

Entrepreneurial Intentions and Behaviour of Students attending Danish Universities

Global University Entrepreneurial Spirit Students' Survey 2013 – 2014 - National Report Denmark -



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This is the first year the Danish team is part of the GUESSS project. Therefore we have looked at how other teams have analysed and structured their material. Our national report hence has been inspired by other GUESSS reports especially by the Austrian GUESSS report.

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¹ The full report of the 2013 International GUESSS Survey is available on: http://www.guesssurvey.org

² Further information about the University of Southern Denmark can be found on: http://www.sdu.dk

1 Introduction

The origins of GUESSS (Global University Entrepreneurial Spirit Students' Survey) goes back to 2003 where researchers at the Swiss Research Institute of Small Business and Entrepreneurship at the University of St. Gallen (KMU-HSG) designed the first GUESSS questionnaire. The survey is conducted every second year with the purpose to grasp the entrepreneurial intent and activity of students. The reference framework includes central panel questions that are asked during every international survey which allows a temporal and geographical comparison.

1.1 Aims of the GUESSS Survey

The objective of GUESSS 2013 is to explore the entrepreneurial intentions and activities of students, as well as the entrepreneurship training and education provided by universities in 34 countries around the world. In the sixth data collection wave Denmark participated for the first time.

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 career in general.
- Observation and evaluation of universities' activities and offerings related to the entrepreneurial education of their students.

Besides the central GUESSS questions the Danish survey included additional questions about the students' satisfaction with university offerings aiming to understand more about entrepreneurship and innovation educational activities. The Danish national report presents findings from the survey together with some comparisons with the international GUESSS study (Sieger, Fueglistaller, & Zellweger, 2014).

1.2 Theoretical framework

The GUESSS survey is theoretically based on the Theory of Planned Behaviour (TPB) (Ajzen, 1991, 2002; Fischbein & Ajzen, 1975). Its underlying argument is that the intention to perform a specific behaviour is influenced by three main factors: attitude toward the behaviour, subjective norms, and perceived behavioural control. At GUESSS, we focus on career choice intentions in general and entrepreneurial intentions in particular as the specific behaviour to (intentionally) be performed. In addition factors that may impact the evolvement of carrier choice or entrepreneurial intentions through the three main elements of the TPB are investigated: the university context, the family context, personal motives, and the social/cultural context. Figure 1 illustrates this theoretical framework.



Figure 1: Theoretical framework of GUESSS 2013/2014 (Sieger et al., 2014).

The report is structured as follows: First we will give a brief overview over the research design and methodology including basic descriptive statistics about the Danish GUESSS sample (section 2). Section 3 GUESSS' main question about students career choice intentions followed by the determinants of entrepreneurial intention and its relationship to different factors of the theoretical framework (Figure 1; section 4). A more detailed analysis on nascent entrepreneurs, those students in the Danish sample currently in the process of starting a business and becoming self-employed, will be addressed in section 5. The same focused analysis will be applied in section 6 addressing active founders, those students who have already started their own business and are self-employed. Potential successors are those students whose parents are self-employed and/or are major shareholders of a business. An in depth analysis of those students will follow in section 7. Section 8 concludes the first Danish GUESSS report.

1.3 Project organization and data collection procedure

The international GUESSS project is organized by KMU-HSG at the University of St. Gallen (Switzerland). Each participating country is represented by a country team. In Denmark it is a team consisting of Britta Boyd and Simon Fietze from the Department of Border Region Studies and Kristian Philipsen from the Department of Entrepreneurship and Relationship Management, all from the University of Southern Denmark. The original intention was to contact all eight universities in Denmark and send the online survey to all students. At the end we got permission to send the online survey to all approximately 28,000 students at the University of Southern Denmark. An email with an introduction to the GUESSS was forwarded to all students. The survey was open from December 2013 to January 2014. The students who finished the questionnaire and also submitted their email had the possibility to win ten cradles of beer. The winners were picked by the employees of the funding office at the Faculty of Business and Social Science by a random procedure with equal chance for all participants to win.

Table 1 shows the international sample with all 34 countries involved in the GUESSS survey 2013. The table is ranked according to the total number of answers that each

Rank	Country	Completed Questionnaires	Per cent
1	Brazil	12,561	11.5
2	Poland	11,860	10.9
3	Germany	10,570	9.7
4	Spain	10,545	9.7
5	Netherlands	9,907	9.1
6	Hungary	8,844	8.1
7	Italy	7,765	7.1
8	Switzerland	7,419	6.8
9	Singapore	6,471	5.9
10	Russia	4,578	4.2
11	Austria	4,220	3.9
12	Malaysia	2,452	2.2
13	Estonia	1,391	1.3
14	Israel	1,086	1.0
15	Denmark	1,027	0.9
16	Slovenia	903	0.8
17	Japan	890	0.8
18	Colombia	801	0.7
19	Finland	704	0.6
20	England	654	0.6
21	Mexico	637	0.6
22	Canada	509	0.5
23	Australia	495	0.5
24	Greece	435	0.4
25	Belgium	402	0.4
26	France	332	0.3
27	Scotland	280	0.3
28	Romania	277	0.3
29	USA	245	0.2
30	Portugal	213	0.2
31	Liechtenstein	203	0.2
32	Argentina	190	0.2
33	Luxembourg	153	0.1
34	Nigeria	7	0.0
	Total	109,026	100

country received. With 1,027 completed answers Denmark reached rank 15 which amounts to 0.9 per cent of the total international sample.

Table 1: The International Sample of GUESSS 2013 (Sieger et al., 2014).

2 Research design and methodology

2.1 University of Southern Denmark

In Denmark approximately 28,000 questionnaires were sent out to all students from the University of Southern Denmark including part-time students like MBA, diploma students and students taking single courses. With 1,027 completed questionnaires the response rate amounts 3.7 per cent. We have received more than 2,000 questionnaires, but only around half of them have been completed. The feedback we got suggests that the length of the questionnaire may correlate negatively with the response rate.

The University of Southern Denmark is spread over six campuses in the southern region of Denmark including Kolding, Sønderborg, Esbjerg, Slagelse, Copenhagen, and Odense as the largest campus.

