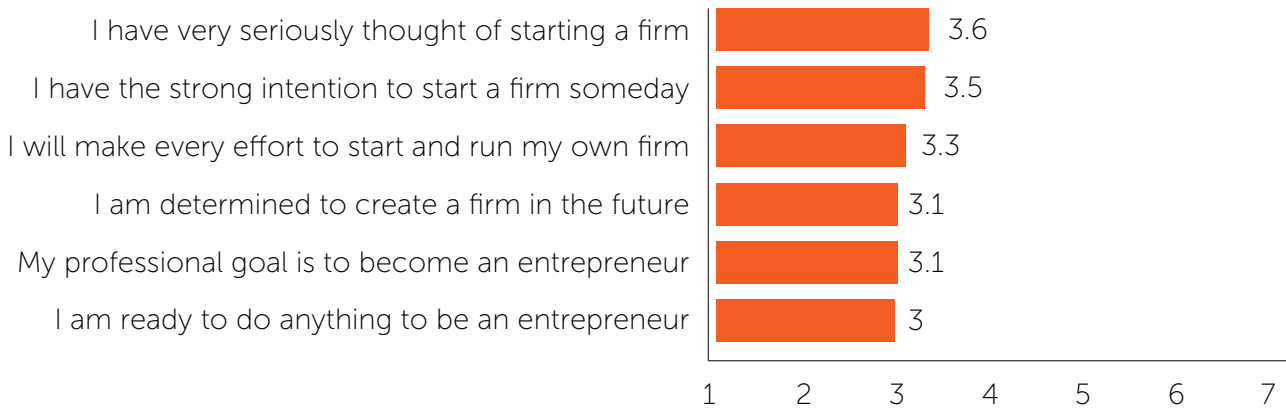


Figure 22: Entrepreneurial attitudes (1=strongly disagree, 7=strongly agree)

An aggregated entrepreneurial intention measure was generated by calculating the mean of all six answers that were anchored from 1 (strongly disagree) to 7 (strongly agree). The examination of the entrepreneurial intentions across the three main study fields reveals that on average students

in the sector of Business, Economics and Law have higher intentions in becoming entrepreneurs (4.6). Students from the fields of Social Sciences and Natural Sciences and Medicine are on average similar (3.7).

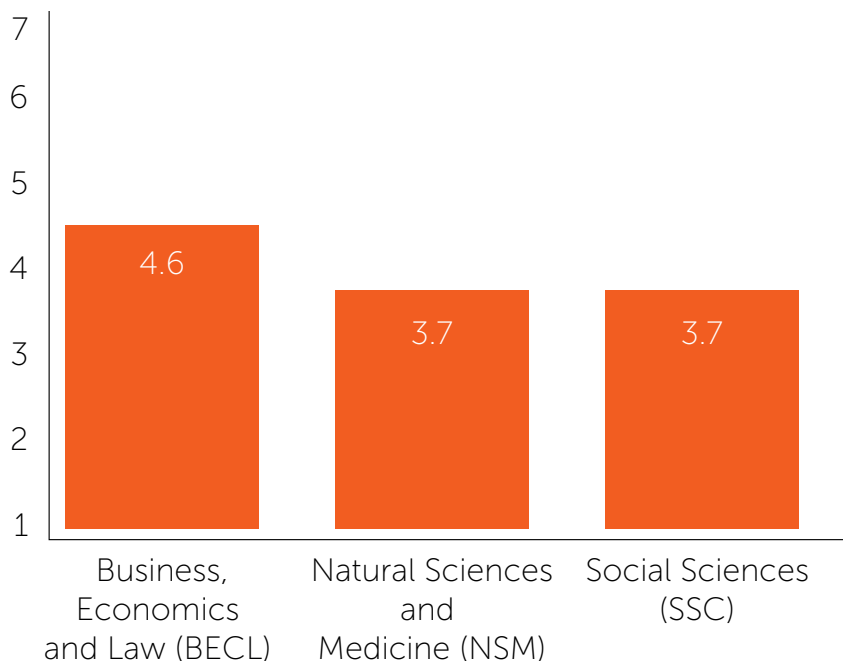


Figure 23: Strength of entrepreneurial intentions across study fields

Additionally, looking into the entrepreneurial intentions across study field and gender reveals the differences among males and females. The aggregate entrepreneurial intention measure exhibits lower average values for female students compared to male students (3.8 versus 4.4). In total intentions of female students are lower across all study fields when they are compared to male students.

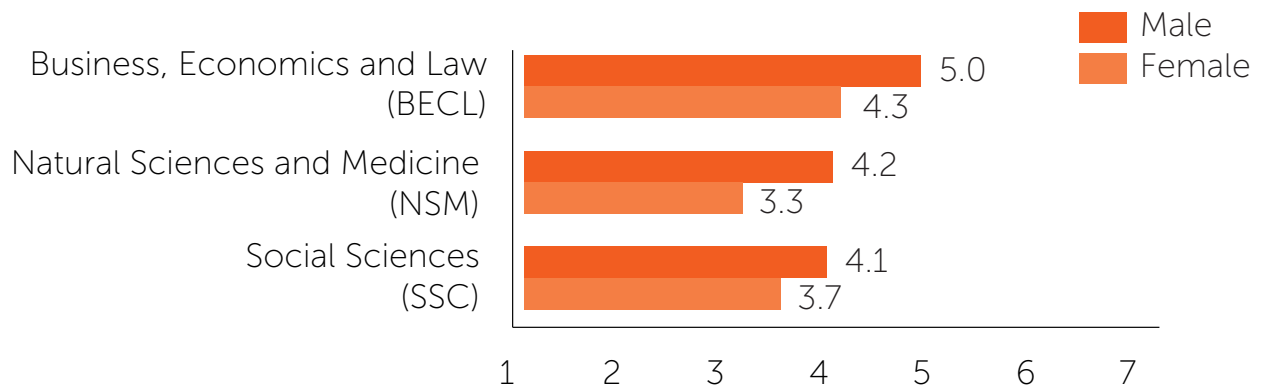


Figure 24: Strength of entrepreneurial intentions across study fields and gender

## 4.2 University Context

An important element of the survey is the role of the university in the context of the entrepreneurial intentions. In academic research, the design, content and effects of entrepreneurship education represents a major stream of research (Lima et al., 2014).

For this reason, participating students were asked whether they have attended entrepreneurial courses during their study.

As shown in Figure 25, less than 5% of the students in the survey study in a program that is specific to entrepreneurship. Two thirds of the students did not attend any entrepreneurship course, while almost 29% of the students have attended at least one entrepreneurship as compulsory part of their study or as an elective.

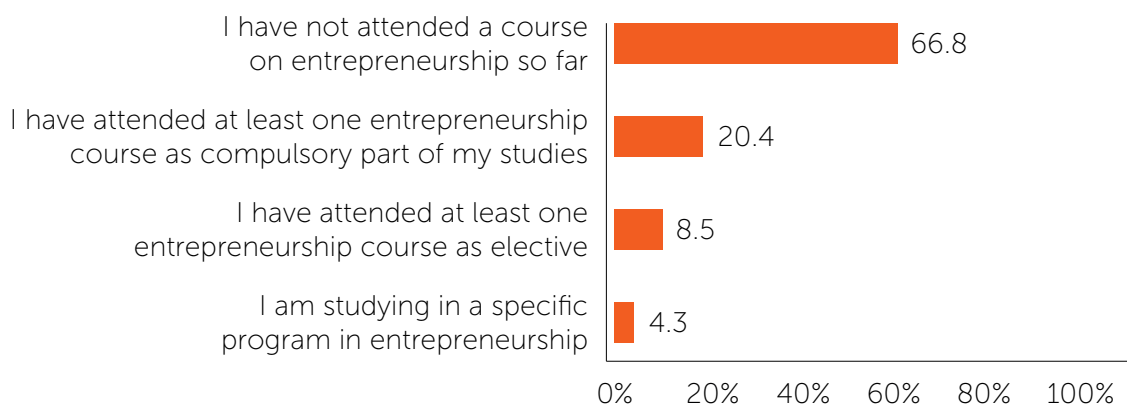


Figure 25: Attendance of entrepreneurship courses

Among the respondents, 31% of the students attended a course on entrepreneurship and devoted in total 21% of their total study time. In details, as the following pie chart illustrates, 43% of the students who have attended at least one entrepreneurial course have spent up to 10% of their total study time; 24% have spent up to 20% of their studying time.

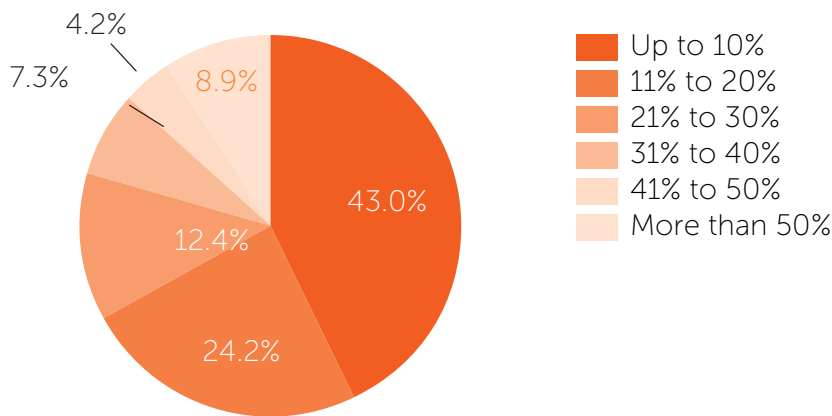


Figure 26: Percentage of study time spent in entrepreneurship classes

It is also important to examine the role of universities in stimulating the entrepreneurial intentions and activities of their students. As can be seen in Figure 27, it appears that only 3% of all students selected their university because of the strong entrepreneurial reputation. For almost 30% of the students the reputation of the school is the most

important reason for choosing to study at a certain university.

