



Entrepreneurial Intentions and Activities of Students at Austrian Universities

Global University Entrepreneurial Spirit Students' Survey 2013
National Report Austria

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1 Introduction

Founding an enterprise as well as business succession is of increasingly high importance for the economy. According to the start-up statistics of the Austrian Chamber of Commerce nearly 29,000 people¹ started an enterprise in 2013 (WKO 2014).

The promotion of entrepreneurship is critical in stimulating economic growth and job creation as well as innovation. Studies show that students as well as graduates of universities are increasingly interested in the career option of self-employment². Students without any interest in entrepreneurship are in a distinct minority. A considerable percentage of the students already acquire practical entrepreneurial experience through working in a family firm or as business owners. Without doubt the entrepreneurial potential can be increased by practice-oriented entrepreneurship education at universities including extracurricular activities and intensive cooperation with the support infrastructure of the region (Kailer/Stockinger 2012). A large percentage of students in Austria envision to establish their own business within five years after graduating (and thus after gaining working experience and also industry-specific know-how) and a large proportion of alumni actually choose the career option self-employment (Kailer, Böhm, & Zweimüller 2012). Therefore, entrepreneurship education also has to include alumni as an additional target group for their activities, as potential entrepreneurs, as role models and as entrepreneurs-in-residence (Nathusius 2013).

Higher education institutions play an important role in this respect because they can spread the spirit of enterprise through fostering a positive attitude of the students towards entrepreneurship, through competency development in the field of entrepreneurship and through actively supporting (potential) academic start-ups. The development of university-wide concepts for entrepreneurship education is urgently needed to create “entrepreneurial universities” (Kailer 2010b)³. As an initiative of the European Commission (DG Education and Culture) and the OECD LEED forum a self-assessment tool for entrepreneurial HEI has recently been developed⁴. International theme-specific networks (e.g. ESU - European University Network on Entrepreneurship, G-Forum, and EEC - European Entrepreneurship Colloquium) and working groups can support the activities to reach this goal.

¹ Excluding personal caretakers and geriatric nurses.

² See (Bauer/Kailer 2003; Calogirou, Fragozidis, Houdard-Duval, & Perrin-Boulonne 2010; Kailer 2002; NIRAS et al. 2008, World Economic Forum 2009; Schramm 2011)

³ See also (Calogirou et al. 2010; Davies, Camilleri, Beernaert, & Coninx 2008; Gibb 2005; Gutschelhofer/Kailer 2002; Kailer 2005, 2010a, 2011)

⁴ See www.heinnovate.eu

2 The Research Project GUESSS

The Global University Entrepreneurial Spirit Students' Survey (GUESSS) project is an international collaboration to grasp entrepreneurial intentions and activities among students in different countries.

The present study is based on previous surveys which have been carried out respectively in 2008 (GUESSS 2009)⁵ and 2010 (GUESSS 2011)⁶. The International Survey on Collegiate Entrepreneurship (ISCE) 2006⁷ is the antecessor of the GUESSS surveys. GUESSS is based on cooperation between national representatives. Each representative is responsible for contacting universities and sponsors, for data collection and interpretation as well as for the analysis and report for his country. GUESSS is organized and led by the Swiss Research Institute for Small Business and Entrepreneurship (KMU-HSG) and the Center for Family Business (CFB-HSG) both at the University of St. Gallen. GUESSS 2013/14 was supported by the international project partner Ernst & Young.

In 2014 thirty-four countries participated in the anonymous web-based survey and the final response included questionnaires of 109,026 students (Sieger, Fueglistaller, & Zellweger 2014).

Since its beginning, the country study for Austria has been carried out by the Institute for Entrepreneurship and Organizational Development (IUG) of the Johannes Kepler University Linz.

A special word of thanks is extended to the following organizations for their support: The **Business Start-Up Service of the Austrian Chamber of Commerce** and the **Government of Upper Austria** supported this project financially. To increase the response rate, education vouchers sponsored by the **Institute of Business Promotion (WIFI) Austria** were raffled among the participants.

2.1 Respondents

23 universities and universities of applied science with altogether 149,587 students actively participated in the Austrian survey. A critical success factor of a web-based questionnaire is the general accessibility of students via e-mail as well as the willingness of the universities to inform as many students as possible of the survey. The rectors, the vice rectors of academic affairs of universities and the managing directors and programme directors of the universities

⁵ See (Kailer/Daxner 2010).