Figure 2 shows the distribution of all students in the year 2012/2013 at Danish universities. The two largest universities, University of Copenhagen and University of Aarhus, account for over 25 per cent of the all students in Denmark. The University of Southern Denmark is the third largest Danish university with 13.6 per cent of all students in Denmark. It also has a significant share of students within each of the three main groups of studies investigated in the GUESSS study: "Business, economics and law", "Natural Science and medicine" and "Social science and humanities".



Figure 2: Enrolled students at the eight Danish universities 2012/2013 (Fonden for Entreprenørskab - Young Enterprise, 2013).

2.2 Sample characteristics

Before the report shows a detailed analysis of Danish students' career choice and entrepreneurial intentions, we will start with the demographics of the Danish GUESSS sample.

2.2.1 Age

GUESSS Denmark 2013 respondents' mean age is 24.9 years (median=24 years) which is 1.8 years higher than the average of the international GUESSS (median=22 years). A reason for a higher average age may be due to that Danish students, on average, start studying later than students in other countries. Figure 3 shows the age distribution of the sample. The majority (55.8 per cent) of the respondents in Denmark is 24 years old or younger. Nearly one-third is between 25 and 30 years old (32.2 per cent), and the remaining respondents (12.0 per cent) are over 30 years old. It has to be mentioned that approximately every fourth student (25.0 per cent) did not answer the question about his or her age. These respondents might find this information about themselves as to personal or intrusive. On average, the Danish students have 1.6 siblings and more than half of the respondents (51.6 per cent) have one or more older sibling.



Figure 3: Age distribution of the sample.

2.2.2 Gender

The Danish GUESSS 2013 sample consists of more female (60.3 per cent) than male (39.7 per cent) students (Figure 4). This distribution is similar to the overall international GUESSS 2013 sample but the share of female students varies significantly across the participating countries (Sieger et al., 2014).



Figure 4: Gender distribution of the sample.

2.2.3 Marital status

Most respondents in the Danish GUESSS 2013 sample live alone (51.1 per cent) or are divorced (1.2 per cent) as shown in Figure 5. Nearly half of the students (46.7 per cent) live together with another person – either with a partner (34.9 per cent) or they are married (12.8 per cent).



Figure 5: Marital status of the students.

2.2.4 Regular job

A little less than half of the GUESSS Denmark 2013 respondents (47.3 per cent) report that they have a regular job next to their studies. On average, they spend 17.6 hours per week on their job (n=483).

2.2.5 Nationality

The majority of the respondents (84.2 per cent) are Danish citizens. 12.3 per cent of the students are from countries of the European Union (EU) and 3.6 per cent from other foreign countries. Only 2.1 per cent of the respondents are exchange students.

2.2.6 Level of studies

Figure 6 shows the distribution of the level of studies among the participants of GUESSS Denmark 2013. More than half of the students (56.8 per cent) are enrolled in an undergraduate study programme (bachelor), followed by master students in graduate

programmes (41.5 per cent). Only 1.8 per cent of the sample study on PhD level or are working as postdocs.



Figure 6: Level of studies.

2.2.7 Fields of study

For a comparative analysis this report follows the grouping procedure of study fields used for the international GUESSS report (Sieger et al., 2014). There the study fields are aggregated into three categories: *Business, Economics and Law* (BECL), *Natural Sciences and Medicine* (NSM) and *Social Sciences* (SSC). BECL includes "Business/Management", "Economics" and "Law". NSM includes "Engineering and Architecture", "Mathematics and Natural Sciences", "Information Science/IT", "Agricultural Science, Forestry, and Nutrition Science" and "Medicine and Health Sciences". SSC contains "Linguistics and Cultural Studies (including Psychology, Philosophy, and Religion)" and "Other Social Sciences (including Education)". A fourth category *Others* includes actual "Other" as well as "Art, Science of Art". Figure 7 shows the distribution of study fields in the aggregated groups. One third of the respondents (33.2 per cent) study NSM, followed by BECL (26.1 per cent) and SSC (25.2 per cent) where each one-quarter of the students are enrolled.



Figure 7: Study fields in groups.

Looking at students' gender across study fields illustrated in Figure 8 female students dominate all three study field groups. In BECL there is a more or less even distribution between female (50.9 per cent) and male students (49.1 per cent). More female students (57.2 per cent) are enrolled in NSM and even more in SSC (68.3 per cent).



Figure 8: Students' gender across study fields.

2.2.8 Study performance

Students were also asked to rate their average study performance on a 7-point likert scale from 1 (far below average) to 7 (far above average). On average, respondents of GUESSS Denmark 2013 rate their study performance slightly above average with a mean value of 4.67. As Table 2 shows, 14.9 per cent of the Danish students see their study performance below average. Every third student (32.4 per cent) sees him- or herself as performing "Rather above average". Approximately one quarter of the respondents (25.2 per cent) rate their performance as at least "Pretty above average". Looking at differences between gender, male students rate their study performance slightly lower (mean=4.42) as female students (mean=4.82).

	Far	Pretty	Rather		Rather	Pretty	Far
	below	below	below	Equal	above	above	above
	average	average	average		average	average	average
Male	2.2	6.0	13.9	28.3	29.3	15.4	5.0
Female	0.5	2.1	7.7	26.9	34.4	24.3	4.2
Total	1.2	3.6	10.1	27.4	32.4	20.7	4.5
							(n=1,018)

 Table 2: Students' study performance

3 Career choice intentions

3.1 The general level

The students' career choice intention is one of the GUESSS main questions: Which career path do they intend to pursue right after completion of their studies, and which career path five years after completion of studies? Figure 9 shows GUESSS Denmark 2013 respondents' answers to this question.

The predefined answers can roughly be sorted into three main categories. The first six predefined answers refer to dependent employment in an organisation and describe a career in the private sector, non-profit sector, academia or public sector. The predefined answers for the private sector include "an employee in a small firm (1-49 employees)", "in a medium-sized firm (50-249 employees)" or "in a large firm (more than 250 employees)". This career path is the most popular among the respondents of GUESSS Denmark 2013 right after studies. Nearly half of the students (49.6 per cent) want to work as an employee in a private firm either in small (20.0 per cent), medium-sized (17.5 per cent) or large firms (12.1 per cent). Every fifth student (20.4 per cent) wants to work in the public sector right after studies; 9.1 per cent intend to work in academia and 3.9 per cent want to be employed in a non-profit company. Concerning entrepreneurial intentions, only minor shares of students want to become a founder working in their own firm (2.9 per cent) or a successor in the family's or some other firm (0.6 per cent).