Other<sup>11</sup> category counts for the 25% of the variance and is the second in order criteria for selection. While, costs do not play a large role given that tuition fees in the Netherlands are relatively similar and fixed in the Netherlands.

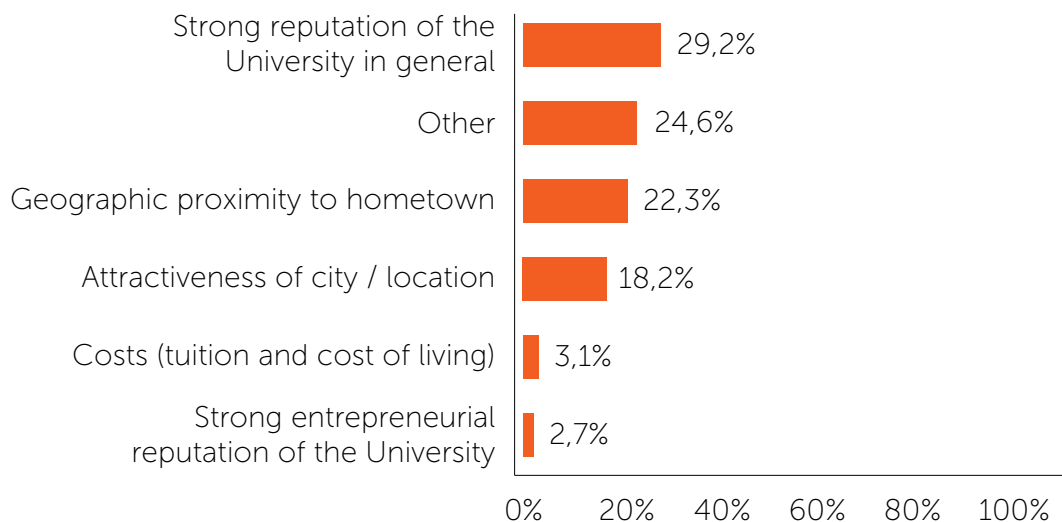


Figure 27: Main selection criteria for universities

<sup>11</sup> Although students were not asked to provide examples of other reasons, these reasons could be related to admission requirements (secondary school diploma at the appropriate level and a bachelor degree for a master's degree program), language criteria (IELTS, TOEFL and GMA) and finally possible requirements for a preparatory year (<http://www.studyinholland.nl/study-options/admission-requirements>).



Participating students also gave an indication of the entrepreneurial climate in their universities by scoring three statements (Luethje & Franke, 2004) on a scale from 1 to 7 (see Figure 28).

On average, students ranked the entrepreneurial climate at their university as 'average' (not high, not low). Hence, there appears to be room for improvement for the universities.

Figure 29: Entrepreneurial learning assessment (1=not at all, 7=very much)

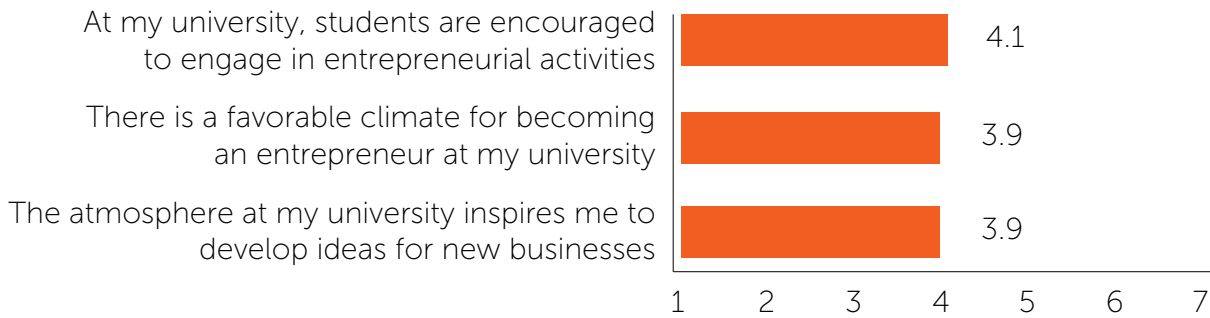


Figure 28: Universities' entrepreneurial climate (1=not at all, 7=very much)

Besides learning about the attendance and the prevailing entrepreneurial climate at the universities, it is also relevant to measure how much students have been learning at their university with regard to entrepreneurship. For this purpose five statements (cf. Souitaris et al., 2007) were ranked on a scale

from 1 to 7 (1=not at all, 7=very much) (see Figure 30).

An overall good, but not very good evaluation is observed since the average ratings fluctuate between 3.4 and 4, leading to the conclusion that there is still enough space for improvements.

Figure 29: Entrepreneurial learning assessment (1=not at all, 7=very much)

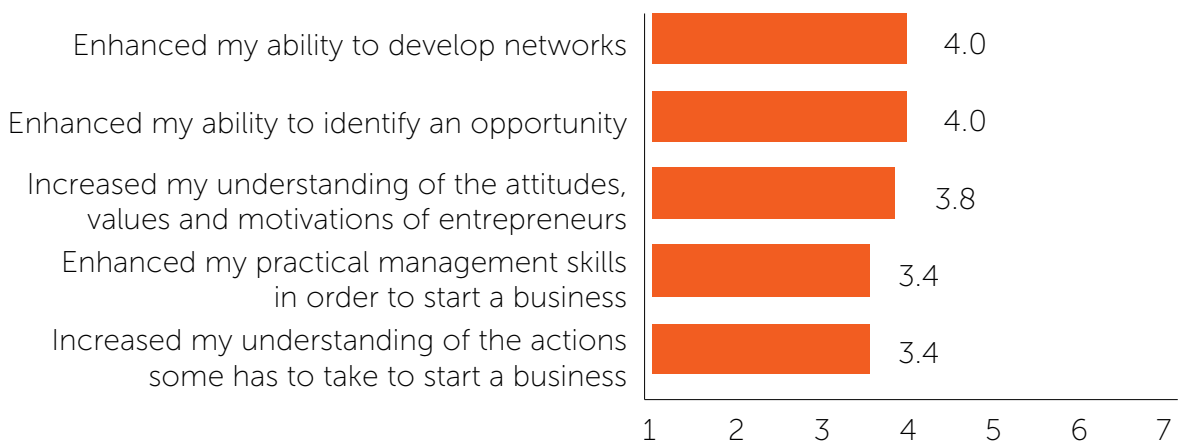


Figure 29: Entrepreneurial learning assessment (1=not at all, 7=very much)

### 4.3 The family context

According to academic research, the impact of parents' occupational background on their children decisions is still dubious. In general, research tends to agree that children with self-employed parents are more likely to become entrepreneurs, compared to those from a non-entrepreneurial environment (Laspita et al., 2012)

Figure 30 shows the percentage of students who have at least one or both parents running their own business. In total around one-third of students report that one or both of their parents is self-employed.

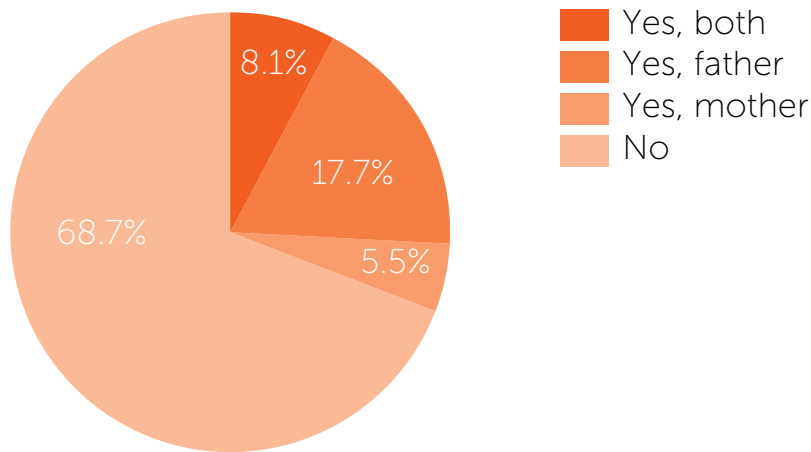


Figure 30: Percentage of students with self-employed parents

In addition, our sample was divided into students with and without entrepreneurial parents. As can be seen from Figure 31, 39% of the students who are raised from self-employed parents intend to follow an entrepreneurial career as founders of new firms or successors. On the contrary, 27% percent of the students with no self-employed parents intend to follow an entrepreneurial career.

These differences could be partly explained by the fact that students without entrepreneurial parents cannot take over their parents business.

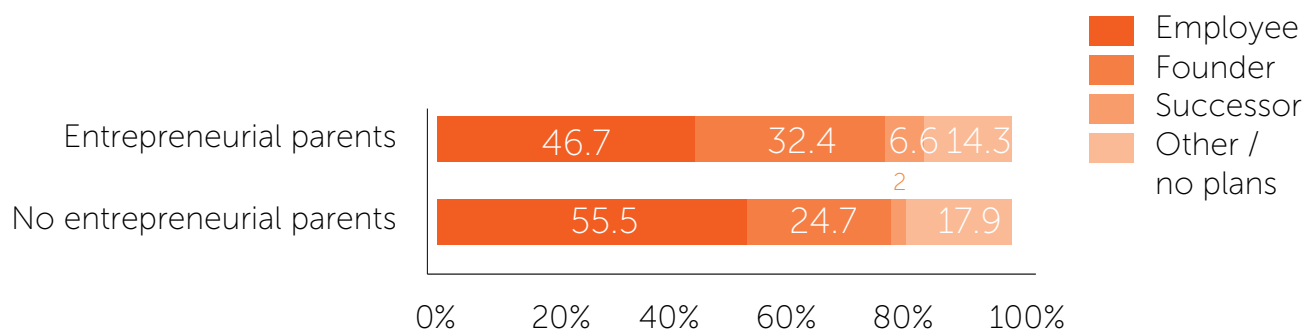


Figure 31: Entrepreneurial intentions of students with self-employed parents

## 4.4 The role of personal motives

Career motives are another important determinant of the career choice intentions in general and the entrepreneurial intentions in particular. Hence, individuals were asked to assess the importance of different motives when they have to make decisions for their future career (see Figure 32).