⁶ See (Kailer, Gruber-Mücke, Wimmer-Wurm, & Blanka 2013).

⁷ See (Kailer 2007).

of applied science have been contacted by email and/or by telephone and have been asked to encourage the students via round mail to complete the questionnaire. In most cases an e-mail with a short introduction of the project and a link to the online survey was sent to students. As in the former surveys marked differences in the return rate of participating countries as well as between universities of each country could be observed. This has to be kept in mind when trying to make any comparisons between countries or universities.

The Austrian response of 4,220 questionnaires (response rate 5%) has been the same as in GUESSS 2011, although the questionnaire has been considerably enlarged.⁸

2.2 Sample characteristics

2.2.1 Age

The average student who participated in GUESSS Austria 2013 is 24.4 (mean) years old. The age profile (*Figure 1*) shows, that the majority (61%) of the respondents in Austria can be found in the age category “until 24 years”. 27% are between 25 and 30 years old, and the remaining respondents (12%) are in the age category “over 30 years”.

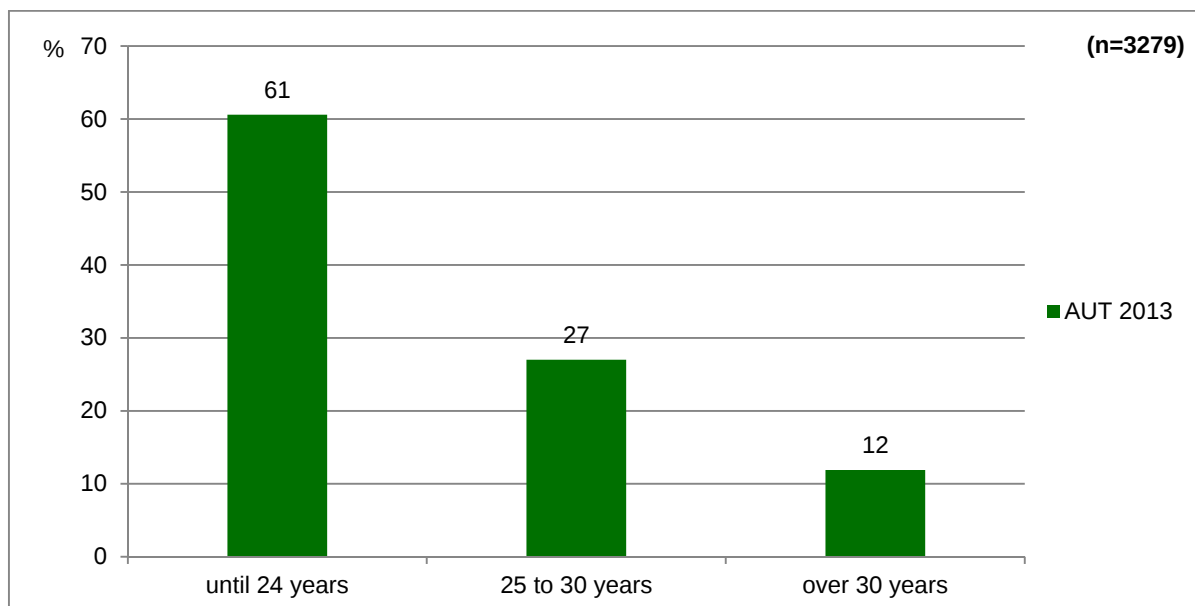


Figure 1: Age profile of the sample

2.2.2 Gender

In terms of gender, more female (65%) than male (35%) students participated in the Austrian GUESSS 2013. This distribution is similar to the previous GUESSS survey (2011)⁹. The higher percentage of women has to be taken into account in country comparisons as the female entrepreneurial intention, generally speaking is lower.

⁸ Only questionnaires that have been completely filled in have been taken into account for this study.

⁹ See (Kailer et al. 2013).

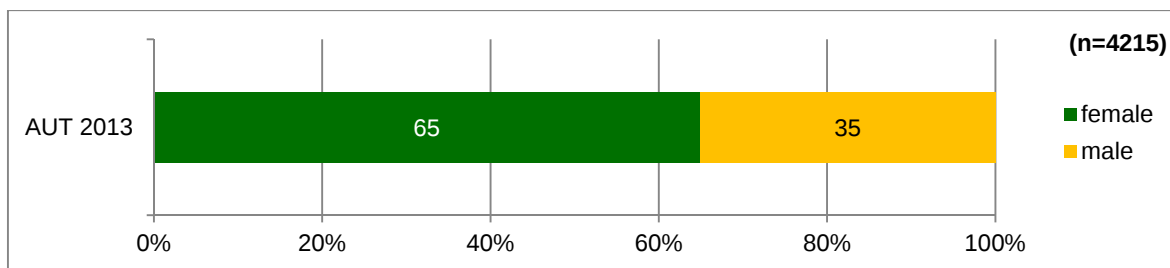


Figure 2: Gender profile of Austrian students

2.2.3 Nationality

The bulk of the Austrian respondents (78%) were Austrian citizens, followed by Germany (12.5%) and Italy (3.7%). Only 1% of the respondents were exchange students.