Referring to five years after completion of their studies, there are some major shifts in the students career intentions: On the one hand, less students intend to work in small (8.4 per cent) and in medium-sized firms (14.6 per cent) and in the public sector (13.0 per cent). On the other hand, entrepreneurial activities become more attractive. 15.5 per cent of the respondents (or five times more students than right after graduation) want to become a founder working in their own firm. In comparison to the international GUESSS 2013 this share is still very low. Among all GUESSS participating countries twice as many students (30.7 per cent) want to become a founder of an own business (Sieger et al., 2014). However, there also might be some potential entrepreneurs and founders among the students that are still undecided what to do after studies (13.6 per cent) or five years later (14.0 per cent).

Also the Danish students' intention to become a successor is very low. Independent from whether the firm is currently controlled by the own family only 0.6 per cent of the students want to become a successor right after their studies. After five years this share increases to 1.3 per cent which is still very low considering that 89 per cent of all firms in in Denmark are family owned (Bennedsen, Nielsen, Peréz-González, & Wolfenzon, 2004).





For a comparative analysis and to illustrate the relevance of different types of career paths and the respective shifts between dependent employment and entrepreneurship depending on the time horizon this report follows the procedure of the international GUESSS report grouping the career options into *Employee*, *Founder*, and *Successor* (Sieger et al., 2014).

Figure 10 illustrates the shift in career groups. More than four out of five students (82.9 per cent) intend to work as an employee right after their studies. Five years later a fewer share of 69.2 per cent of the students intend to become an employee. Most of those students whose intention changed from being employed want to become a founder five years later (12.7 per cent). Only 2.9 per cent of the respondents want to become an entrepreneur right after graduation. The amount of students changes to 15.5 per cent five

years after studies. This pattern – at first to be an employee and after this become a founder – is consistent with the current international GUESSS (Sieger et al., 2014) and previous GUESSS surveys (Sieger, Fueglistaller, & Zellweger, 2011).



Figure 10: Career intentions by groups.

Compared to the international GUESSS sample Danish students have a rather low founding intention – both right after completion of studies and five years later. Figure 11 shows the founding intentions of GUESSS Denmark 2013 in comparison to the international GUESSS. In Denmark only 2.9 per cent of students want to become a founder right after graduation which is about half of the international average of 6.6 per cent. The difference between the Danish and international students five years later is similar: 15.5 per cent of the Danish respondents intent to become a founder which is about half of the average of the international sample (30.7 per cent).





A similar pattern appears for the nascent founders. In Denmark only 6.9 per cent of the respondents are currently trying to start their own business or are trying to become self-employed. Compared to GUESSS International this share is less than half the international average of 15.1 per cent. The amount of students answering that they already run a business and are self-employed, also refered to as active founders, is on the same level of about 5 per cent for both the International and Danish GUESSS study (Figure 12).



Figure 12: Nascent and active founders in Denmark in comparison to GUESSS International.

3.1.1 Across fields of study

The field of study is an important factor when it comes to career choice intentions. Figure 13 and Figure 14 show students' career choices right after studies and five years later by groups and across the fields of study. The distribution among the groups and across the study fields is similar with the major share of students who want to become employees, a significant share of students who have no plans and a minor share of students who want to found their own firm. The smallest share of students wants to become a successor in their family's or another firm. In detail, we observe that the share of intentional founders is of similar size among SSC (3.5 per cent) and other fields of study (3.2 per cent). Among BECL students there is a slightly higher share of 4.5 per cent. The lowest share can be found among NSM students (1.2 per cent).



Figure 13: Career choice groups by study field directly after studies.

Five years after graduation the career paths intentions have changed for all groups. The main difference is that less students intend to become an employee and more plan to become founders. The intention to found one's one firm increases in all study fields. More than every fifth student in the field of BECL (22.4 per cent), 13.8 per cent among NSM students and 10.4 per cent of the students of SSC perceive self-employment as a career path five years after they have finished their studies (Figure 14). The share of students who want to be a successor has also increased, but is still low (between 0.6 per cent and 1.8 per cent).



Figure 14: Career choice groups by study field five years after studies.

3.1.2 Across gender

The interest in gender perspectives of entrepreneurship has increased. Both international studies and the Danish Global Entrepreneurship study (Amorós & Bosma, 2014; Schøtt, 2011) have found a consistent pattern that a larger share of males are engaged in entrepreneurship compared to females (measured as intention to start a new business). In GUESSS Denmark 2013 we also investigate how gender might differ in career choices and entrepreneurial intentions. Figure 15 shows the distribution of career choice intentions right after studying by gender. The majority of both male (83.0 per cent) and female students (82.8 per cent) intend to start as employees in a private or public organisation. The share of intentional founders among males is slightly higher than among females (3.4 per cent versus 2.6 per cent). Successor as a career path, whether the firm is owned by one's parents or not, is not attractive for both male and female students (both 0.5 per cent).





After five years the career intentions for both genders change (Figure 16). The share of male and female students who intend to become an employee five years after their graduation is lower for both male (70.1 per cent) and female (67.8 per cent) students, while the intention to found one's own firm becomes more important. The main difference is that a larger share of male students (19.2 per cent) wants to become a founder of a firm compared to a share of 13.1 per cent of female students. Also more students want to be a successor in their parent's or another firm after five years with an equal share among male (1.3 per cent) and female (1.2 per cent) students.



Figure 16: Career choice intentions by gender five years after studies.

4 Determinants of entrepreneurial intentions

4.1 The general Level

The career intention to become an entrepreneur depends on several factors. To examine the relationship between different factors the GUESSS study surveys students' entrepreneurial intentions using a scale of six items. Students are asked to indicate their level of agreement to these statements that capture their general intention to become an entrepreneur in the future (Linan & Chen, 2009). Table 3 shows the six statements which answers were anchored from 1 (strongly disagree) to 7 (strongly agree).

Item number	Statement
1	I am ready to do anything to be an entrepreneur.
2	My professional goal is to become an entrepreneur.
3	I will make every effort to start and run my own firm.
4	I am determined to create a firm in the future.
5	I have very seriously thought of starting a firm.
6	I have the strong intention to start a firm someday.