Among the different choices, on an average scale (1=not important at all, 7=very important), realization of the personal dream is the most dominant motive followed by having a challenging job. On the contrary the least important motives are "Be your own boss" and "Have the authority", respectively.

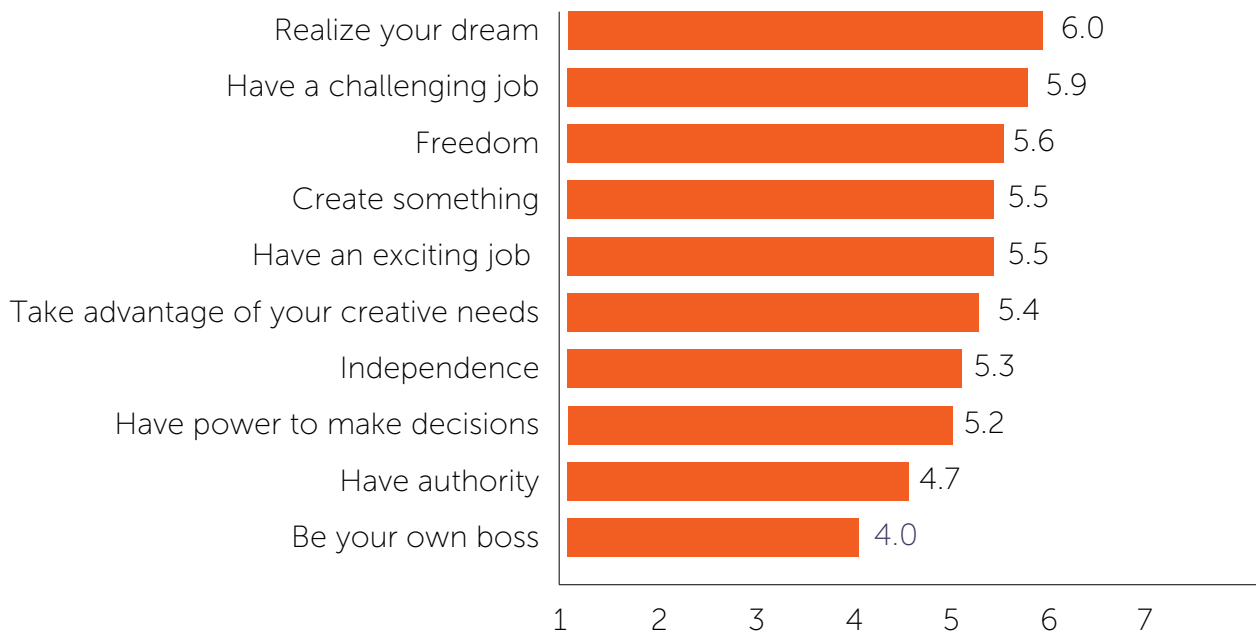


Figure 32: Importance of different career motives (1=not important at all, 7=very important)

To examine differences between the three main career paths of becoming a founder, an employee, or a successor, the analysis is divided into those groups. Figure 33 (below) represents the importance of the abovementioned motives for each group.

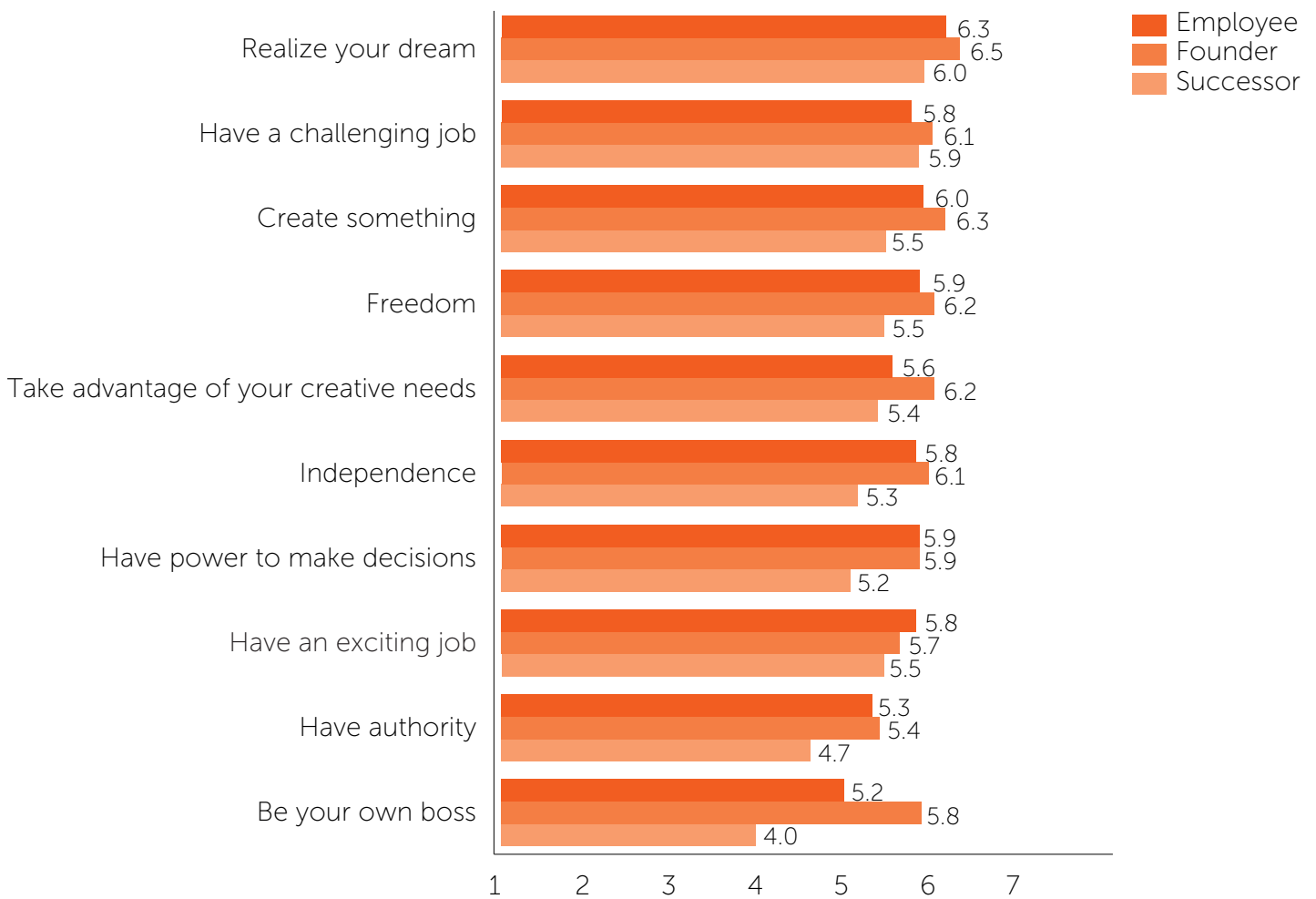


Figure 33: Importance of career motives across different career groups

For the students seeking a career in entrepreneurship as founders, the most influential motive is to make their dream come true. Motives such as “Take advantage of creative needs” and “Freedom” are the second most important factors for students who want to become founders, while authority is the least important motive. Students, who will become successors, share the same primary motive with students who want to be founders of their own firm (“Realize your dream”), while the second most important motive is “Create something” and the least influential is “Be your own boss”.

#### 4.5 Social and Cultural Context

Scholars agree that entrepreneurial decision making is connected to the social and cultural framework that the person lives in. These social and cultural factors have an important effect on the formation of the entrepreneurial intentions. Hence, we first investigate the social pressure that is exerted by individuals' immediate environment. We do so by drawing on the concept of "subjective norm" from the theory of planned behavior (Ajzen, 1991). It captures the reaction that individuals expect from close peers if a certain behavior is executed. Theory postulates that the more positive the expected reaction is, the more likely it is that actual intentions to perform the behavior under consideration are formed.

Consequently, students were asked about the reaction of people in their close environment in case the entrepreneurial career was the career to be pursued. This direct environment is constructed by students families, friends and fellow students. The responses were in scale from 1 (very negatively) to 7 (very positively) (Linan & Chen, 2009).

As can be seen in Figure 34, on average, the reaction towards an entrepreneurial career is pretty positive. In more details we see that there is no barrier raised by the opinion of important others (i.e., fellow students, friends or close family) about an entrepreneurial career. In fact, they are on average very positive about such a career.

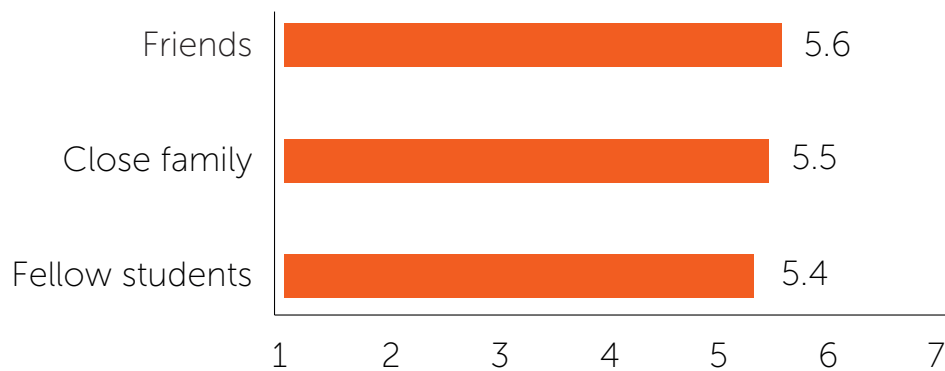


Figure 34: Reaction of student's environment (1=very negative, 7=very positive)

Secondly, we are interested to what extent becoming an entrepreneur is regarded as a risky future career. This is because risk is key aspect of entrepreneurship, and scholars are interested in related factors, such as the level of uncertainty avoidance in a society (Hofstede, 2001). In order to measure risk, students were asked to evaluate 3 different statements (see Figure 35) on a scale from 1(strongly disagree) to 7(strongly agree).