2.3 Level of studies

As illustrated in *Figure 3* the participants in GUESSS Austria 2013 study at different levels. Half of the students were enrolled in a bachelor program (50%), followed by students studying at the master level (41%). 9% of the respondents are enrolled in a PhD program. The high level of students studying at the graduate or postgraduate level should be seen in the ongoing conversion from diploma programs to the bachelor/master system in Austria.

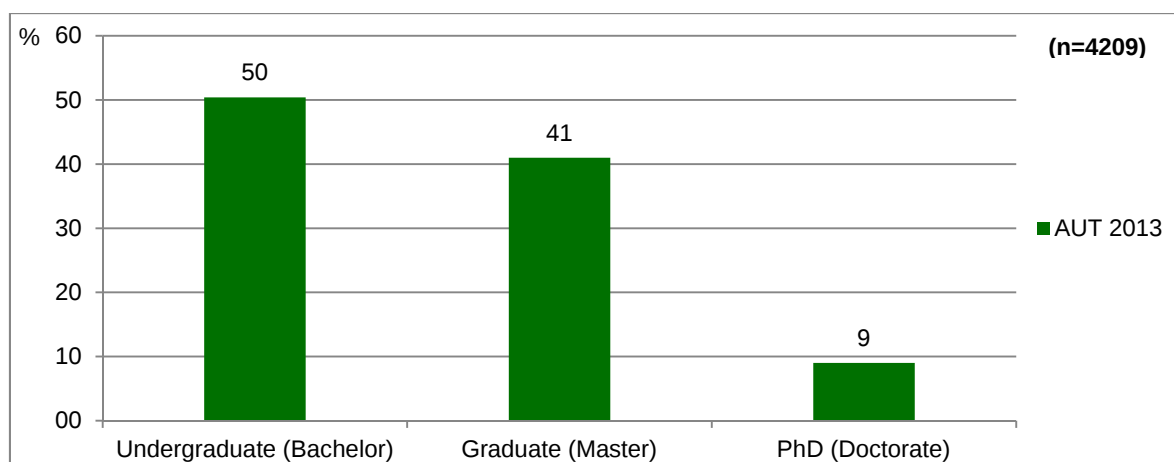


Figure 3: Level of studies

2.4 Fields of study

Figure 4 illustrates the distribution of the aggregated fields of study¹⁰. Most of the students are studying Natural Sciences (26%), followed by Medicine/Health Sciences (19%) and Business and Economics (11%).

¹⁰ **Business/Economics** (Business/Management, Economics); **Natural Sciences** (Engineering/Architecture, Mathematics/Natural Sciences, Information Sciences); **Medicine/Health Sciences** (Medicine and health sciences); **Social Sciences and Humanities** (Sociology, Psychology, Political Sciences, Education, Linguistics and Cultural Studies); **Other** (Law, Agricultural Science, Art and Other).