 Table 3: Entrepreneurial intention scale.

The entrepreneurial intention scale is generated by calculating the mean of all six answers. The result for the Danish GUESSS 2013 confirms previous findings. On average the entrepreneurial intention among Danish students is quite weak (mean=2.45; n=956). In comparison across the participating countries Danish students have together with the Japanese GUESSS the lowest entrepreneurial intentions (Sieger et al., 2014).

An analysis based on the fields of study also confirms some of the previous findings of the Danish GUESSS (Figure 17). The average entrepreneurial intention is highest for BECL students (3.08), followed by other study fields (2.63) and NSM (2.25). The lowest entrepreneurial intention can be found among SSC students (1.97). A test for gender differences reveals a lower mean value for female students compared to male students (2.19 versus 2.83). Between the different fields of study the level of entrepreneurial intention is continuous lower for female students than for male students. The biggest difference between female and male students can be found among NSM students (1.87 versus 2.75). However, the general picture is nevertheless that the entrepreneurial intentions are rather low compared to the international sample for both male and female students.



■ male ■ female ■ all



4.2 The university context

In this study it is important to investigate the role of the university as a context for entrepreneurial intentions. How universities affect entrepreneurial intentions has been a subject of interest for other researchers (Lima, Lopes, Nassif, & da Silva, 2014).

Students were asked to what extent they have been attending entrepreneurship-related courses and offerings at their university. Figure 18 shows that the majority or more than four out of five students in the Danish sample (80.5 per cent) have not attended a course on entrepreneurship so far. Only 2.9 per cent of the students study a specific program on entrepreneurship; 13.7 per cent have at least one compulsory course as part of their study and 7.6 per cent have attended at least a elective entrepreneurship course.

The students were also asked what percentage of their study time they devote to entrepreneurship courses. The average among Danish students who are attending some kind of entrepreneurship courses is 16.6 percent (n=198; median=10 percent). More than half of these students (52.5 per cent) spent 10 per cent or less of their total study time for entrepreneurship courses. 79.3 per cent spent up to 20 per cent and 88.9 per cent spent up to 30 per cent of their overall study time in entrepreneurship classes. Only a few respondents have attended entrepreneurship classes and in case they have they devoted less than one-third of their study time for them.



Figure 18: Attendance of entrepreneurship courses.

Students were also asked about the entrepreneurial climate at their university by indicating the extent to which they agree to three statements (Table 4; Luethje & Franke 2004). The answers for the entrepreneurial climate were anchored from 1 (strongly disagree) to 7 (strongly agree).

Item number	Statement
1	The atmosphere at my university inspires me to develop ideas for
1	new businesses.
2	There is a favorable climate for becoming an entrepreneur at my
2	university.
2	At my university, students are encouraged to engage in
5	entrepreneurial activities.

Table 4: Entrepreneurial climate scale.

The entrepreneurial climate scale is generated by calculating the mean of all three answers. On average the entrepreneurial climate at Danish universities is relatively low (mean=3.32; n=1,016). This indicates room for improvements. Figure 19 shows the calculated mean for the entrepreneurial climate scale across fields of study and by gender. The average entrepreneurial climate is rated highest by BECL students (3.42). The other study fields do not differ very much: NSM (3.30), SSC (3.21) and other study fields (3.37) have similar average entrepreneurial climates. Gender differences are neither to be found. The mean values for female students compared to male students are quite similar (3.30 versus 3.35). Between the different fields of study the level of entrepreneurial climate is rated differently between female and male students. Among BECL students (3.24). The opposite is the case for NSM students. Male students perceive a stronger entrepreneurial climate (3.61) than female students (3.07).



■ male ■ female ■ all



It is also important to investigate to what extent students actually have learned something when attending entrepreneurship courses and classes at their university. Thus students were asked to indicate the extent to which they agree to five statements about their learning process and outcome (Table 5; Souitaris, Zerbinati, & Al-Laham, 2007). The statements indicate to what extent students think that the attended courses would enhance their abilities or increase their understanding of entrepreneurial issues. The answers for the entrepreneurial learning statements were anchored from 1 (strongly disagree) to 7 (strongly agree).

Item number	Statement		
	The courses and offerings I attended		
1	increased my understanding of the attitudes, values and motivations of entrepreneurs.		
2	increased my understanding of the actions someone has to take to start a business.		
3	enhanced my practical management skills in order to start a business.		
4	enhanced my ability to develop networks.		
5	enhanced my ability to identify an opportunity.		

Table 5: Entrepreneurial learning scale.

The entrepreneurial learning scale is generated by calculating the mean of all five answers. On average the entrepreneurial learning at Danish universities is perceived as relatively low (mean=3.10; n=1,014). Figure 20 shows the calculated mean for entrepreneurial learning across fields of study and by gender. The average entrepreneurial learning is perceived highest among BECL students (3.79). The other fields of study do not differ very much: entrepreneurial learning among NSM and SSC students is on

average 2.80. Gender differences are not very large. The mean values for female students compared to male students are slightly higher (2.94 versus 3.34). Between the different fields of study the level of entrepreneurial climate is rated differently among NSM students. NSM female students perceive the entrepreneurial learning weaker (2.50) than male students (3.19). For the other fields of study gender differences are marginal. For instance, among BECL students male students perceive the entrepreneurial learning on average at 3.86. The female BECL students rate it marginal lower (3.73).



Figure 20: Strength of entrepreneurial learning across study fields and gender.

GUESSS Denmark 2013 included some additional questions about different university offerings. The questions are similar to questions from GUESSS International 2011 (Sieger et al., 2011), where students were asked if their university offers a variety of different lectures, seminars, networking platforms, and resources. To assess the quality of the university offerings, students were asked how satisfied they were with a list of given offerings. The answers were anchored from 1 (not satisfied at all) to 7 (very much satisfied). Figure 21 shows the results for those respondents who answered that they at least have attended an entrepreneurship course as an elective at university (n=123 to)n=187). The general picture is that the Danish students are rather unsatisfied with the courses and activities offered (mean=3.53, n=81). They are most satisfied with lectures and seminars on "Innovation and idea generation" (4.70), followed by "Business planning" (4.38) and "Entrepreneurship in general" (4.30). The respondents are also rather satisfied with the "Technology and research resources (library, web)" (4.18) that are available at the university. The students are rather unsatisfied with lectures and seminars on "Family firms" (2.86) and different aspects of networking: "Contact platforms with potential investors" (2.95) and "Mentoring and coaching programs for entrepreneurs" (3.13). Respondents also want more offerings of "Seed funding/financial support" from the university (2.99).