On average, students agree that involvement with entrepreneurship entails a positive level of risk. Students agree that starting up and business and ownership of a business are equal in terms of risk (5.1) while managing the owned business is less riskier, compared to the other two statements (4.7).

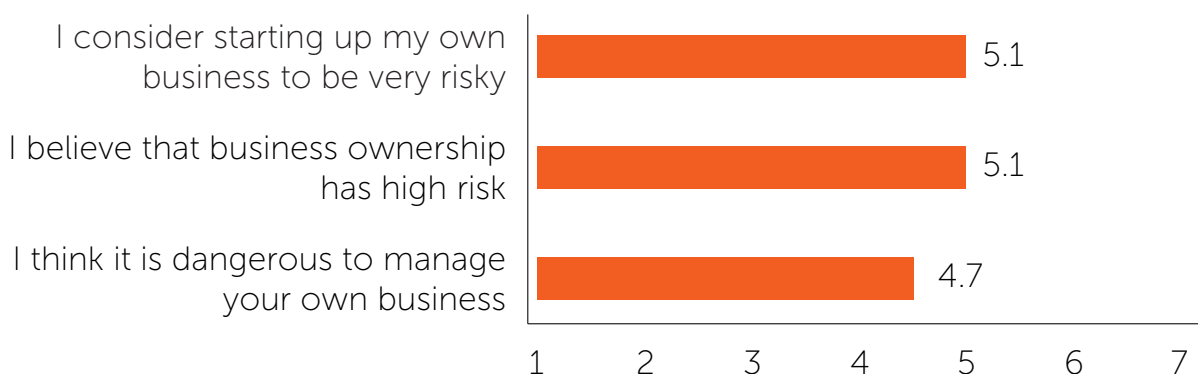


Figure 35: Perceived risk of creating an own firm (1=very negative, 7=very positive)

## 5 / Nascent entrepreneurs

### 5.1 Personal Characteristics

Having an overview of the Dutch sample, the career choice intentions of the students and the factors that influence the choice of becoming an entrepreneur or not, we now look at nascent entrepreneurs. The special feature of this group of students is that they are currently in the process of becoming self-employed.

In order to identify nascent entrepreneurs, across the overall sample, we asked "Are you currently trying to start your own business / to become self-employed?". In total, 10% of the overall sample replied that they are currently in the process of

becoming self-employed. In this chapter we pay attention to the characteristics of these 'nascent entrepreneurs', their intended firms, their team of cofounders and business strategy.

Figure 36 represents the distribution of the students that are in the process of setting up their own business (nascent entrepreneurs) among the educational institutions that participated in the survey. On average, the percentage of nascent entrepreneurs is higher for students of applied sciences, compared to universities.

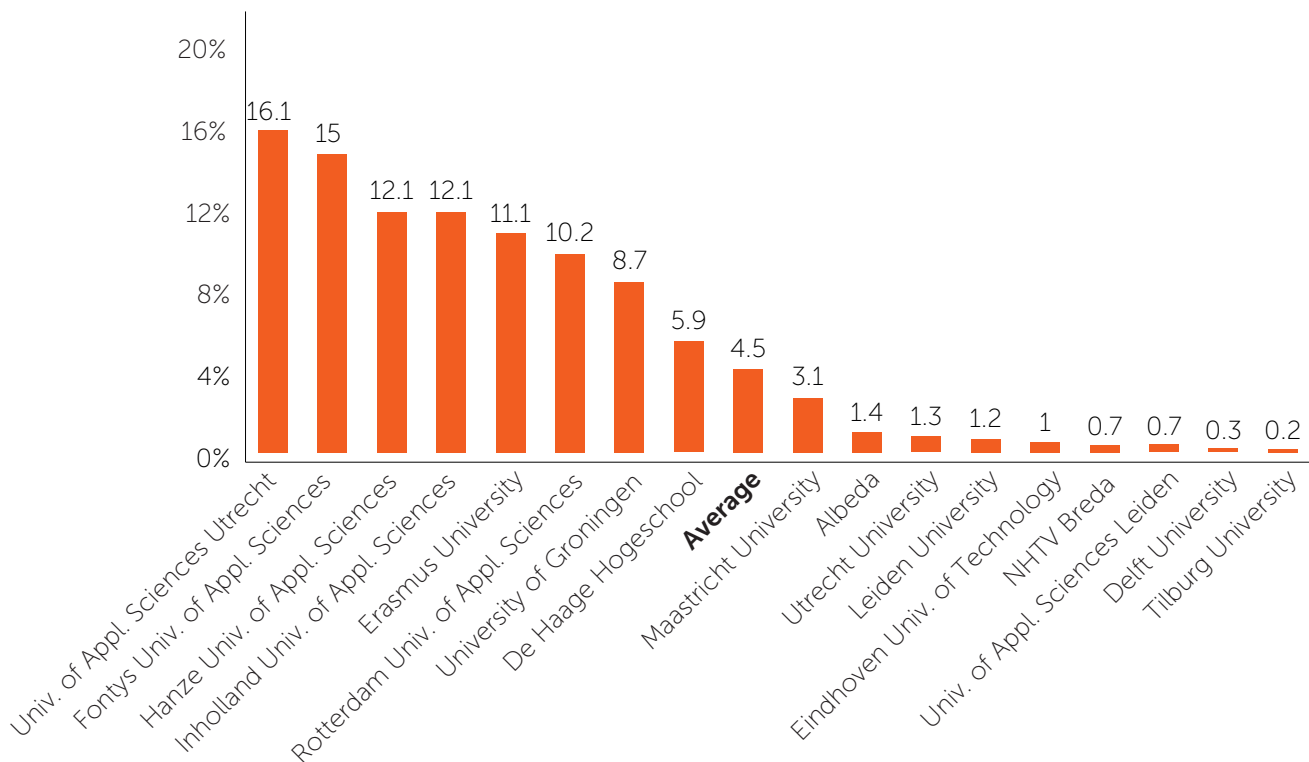


Figure 36: Share of nascent entrepreneurs across universities

Thereafter, we look at the distribution of nascent entrepreneurs across the fields. Students studying Business, Economics and Law represent more than half of nascent entrepreneurs (54%), while the rest two study fields (Natural Sciences and Medicine and Social Sciences) share same percentages of students who are in the process of setting up their business (23%).

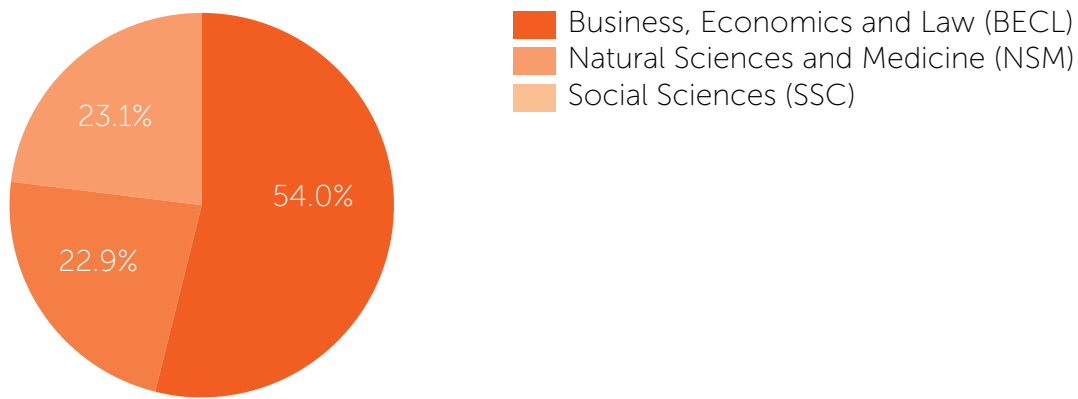


Figure 37: Share of nascent entrepreneurs across study fields

The differences of gender across the three main study fields are also significant. We see that the majority of nascent entrepreneurs from the fields of Business, Economics and Law are male (70% respectively), while female nascent entrepreneurs are dominant in the field of Social Sciences (60%).

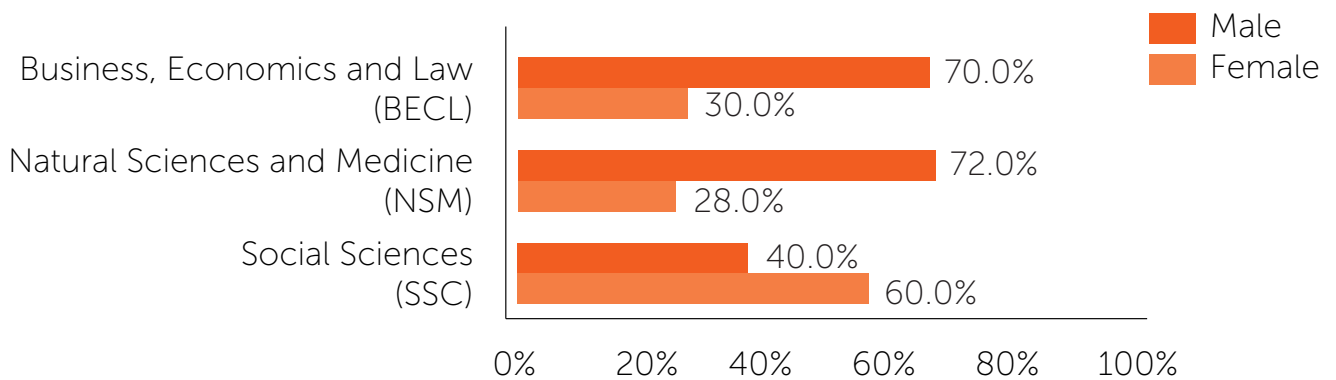


Figure 38: Share of nascent entrepreneurs across gender and field of study

## 5.2 The Planned Firm

The survey shows that, on average, nascent entrepreneurs claim that they intend to found their firm in 10.2 months and invest around 50% of their weekly working time. This shows that the planned firms will most likely not be a full time job, at least in the phase immediately after the actual firm creation.