Figure 21: Level of satisfaction with entrepreneurship lectures and seminars, networking and coaching offerings and provision of resources for founders.

4.3 The family context

The family background also plays an important role for students' career choice. We know from literature that a higher proportion of students from families with self-employed parents choose to become entrepreneurs (Laspita, Breugst, Heblich, & Patzelt, 2012). Therefore students were asked if their parents (father, mother or both) are currently self-employed.

Figure 22 shows the percentage of students with self-employed parents. More than three quarter of all students have no self-employed parents (76.1 per cent). 23.9 per cent of the students have a father, mother or both parents who are self-employed. In detail, 5.5 per cent of all respondents report that both parents are self-employed. A similar share of 4.7 per cent has a self-employed mother, 13.7 per cent a self-employed father.





Similar to Sieger et al. (2014) we expect different career choice intentions for students with and without entrepreneurial parents. Figure 23 shows the career choice intentions of students five years after graduation with and without entrepreneurial parents. 24.6 per cent of the students with entrepreneurial parents intend to be a founder or successor in their parents' (or in another) firm five years after graduation. This share is only 14.2 per cent for students without entrepreneurial parents. While it is easier for students with entrepreneurial parents or their parents' firm one day, we also observe a difference between the share of students who intend to found their own firm compared to those students without an entrepreneurial family background (20.5 per cent compared to 13.8 per cent).



Figure 23: Career choice intentions by family background five years after study.

4.4 Personal motives

Based on the TPB researchers have found a positive correlation between high intentions (motives) for achieving something and a person's behaviour (Laspita et al., 2012; Zellweger, Sieger, & Halter, 2011). Hence, career motives are also an important determinant of career choice intentions. Students were asked to rate the importance of ten different motives when they decide about their future career path. The answers were anchored from 1 (not important at all) to 7 (very important).

Figure 24 shows the average importance (means) of the ten career motives among Danish students. Their most important career motive is "to have an exciting job" (6.29), followed by "realize your dream" (5.78) and by "challenging job" (5.58). The least important motive is "be your own boss" (3.73). Also less important, but still rated as rather important is "have authority" (4.40).



Figure 24: Importance of different career motives.

Figure 25 illustrates the importance of career motives across the career path of becoming a an employee, a founder or a successor. For intentional founders the most important motives are "having an exciting job" (6.39), "realize your dream" (6.21), "create something" (5.91) and "freedom" (5.82). The so called power motives "be your own boss" and "have power to make decisions" seem to be more important for intentional founders (5.03 and 5.63) than for the other groups, for instance intentional employees (3.49 and 4.79).



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Figure 25: Importance of career motives across different career groups.

4.5 Social and cultural context

Researchers argue that people in their network have a positive effect on becoming a founder of a firm (Souitaris et al., 2007; Zellweger et al., 2011) while the negative effect of networks on entrepreneurial activities is less investigated and understood. Based on the TPB GUESSS investigates the *subjective norm* or social pressure that is carried out by close peers. The more positive the expected reaction is from those peers, the more likely it is to behave as intended. Students were therefore asked how positive or negative different close people would react if they would pursue a career as an entrepreneur. The students should rate the reaction for three groups of people: close family, friends and

fellow students (Linan & Chen, 2009). The answers were anchored from 1 (very negatively) to 7 (very positively). The subjective norm scale is generated by calculating the mean of all three answers. On average the subjective norm among Danish students is relatively high (mean=5.37; n=955), which is slightly below the global average of 5.53 (Sieger et al., 2014).

Another social and cultural key factor of entrepreneurship is risk. Therefore, the GUESSS study investigates to what extend the students assess it as risky in becoming an entrepreneur. Students were asked to indicate their level of agreement to three statements (Table 6; Pennings & Wansink, 2004). The answers were anchored from 1 (strongly disagree) to 7 (strongly agree).

Item number	Statement
1	I consider starting up my own business to be very risky.
2	I think it is dangerous to manage your own business.
3	I believe that business ownership has high risk.

Table 6: Perceived risk scale.

On average the perceived risk to start an own business among Danish students is very strong (mean=5.05; n=954). Denmark is among the five GUESSS countries with the strongest risk perception in comparison to Poland (5.50), Japan (5.16), USA (5.07) and Germany (5.00) (Sieger et al., 2014).

5 Nascent entrepreneurs

Until now the focus has been on the whole sample of Danish students (n=1,027), their characteristics, career choices and determinants of entrepreneurial intentions. The following section focuses on students that are nascent entrepreneurs, meaning those students in the Danish sample currently in the process of starting a business and becoming self-employed. 6.9 per cent of Danish GUESSS respondents (n=71) are nascent entrepreneurs.

5.1 Personal characteristics

The nascent entrepreneurs mean age is 25.9 years (median=24 years). 57.8 per cent of them are female. Figure 26 shows the gender distribution of nascent entrepreneurs across their main fields of study and by gender. Male students account for the major part within NSM (83.3 per cent) and BECL (60.7 per cent). The most female students are to be found among SSC students (61.5 per cent). The nascent founders intend to found their own firm within the next 10.8 month (mean, n=48). 70.8 per cent plan to form their business within the next twelve month. 16.7 per cent intend to found their firm within three month. The nascent entrepreneurs plan to invest 50.9 per cent on average of their weekly working time for their company.



Figure 26: Nascent entrepreneurs across fields of study and gender.

Previously we have mentioned the share of Danish and international students in GUESSS Denmark 2013. A majority of 84.2 per cent are Danes, 15.8 per cent are international students. Here we are interested in differences between Danish and

international nascent entrepreneurs. Figure 27 shows the distribution of nascent entrepreneurs across study fields and by nationality. The international students account for 31.4 per cent of the nascent entrepreneurs with a similar distribution among the fields of study. This indicates that the intentions to start as nascent entrepreneur among international students in the Danish sample are significantly higher than among Danish students.