Starting up a business requires fulfilling many different types of activities. The nascent entrepreneurs in our sample differ in terms of the activities they already fulfilled to start up their company. Figure 39 below presents an overview of the different start-up activities as well as the percentage of nascent entrepreneurs who already rounded off these activities.

We see that the majority of all nascent entrepreneurs (64%) has already gathered information about the market and/or competitors.

In addition, 52% of them have discussed their idea with potential customers. One-third has written a business plan, and only 5% has protected their intellectual property by applying for a patent or trademark. One could argue that the business is officially launched once a product or service is sold; this is the case for 1 in 5 nascent entrepreneurs.

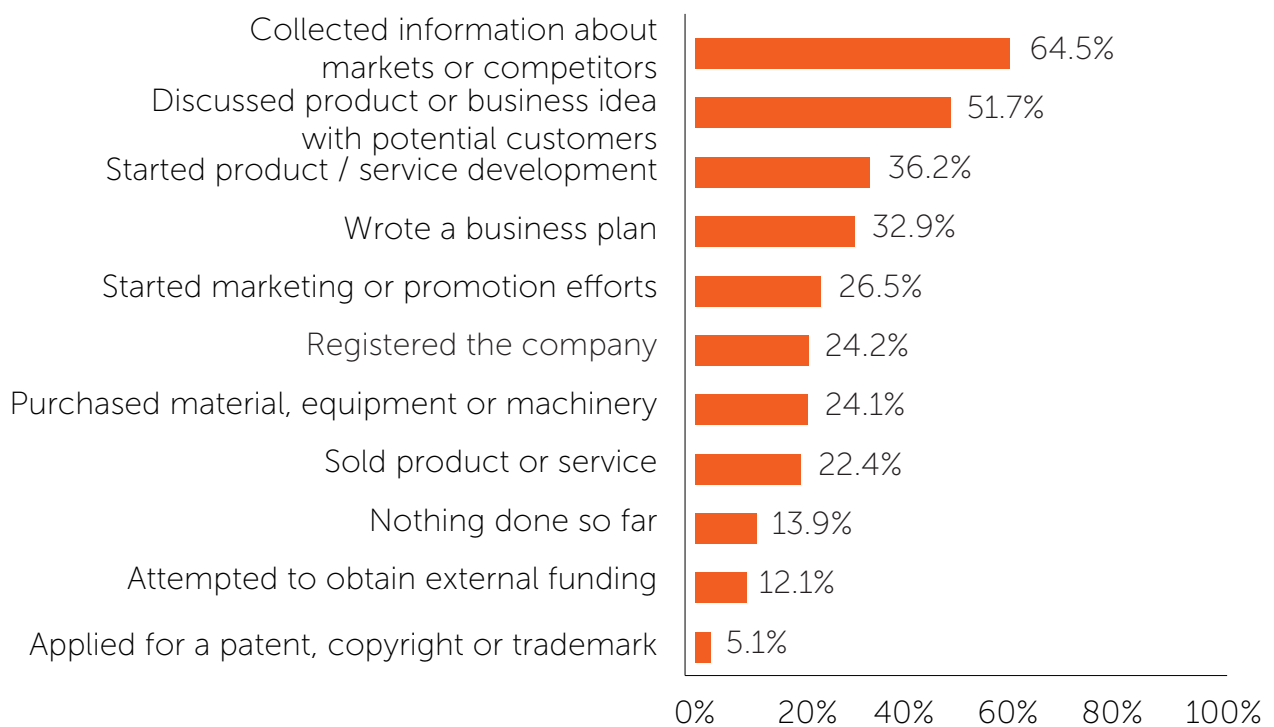


Figure 39: Gestation activities already conducted by nascent entrepreneurs

Figure 40 presents an overview of the industry sectors that the aspiring entrepreneurs are aiming for. We see that the majority of nascent entrepreneurs (16%) intend on starting a business in the trade sector (i.e., wholesale or retail), followed by ICT and business services (as advertising, marketing and design) (12%). A large percentage of nascent entrepreneurs (25%) is classified as 'Other'<sup>12</sup>.

<sup>12</sup> These students were offered the possibility to enter free text answers; however, no specific pattern was visible when coding these answers. We have thus no reason to believe that an important industry sector was missing in our comprehensive initial list.



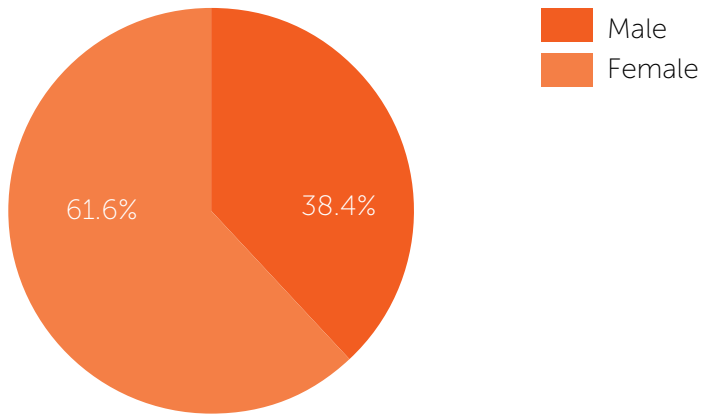


Figure 40: Industry sectors of planned firms

When starting up a business, entrepreneurs have to decide to operate solo or in a team. Given that there is a wide variety of tasks to fulfill during the start-up process, requiring diverse skill sets, it is generally seen as an advantage if you are able to share the burden of start-up activities with others in a start-up team. From Figure 41 we see that more than 40% of all aspiring student entrepreneurs are currently starting on their own, but the majority starts with at least one co-founder.

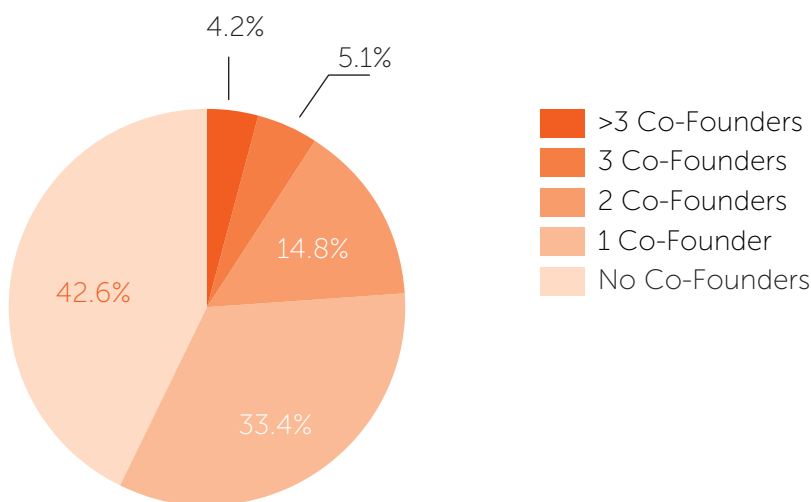


Figure 41: Number of co-founders among nascent entrepreneurs

Next to the number of co-founders, it is important to see if the nascent entrepreneurs will be the majority or minority owners in their planned firm. On average the equity share will be 64.57%, which means majority ownership. In more details we see that only one fourth of the nascent entrepreneurs will own 49% or less of the firm's equity.

On the contrary, 43% will own equity share between 50% and 99%, while one third will be the absolute owners of the firm's equity.

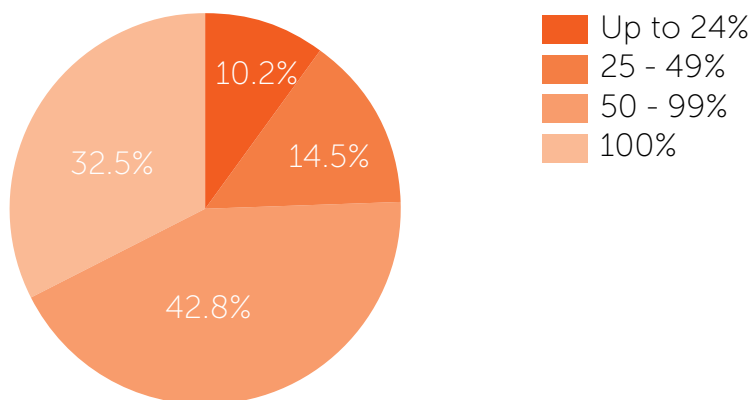


Figure 42: Nascent entrepreneurs' equity share in the planned firm

How innovative are the ideas that nascent (student) entrepreneurs are pursuing? Figure 43 presents the newness of the products or services that nascent entrepreneurs intend to introduce into the market. We see that around 70% of the nascent entrepreneurs intend to introduce a product or service that is new, at least to some customers.

We see that more than half of the nascent entrepreneurs aim to sell a product or service that is new to all or the majority of customers. These numbers indicate a high degree of innovativeness and newness among the planned firms.

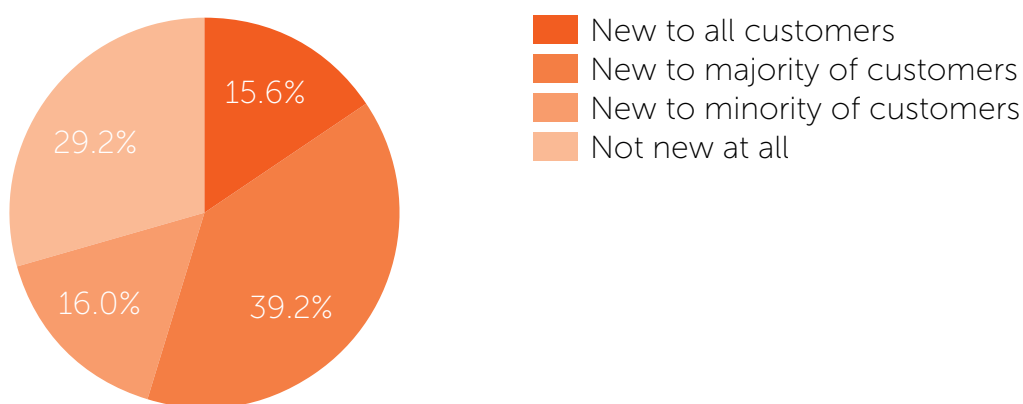


Figure 43: Degree of newness of the planned firms' offerings

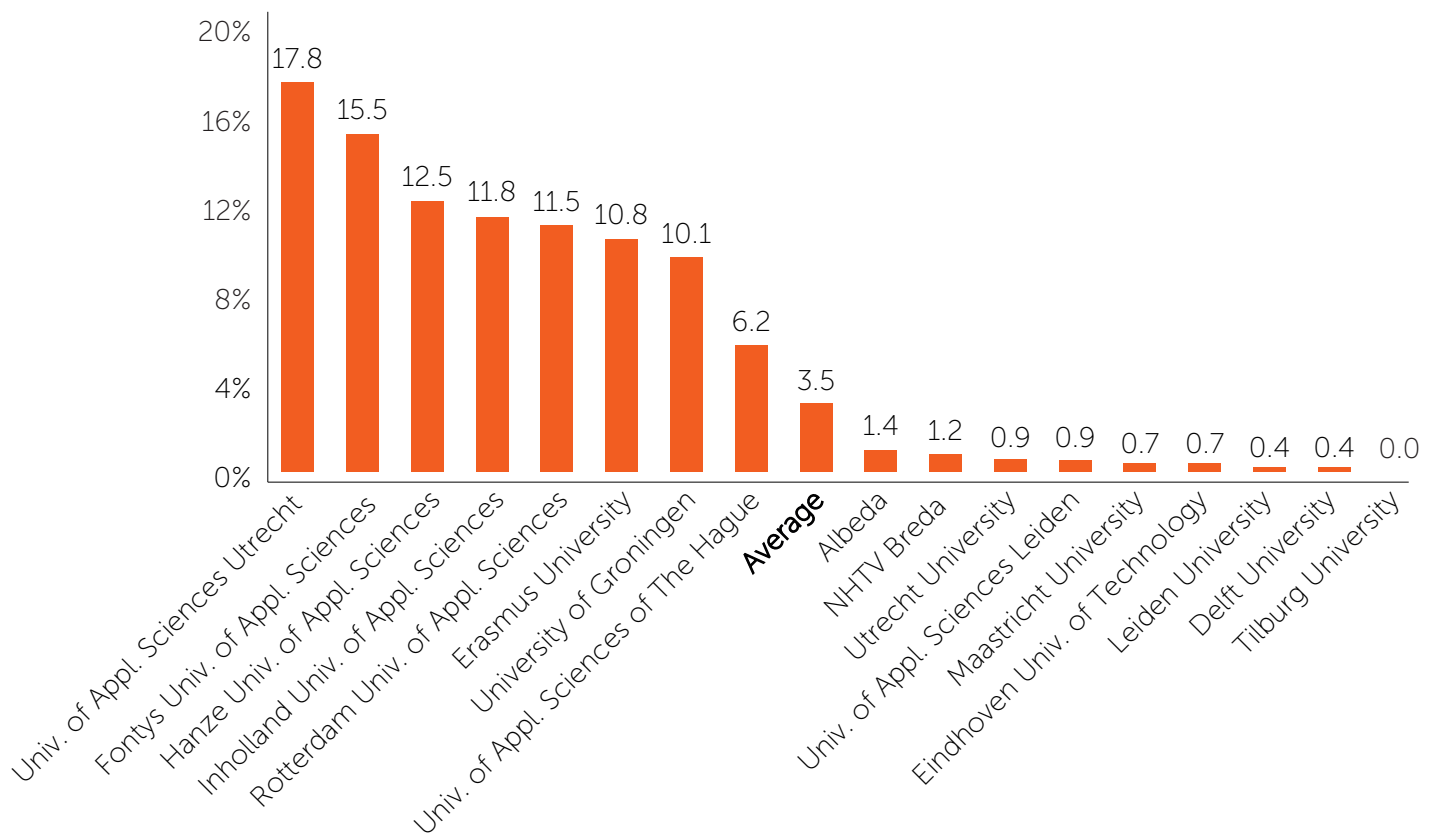
## 6 / Active Entrepreneurs

### 6.1 Personal Characteristics

Besides the students' entrepreneurial intentions, GUESSS is also interested in students who are active entrepreneurs. For this reason we searched for active entrepreneurs among the students who participated in the survey.

In the Dutch GUESSS survey 6% of all students are active founders; i.e., students who are already running their own business are already self-employed. In this section we present information about their companies, their founding team, the start-up process and performance.

The share of active entrepreneurs fluctuates across the educational institutions. However, we can report that the share of active entrepreneurs is higher for students of Universities of Applied Sciences compared to Universities. In the group of Universities, Erasmus University of Rotterdam and University of Groningen have considerably higher share of student entrepreneurs from the rest Universities. In the group of Universities of Applied Sciences Utrecht Hogeschool is on the overall top with 17.8% while Breda University of Applied Sciences reports only 1.2% of active entrepreneurs.



Figure<sup>13</sup> 44: Share of active entrepreneurs across universities

Furthermore, we look at the distribution of active entrepreneurs across the fields of study. Students studying Business, Economics and Law represent 43% of active entrepreneurs, while Natural Sciences and Medicine equals to one third of the sample (32%) and Social Sciences represents one fourth of students who are currently running their own business (25%).

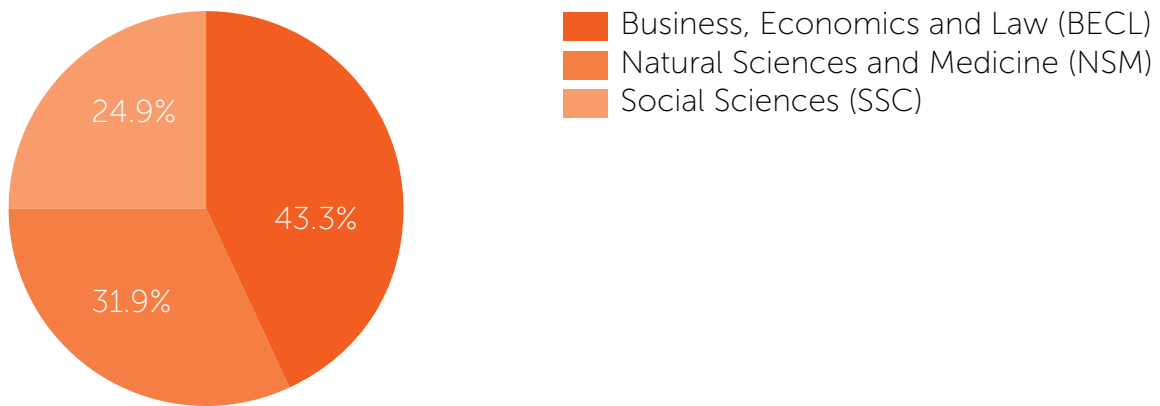


Figure 45: Share of active entrepreneurs across study fields

The differences of gender across the three main study fields are also significant and are quite similar to nascent entrepreneurs. We see that the majority of active entrepreneurs from the fields of Business, Economics and Law (almost 80%) and the field of Natural Sciences and Medicine (around 70%) are male, while female active entrepreneurs are equal to male active entrepreneurs in the field of Social sciences (around 50%).

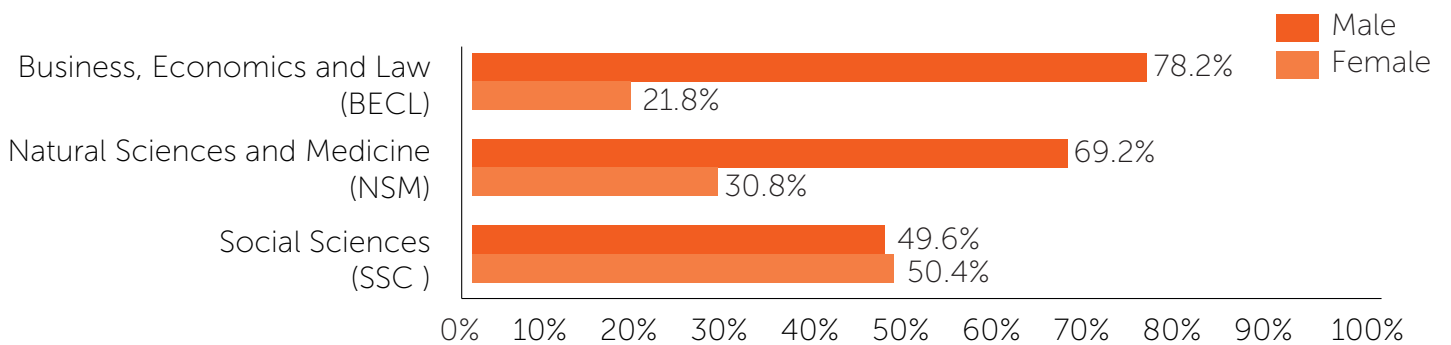


Figure 46: Share of active entrepreneurs across gender and field of study

<sup>13</sup> Figure 45 does not depict the share of active entrepreneurs across universities, for universities with less than 20 responses.