Figure 27: Nascent entrepreneurs across fields of study and nationality.

5.2 Activities to start the business

In the gestation phase where nascent entrepreneurs' start up their firm they may conduct a number of various activities. Figure 28 illustrates the answers to ten given activities the nascent entrepreneurs have already carried out in order to start their business (multiple responses). Every fourth out of five intended entrepreneurs (75.5 per cent) have already "Collected information about markets and competitors", half of them (50.0 per cent) have "Discussed [their] product or business idea with potential customers" and more than one third (35.3 per cent) have both "Started [their] product/service development" and have "Written a business plan". Only 5.9 per cent have made an attempt to protect their intellectual property rights and "Applied for a patent, copyright or trademark". 11,8 per cent have done nothing of the mentioned activities so far.



Figure 28: Activities already carried out in order to start a business.

5.3 Industry sectors

Figure 29 shows the preferred industry sectors nascent founders plan to start their business. A majority intend to start their own business in the "Trade (wholesale/retail)" sector (18.6 per cent) and in the "Information technology and communication" sector (17.1 per cent). Both 8.6 per cent prefer the service sectors "Tourism and gastronomy" and "Health services" for their planned business. Only 1.4 per cent of the nascent founders intend to establish their business in the "Architecture and Engineering" sector.



Figure 29: Industry sectors of nascent entrepreneurs

5.4 Founding partners

Nascent entrepreneurs can choose to start up their business by themselves or in teams. The nascent founders were therefore asked with how many co-partners they plan to found their business. Figure 30 shows that 41.2 per cent of the nascent founders intend to start their business alone. A majority of 58.8 per cent of the nascent entrepreneurs plan to found their business together with one or more co-partners.

With a larger share of intentional founders among male students compared to female students (see Figure 26 above) it is interesting to investigate gender differences. Figure 30 exhibits no major gender differences to found the business in a team. A larger share of 51.7 per cent of nascent female entrepreneurs intends to start their business alone, compared to 33.3 per cent of the male students.



Figure 30: Number of co-founders in total and depending on gender.

The nascent entrepreneurs, who stated that they plan to found their firm with one or more co-partners, were also asked how many of the co-founders are female. Figure 31 shows the share of female co-partners among the nascent team founders. Half of them (50.0 per cent) has no female co-founder while the other half (50.0 per cent) has one or more female co-partner.





Furthermore, the nascent team founders were asked how many co-founders have the same educational background (e.g., same field of study) as themselves. As Figure 32 shows do more than half of the nascent team entrepreneurs (52.5 per cent) intend to found their business with peers that have a different educational background than themselves, followed by 37.5 per cent who plan to found their business with one co-founder with the same education. Only 5.0 per cent stated that they plan to found the business with two co-partners, who have studied in the same study field.





To reveal the importance of different contexts to find founding team members the nascent team entrepreneurs were additionally asked, how many of their co-founders they found at "University", in the "Circle of friends outside University", in their "Professional network" and among "Family (e.g., spouse, siblings)". Figure 33 shows that all four contexts are of similar importance when it comes to meet start-up partners (36.7 per cent to 39.4 per cent).



Figure 33: Context for nascent team entrepreneur recruitment.

5.5 Equity and finance of planned business

On average the nascent entrepreneurs will hold an equity share of 65,6 per cent (mean) in their planned business. Figure 34 shows the distribution of equity share among the nascent founders. More than half of the nascent entrepreneurs (58.2 per cent) will be major shareholders of their business holding 51 per cent or more of the total equity. 37.3 per cent will own the planned business alone (100 per cent of the total equity). Only a minority of 7.5 per cent plan to own 24 per cent or less of the total equity.



Figure 34: Equity share of the nascent entrepreneurs.

48.5 per cent of the nascent entrepreneurs stated that they do not know yet how much money they will need in order to start their own business. Almost 60 per cent of the remaining nascent founders will need up to 50,000 DKK to get their business started. 22.9

per cent stated that they will need between 50,100 DKK up to 500.000 DKK. More than one million DKK start-up capital will be required by 17.1 per cent of the nascent founders (Figure 35). The average share of own money that the nascent entrepreneurs will have in the investment is 61.9 per cent (mean).



Figure 35: Needed investment for the planned business.

5.6 Newness of the planned business

The perceived newness of the product or service that will be offered by the planned business in the market describes how innovative the future business might be (compared to what is already offered). Therefore, it is also interesting to research the newness of the ideas behind the planned firms. Figure 36 shows the degree of newness of the products or services the nascent entrepreneurs intend to introduce to the market. 10.0 per cent of the nascent founders think that the product or service their planned business will provide is new to all customers. More than half the respondents state that their offered product or service will be new to the customers, 31.4 per cent think that this will be the case for the majority of the customers, 22.9 per cent think that this will be the case for a minority of customers. More than one third (35.7 per cent) stated that their product or service is not new at all to the customers.



Figure 36: Perceived newness of products or services.

6 Active entrepreneurs

The following section focuses on students that are active entrepreneurs, meaning those students in the Danish sample who are already running their own business and are self-employed. 4.7 per cent of Danish GUESSS respondents (n=48) are active entrepreneurs.

6.1 Personal characteristics

The active entrepreneurs mean age is 28.2 years (median=26 years). 52.1 per cent are female. Figure 37 shows the gender distribution of active entrepreneurs across their main fields of study and across gender. Male students account for the major part within BECL (68.4 per cent). The most female students are to be found among SSC students (81.8 per cent) and NSM students (62.5 per cent). Two third of the active entrepreneurs (66.7 per cent) founded their business within the last four years. 8.9 per cent have founded their start-up business before 2005. The active founders work 17.6 hours per week on average for their company.



Figure 37: Active entrepreneurs across fields of study and gender.

In the previous section we described the differences between Danish and international students among nascent entrepreneurs. We are also interested in these differences for active founders. Figure 38 shows the distribution of active entrepreneurs across study fields and by nationality. The international students account for 10.4 per cent of the active entrepreneurs with a similar distribution among the fields of study. Compared to the share of international students active entrepreneurs account here for a smaller share. This is not surprising when the question is about actually running an existing firm or being self-





[■] Danish ■ Other nationality

Figure 38: Active founders across fields of study and nationality.