## 6.2 The Existing Firms

As can be seen from Figure 47 the majority of student entrepreneurs (about 40%) have started their business in the year of the survey: 2013. Hence, their companies were started very recently and are less than one year old at the time of the GUESSS survey. About half of the businesses are 1- 4 years old, and only a minority of student entrepreneurs runs businesses that are more than 5 years old.

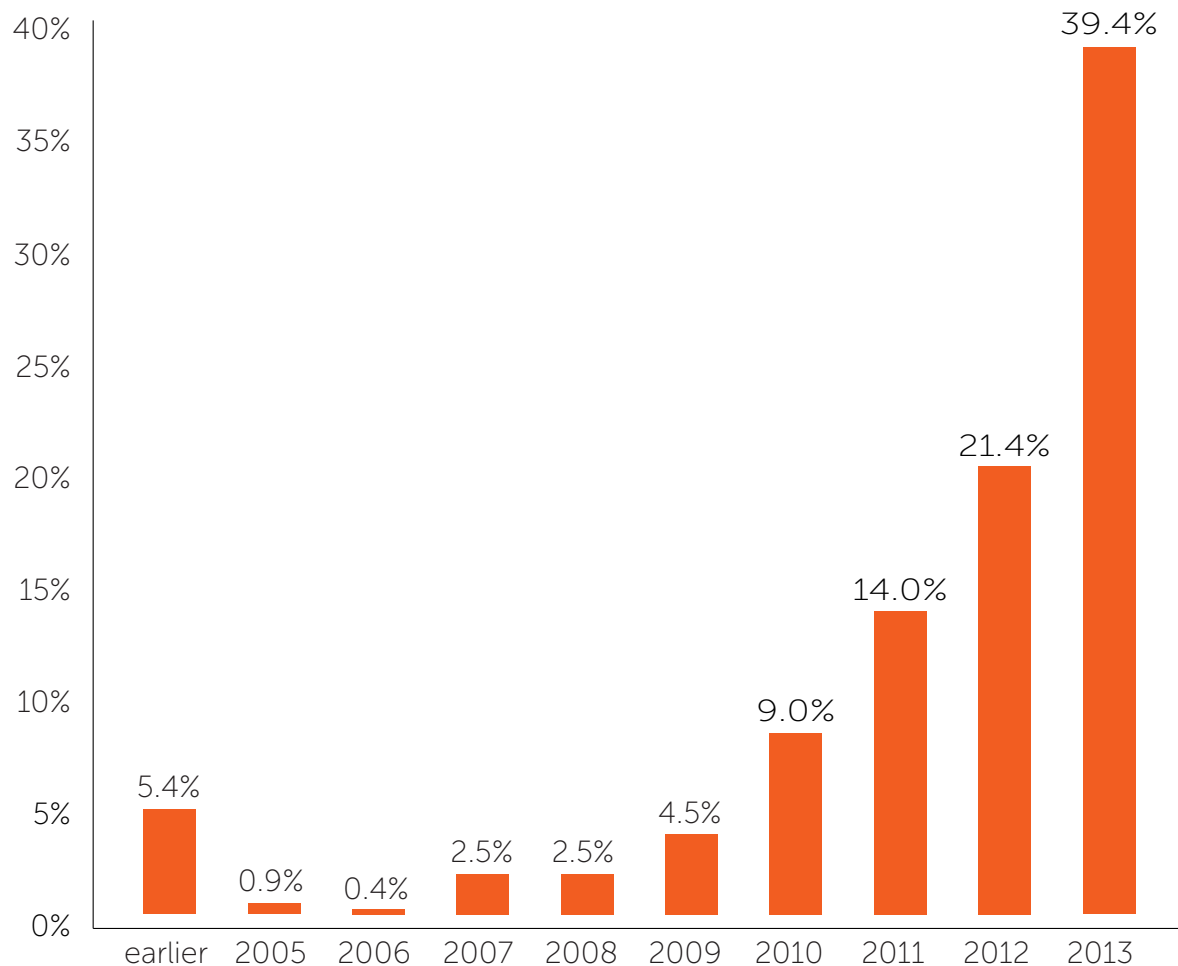


Figure 47: Founding years of the already created firms

Active entrepreneurs, on average, spend 20% of their weekly working time on their firm. This means that these firms cannot be the primary projects of the student entrepreneurs, since 20% equals to one or two days of the week. Nevertheless, this is still a big amount of time since these entrepreneurs are at the same time full time students at the Dutch Universities.

Figure 48 shows the sector distribution of the companies of the student entrepreneurs in the Dutch GUESSS sample.

The majority of student entrepreneurs have started ICT businesses (19%), followed by trading firms (15%), business services (i.e., advertising, marketing and design) (12%) and businesses in education and training (7%). As expected, a relatively small number of businesses of students operate in (the often large-scale) sector of construction and manufacturing.

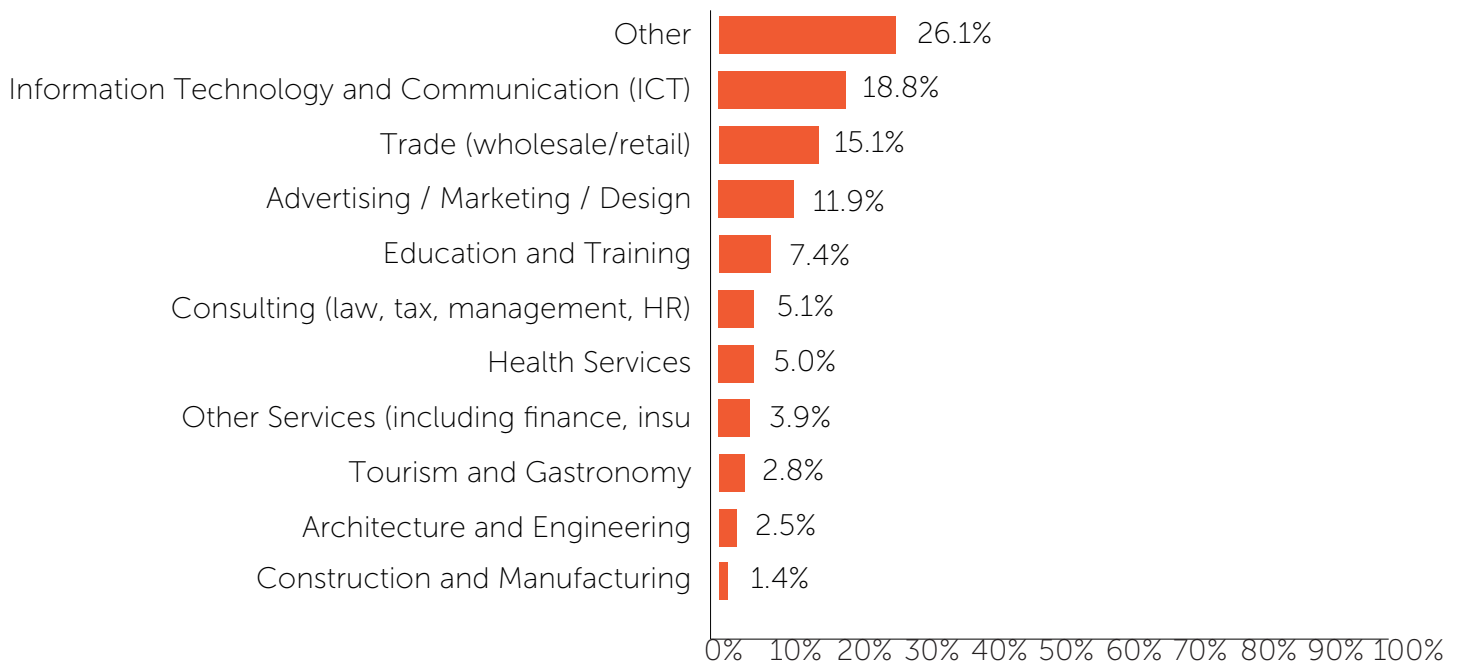


Figure 48: Industry sectors of already created firms

The average share of equity that the active entrepreneurs own is 75.3%, which means majority ownership. In more details we see that 12% of the active entrepreneurs will own 49% or less of the firm's equity. 25% will own equity share between 50% and 99%, while more than half of the active student entrepreneurs are the absolute owners of the firm's equity.

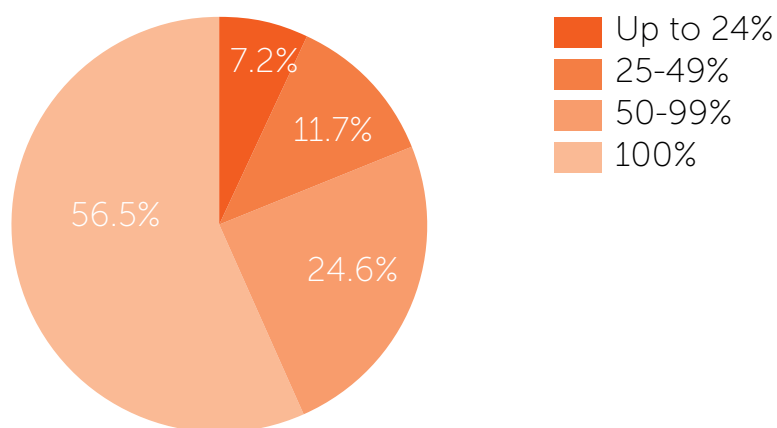


Figure 49: Equity share of active entrepreneurs

60% of the student entrepreneurs almost founded their company on their own, without the support of co-founders (see Figure 50). About one-quarter of them has one co-founder to share the start-up burden with.

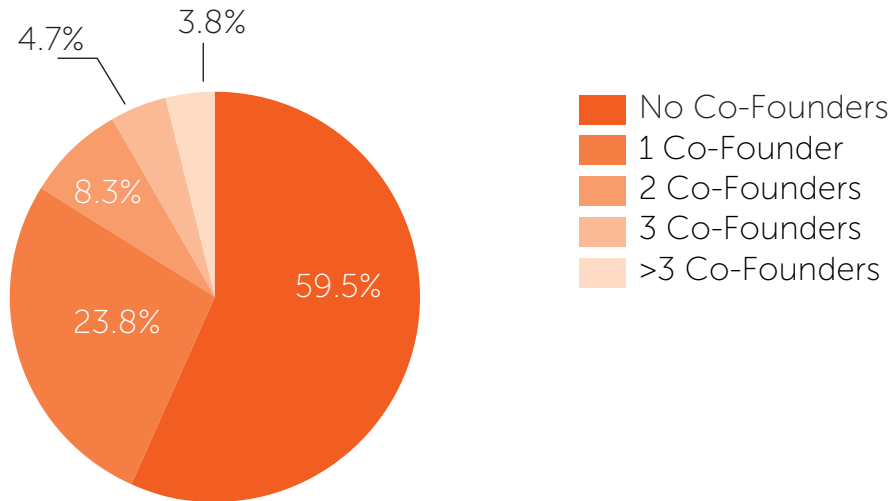


Figure 50: Number of co-founders among active entrepreneurs

In terms of company size we see from Figure 51 that at the time of the GUESSS survey the majority of student companies (70%) have no employees.

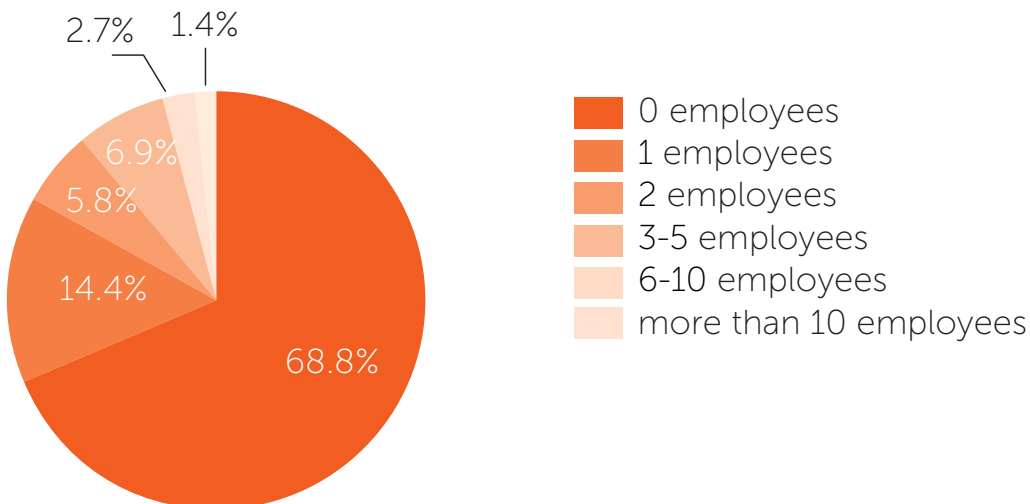


Figure 51: Employees (full-time equivalents) in the already created firms

Yet, if we ask about company employment in a time span of five years, this percentage drops to 43% (see Figure 53). We even see that about one-quarter of all student entrepreneurs plan to have more than five employees in five years.

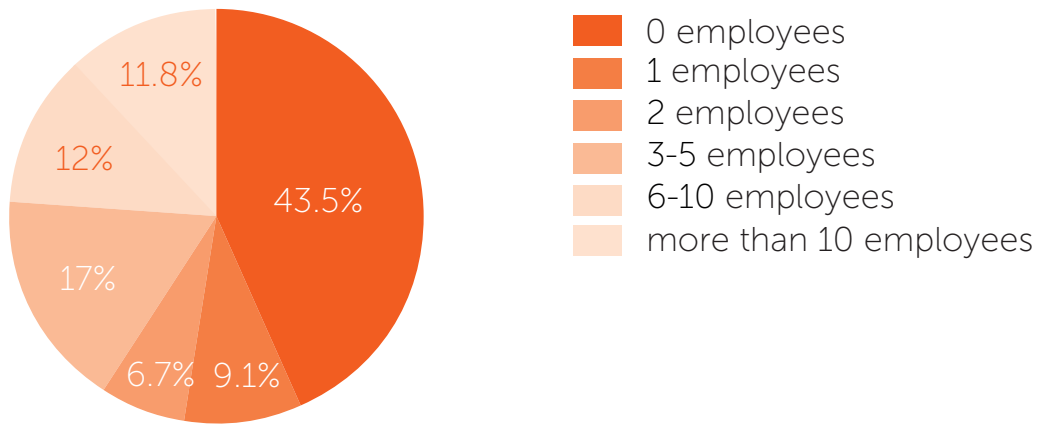


Figure 52: Employees (full-time equivalents) 5 years from now

Student entrepreneurs were asked how their business performed vis-à-vis competitors since its establishment, ranked on a 7-point Likert scale where 1=much worse and 7=much better. The relevant performance dimensions were sales growth, market share growth, profit growth, job creation and innovativeness.

The average value is 3.8 and represents performance in respect to the competitors in the market since firm's establishment.

In more details we see that slightly more than half of the students entrepreneurs rank their firm's performance as equivalent to the competitors' performance. Furthermore, almost one-third of the active entrepreneurs rank their performance from worse to rather poor, which can be justified due to the fact that entrepreneurship is practiced while following an educational program.

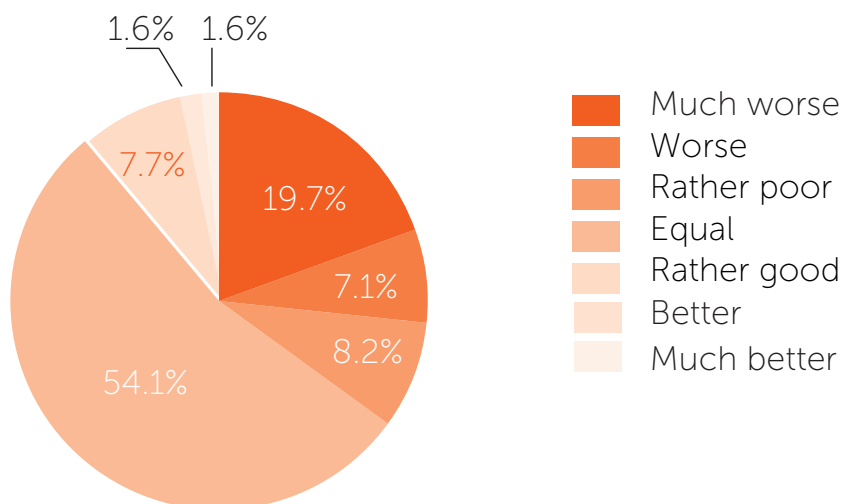


Figure 53: Performance of existing firms relative to competitors



## 7 / Summary

Finally, we would like to summarize the main findings of the GUESSS study in the Netherlands:

- | Referring to students' career choice intentions in general, GUESSS 2013/2014 confirms the "first employee, then founder" pattern already found in previous edition of GUESSS.
- | Directly after studies, 6% of all students want to work in their own firm; 5 years later, this applies to 27% of all students.
- | Referring to the main field of study, we find that BECL students have stronger entrepreneurial intentions than NSM or SSC students.
- | Our data shows significant differences in entrepreneurial intentions across gender. Female students consistently exhibit lower entrepreneurial intentions compared to male students.
- | Our investigation of the determinants of entrepreneurial intentions shows that the university context in general and entrepreneurial learning at the universities in particular are important antecedents.
- | In line with previous research we confirm that students with entrepreneurial parents are more likely to become entrepreneurs themselves.
- | Personal career choice motives are found to be a driving factor behind career choice intentions / entrepreneurial intentions as well.
- | The social and cultural context is identified as an important antecedent of entrepreneurial intentions. Social pressure from individual's immediate environment shows a positive relationship with entrepreneurial intentions.
- | 10% of the overall sample is nascent entrepreneurs. The planned firms will often be created by founding teams and show a considerable level of innovativeness. The nascent entrepreneurs surveyed by GUESSS will be the majority owners in the majority of cases.
- | 6% of the overall sample is active entrepreneurs. Students who have already created an own firm are majority owners in the majority of cases as well.

## / References

- | Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- | Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*, 32(1), 1-20.
- | Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior. An introduction to theory and research*. New York: Addison-Wesley.
- | Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Thousand Oaks, CA: SAGE.
- | Laspita, S., Breugst, N., Hebllich, S., & Patzelt, H. (2012). Intergenerational transmission of entrepreneurial intentions. *Journal of Business Venturing*, 27(4), 414-435.
- | Lima, E., Lopes, R. A., Nassif, V. M. J., & Silva, D. (2014). Opportunities to improve entrepreneurship education: Contributions considering brazilian challenges. *Journal of Small Business Management*, forthcoming.
- | Linan, F., & Chen, Y. W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33(3), 593-617.
- | Luethje, C., & Franke, N. (2004). Entrepreneurial intentions of business students: A benchmarking study. *International Journal of Innovation and Technology*, 1(3), 269-288.
- | Sieger, P., Fueglistaller, U., & Zellweger, T. (2011). *Entrepreneurial intentions and activities of students across the world : International report of guesss 2011*. St.Gallen: KMUHSG.



ERASMUS  
CENTRE FOR  
ENTREPRENEURSHIP

**ECE**, an initiative of the Erasmus University and has the ambition to empower a global community of entrepreneurs to solve worldwide challenges.

## VISIT US

ERASMUS CENTRE FOR ENTREPRENEURSHIP  
ECE CAMPUS (ROTTERDAM SCIENCE TOWER, 11TH FLOOR)  
MARCONISTRAAT 16  
3029 AK ROTTERDAM  
TEL. 010 408 1971  
[WWW.ECE.NL](http://WWW.ECE.NL)