The active entrepreneurs today employ 0.5 people on average and predict that they will employ 1.7 people on average in five years. 77.3 per cent of all businesses do not have an employee at all. 22.7 per cent have at least one employee or more. In the next five years the businesses with no employees drop from 77.3 per cent to 56.8 per cent. Only 32.6 per cent of the active founders predict that they will increase their employees by one to 19 employees (Figure 39).



Figure 39: Number of employees today and in five years.

6.2 Industry sectors

Figure 40 shows the industry sectors where the active founders started their business. Most active entrepreneurs are in the "Information technology and communication" sector (22.2 per cent), followed by "Consulting (law, tax, management, HR)" (11.1 per cent) and "Education and Training" (11.1 per cent). There are no active founders in the "Architecture and engineering" as well as the "Construction and manufacturing" sector. The distribution of industry sectors are somewhat different from the nascent entrepreneurs who want to found their future business mainly in the "Trade (wholesale/retail)" (18.6 per cent) and "Information technology and communication" sector (17.1 per cent).



Figure 40: Industry sectors of active entrepreneurs.

6.3 Founding partners

The active entrepreneurs were asked with how many co-partners they founded their business. Figure 41 shows that a majority of 69.8 per cent started their business alone. Only 30.2 of the active entrepreneurs founded their business together with one or more co-partners. Major gender differences cannot be found among active entrepreneurs. A larger share of female active founders (31.8 per cent) started their business together with another co-partner.



Figure 41: Number of co-founders in total and depending on gender.

6.4 Equity

On average the active entrepreneurs hold an equity share of 85.1 per cent (mean) in their business. Figure 42 shows the distribution of equity share among the active founders. A majority of 75.0 per cent own their business alone (100 per cent of total equity share). Only a bit less than one quarter of the active founders (22.8 per cent) are minor shareholders and own less than 50 per cent of the total equity of the business.





6.5 Performance ratings

The active entrepreneurs were also asked to rate the performance of their company compared to their competitors since the business was established on the basis of five dimensions: Sales growth, market share growth, profit growth, job creation and innovativeness. Figure 43 shows the average rated performance for each dimension. "Innovativeness" is the performance measure with the highest level (4.3) followed by "profit growth" (3.5) and "sales growth" (3.4). The lowest performance dimension is to be found for "job creation" (2.4).



Figure 43: Performance ratings compared to competitors.

7 Potential Successors

The following section focuses on students that are potential successors, meaning those students in the Danish sample whose parents are self-employed and/or are majority owners of a business. Planning to be a successor in the parents' family business is an important and difficult decision. Therefore research in the field of family firms still circles to a large extent around succession problems (Poza & Daugherty, 2013). 25.1 per cent of the Danish GUESSS respondents (n=258) are potential successors.

7.1 Personal characteristics

The potential successors mean age is 24.6 years (median=24 years). 60.9 per cent are female. Figure 44 shows the gender distribution of potential successors across their main fields of study. There are no gender differences. Female students account for the major part within all study fields: SSC (68.6 per cent), NSM (58.3 per cent) and BECL (53.5 per cent). On average the potential successors' parents own 1.3 businesses with a majority of 79.4 per cent that owns one business.





Also for the potential successor are we interested in any differences between Danish and international students. Figure 45 shows the distribution of potential successors across study fields and nationality. Almost one quarter of the students (23.1 per cent) with selfemployed parents and/or parents that are major shareholders are not Danish. The distribution across study fields reveals some differences. The largest share of international



students can be found among BECL students (34.3 per cent), the smallest among SSC students (17.7 per cent).

Danish Other nationality

Figure 45: Potential successors across fields of study and nationality.

7.2 Parents' business characteristics

7.2.1 Years of ownership

The parents are self-employed and/or major shareholders of the businesses for 16.3 years on average. As Figure 46 illustrates almost half of the potential successors parents' (47.1 per cent) have owned the business up to ten years. 7.2 per cent are self-employed and/or hold the majority of shares of a business for more than 30 years. A share of 85.2 per cent stated that a family member created the business. Most parents are operationally involved in the business (96.1 per cent) and in 89.5 per cent of the businesses the mother or the father is the CEO.



Figure 46: Years of ownership.

7.2.2 Equity

On average potential successor's parents hold an equity share of 85,6 per cent (mean) in their business. Figure 47 shows the distribution of equity share among the potential successor's parents. A majority of more than two third of the potential successors parents (68.2 per cent) own the business alone (100 per cent of the total equity). 85.3 per cent are major shareholders holding 51 per cent or more of the total equity.



Figure 47: Equity share of potential successors parents.

7.2.3 Number of employees

Potential successor's parents employ 10.5 people on average. Figure 48 shows the distribution of the number of employees in the parents' businesses. Only 8.1 per cent of the potential successors parents are self-employed without any own employees. A bit more than half of the parents' businesses (51.6 per cent) have between one and three employees. Furthermore, 42.5 per cent of the students stated that they have already worked for their parents business.



Figure 48: Number of employees.

7.2.4 Industry sector

Figure 49 shows the industry sectors where the potential successor's parents have their business. Most businesses are in the "Construction and manufacturing" sector (20.5 per cent), followed by the "Trade (wholesale/retail)" sector (16.2 per cent) and "Health services" (11.8 per cent). Comparing the distribution of businesses among industry sectors of nascent and active entrepreneurs some differences can be found. The majority of active entrepreneurs have founded their business in the "Information technology and communication" sector (22.2 per cent) and 17.1 per cent of the nascent entrepreneurs plan to found their business in this sector. Only 3.5 per cent of the potential successor's parents have their business in this sector.



Figure 49: Industry sectors of potential successors parents businesses.

7.2.5 Performance ratings

The students were also asked to rate the performance of their parents' business compared to its competitors over the last three years on the basis of five dimensions: Sales growth, market share growth, profit growth, job creation and innovativeness. Figure 50 illustrates the average rated performance for each dimension. All performance measures are on a similar level with "Sales growth" (4.48) and "Profit growth" (4.44) being the highest followed by "market share growth" (4.16) and "innovativeness" (4.01). The lowest performance dimension is "job creation" (3.58).



Figure 50: Performance ratings compared to competitors over the last three years.

7.3 Succession intention

The overall sample GUESSS captures the entrepreneurial intention of the students, because the student's career intention to become an entrepreneur depends on several factors. The same accounts for the career intention to become a successor. Based on the same scale GUESSS also captures the succession intentions of those students whose parents are self-employed and/or major shareholders of a business. The GUESSS study surveys these intentions using a scale of six items. Students are asked to indicate their level of agreement to these statements that capture their general intention to become a successor in their parents business in the future (Linan & Chen, 2009). Table 7 shows the six statements which answers were anchored from 1 (strongly disagree) to 7 (strongly agree).

Item number	Statement
1	I am ready to do anything to take over my parents' firm.
2	My professional goal is to become a successor in my parents' firm.
3	I will make every effort to become a successor in my parents' firm.
4	I am determined to become a successor in my parents' firm in the future.
5	I have very seriously thought of taking over my parents' firm.
6	I have the strong intention to become a successor in my parents' firm one day.

Table 7: Succession intention scale.

The succession intention scale is generated by calculating the mean of all six answers. On average the succession intention among Danish potential successors is very weak (mean=1.61; n=225). This result confirms previous findings about Danish students' career intentions. Only very few students have stated, that they want to become a successor in their parents' business or in a business currently not controlled by the family right after their studies (0.6 per cent) and five years later (1.3 per cent).

An analysis based on the fields of study shows some differences between gender and study fields (Figure 51). The succession intention among BECL students is slightly stronger (1.89) than the overall average. Male students in the study fields BECL and NSM have a less weaker succession intention (2.23 and 1.77) than female students in these study fields (1.60 and 1.41). However, the differences are not significant and all mean values are on a low level. Danish students with self-employed parents and/or parents who are major shareholders do not have a high intention to take over the parents' business - independent from the field of study and gender.



Figure 51: Strength of succession intention across study fields and gender.

8 Summary and conclusion

The Department of Border Regions Studies and the Department of Entrepreneurship and Relationship Management at the University of Southern Denmark conducted the survey for the first Danish GUESSS 2013. The sample is based on students from the University of Southern Denmark, where more than one out of eight university students in Denmark study. About 28,000 students were asked of which 1,027 finished the questionnaire resulting in a response rate of 3.7 per cent.

In the following, we will highlight the main results:

The Danish **students' career intentions** seem to follow the international pattern of first being an employee and then later becoming a founder (Sieger et al., 2014). They follow a career path where they intend to start as employee – probably to gain some experience – and then later become founders of their own business. 2.9 per cent of the students in the sample want to work in their own company right after studies. Five years later this applies to 15.5 per cent of them. Compared to the international GUESSS sample Danish students have a rather low founding intention. The Danish students also have a relatively low succession intention which may be explained by different cultural and security aspects in Denmark (Greens Analyseinstitut, 2008).

The values for **entrepreneurial intention** among Danish students are quite low. In comparison to the international GUESSS Denmark has together with the Japanese sample the lowest of all values. BECL students have the strongest entrepreneurial intention followed by NSM and SSC students. We also found gender differences with female students having a lower entrepreneurial intention than male students.

The **entrepreneurial climate** at the University of Southern Denmark is rated relatively low. The Danish students neither agree nor disagree to an inspiring and favourable climate independent from their field of study. A similar result can be found for the **entrepreneurial learning**. Danish students perceive entrepreneurial learning as relatively low and state that the courses that have been offered by the university only partly increased their entrepreneurial understanding and enhanced their entrepreneurial skills and abilities. They are most satisfied with lectures and seminars on "Innovation and idea generation", "Business planning" and "Entrepreneurship in general" and rather unsatisfied with offers on "Family Firms". The results indicate room for improvements in the offered entrepreneurial courses and practical extra curriculum activities.

As expected and in line with the international GUESSS and previous research also Danish students with **entrepreneurial parents** are more likely to become founders themselves.

Personal motives are one of the main drivers behind career intentions. The power motives "be your own boss" and "have power to make decisions" seem to be more important for intentional founders than for others. Independent from the career intentions Danish students in general want to have an exciting job, realise their dreams, create something and want freedom in their future employment or self-employment. To be one's

own boss is rather not important. This may be explained by the more egalitarian and low hierarchy cultural context in Denmark (Hofstede & McCrae, 2004; Hofstede, 2001).

The **social and cultural context** plays an important role for career choices. The perceived reaction from family, friends and fellow students if the respondents would pursue a career as an entrepreneur is relatively positive among Danish students. The other key factor of entrepreneurship is risk. Here the average value is quite strong. Danish students perceive it rather as risky to start an own business.

6.9 per cent of the Danish students are currently in the process of starting a business and becoming self-employed (**nascent entrepreneurs**). Most of them have already "Collected information about markets and competitors", "Discussed [their] product or business idea with potential customers", "Started [their] product/service development" and/or "Written a business plan". Danish nascent founders plan to start their business in the "Trade (wholesale/retail)" or "Information technology and communication" sector. The majority of the students intend to start their business together with one or more copartners. 60 per cent of the nascent entrepreneurs will need up to 50,000 DKK to start the business.

The share of **active entrepreneurs** – those students who are already running their own business and are already self-employed – is 4.7 per cent. The majority of them do not have an employee. Most active founders have their business in the "Information technology and communication" sector. Only a minority have founded their business with no co-partner.

Potential successors are those students whose parents are self-employed and/or major owners of a business. 25.1 per cent of the respondents are potential successors. Almost half of the businesses are owned by the parents for up to ten years and the majority also owns their business alone. Most of the parents businesses' can be found in the "Construction and manufacturing" and "Trade (wholesale/retail)" sector. The students' succession intention is very weak and confirms the low share of students for this career path.

Based on these findings, entrepreneurial and succession intention in Denmark can be improved. Entrepreneurship education at university level should be stimulated considering specific offers and activities for the different groups of entrepreneurial students (nascent and active entrepreneurs and potential successors) as well as for students who not have considered becoming a founder yet. The latter group of students need to be stimulated to arouse interest in an entrepreneurial career.

In sum, with this first GUESSS data collection of students' entrepreneurial intentions and activities in Denmark we contributes to the ongoing research in the field of entrepreneurship both on a national and international level. We hope that we with this report and further following publications give interesting insights for the different stakeholders.

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