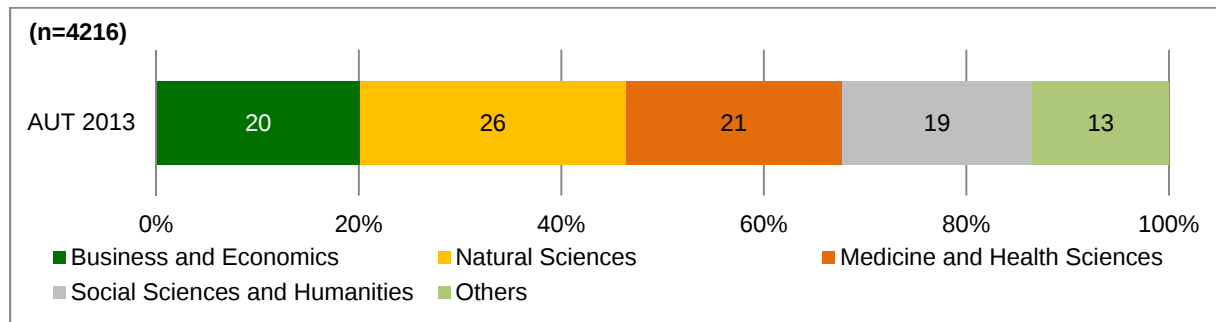


Figure 4: Field of study of Austrian and International students

2.5 University choice, environment and learning

The reasons to study at a particular university can be quite different due to life circumstances of the prospective students, attractiveness of the city and university offerings. The most important reason to choose a particular university is seen in the geographic proximity to hometown (33.5%)¹¹, followed by strong reputation of the university in general (17%) and attractiveness of city/location (13%). A relatively high percentage (29%) of students sees other reasons as most important in their decision for a particular university. Only 3% of the respondents perceive a strong entrepreneurial reputation of the university as the most important reason. However, for nascent founders (currently trying to start their own business) a strong reputation of the university in general seems more important than for active founders and other students.

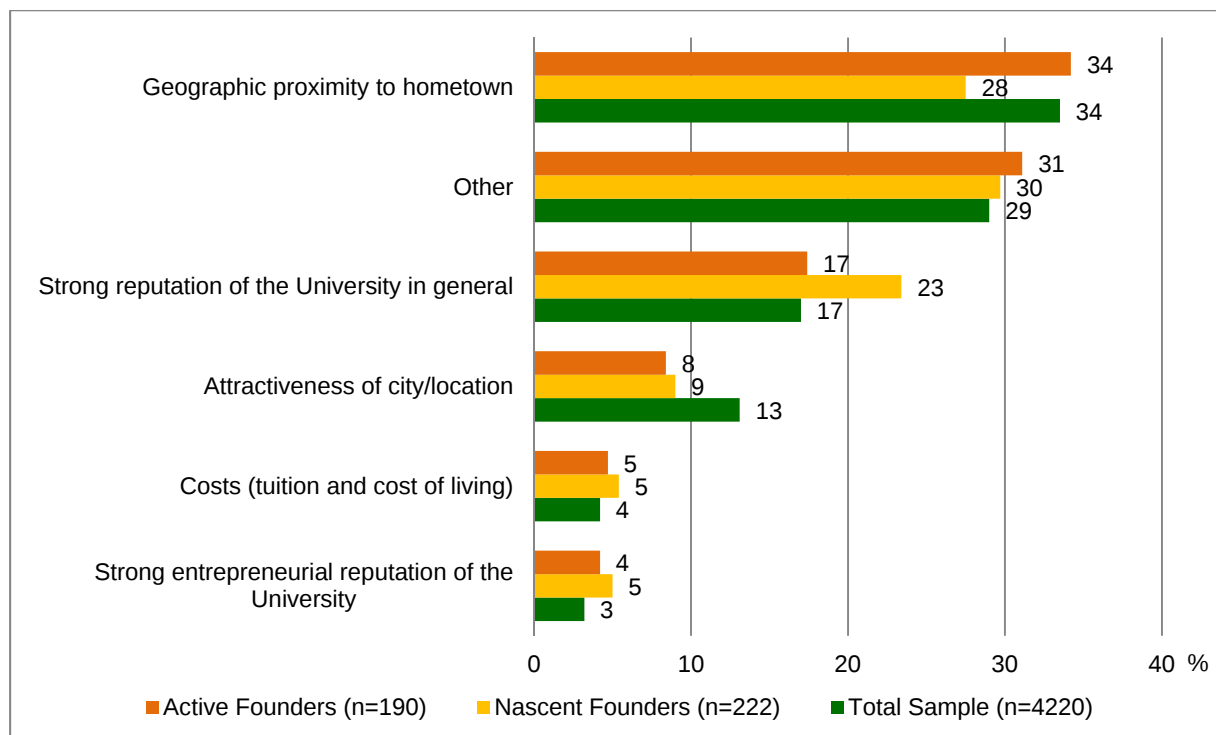


Figure 5: Most important reason to choose a university depending on founding status

¹¹ See (Kailer et al. 2012).

The study analyses students' perceptions of the university environment concerning the encouragement of entrepreneurial intentions and activities. Respondents were asked to assess their level of agreement with statements on a seven-point Likert scale ranging from "not at all" (1) to "very much" (7). There are only slight differences in perceptions between the total sample of students and the active/nascent founders according to the entrepreneurial university climate.

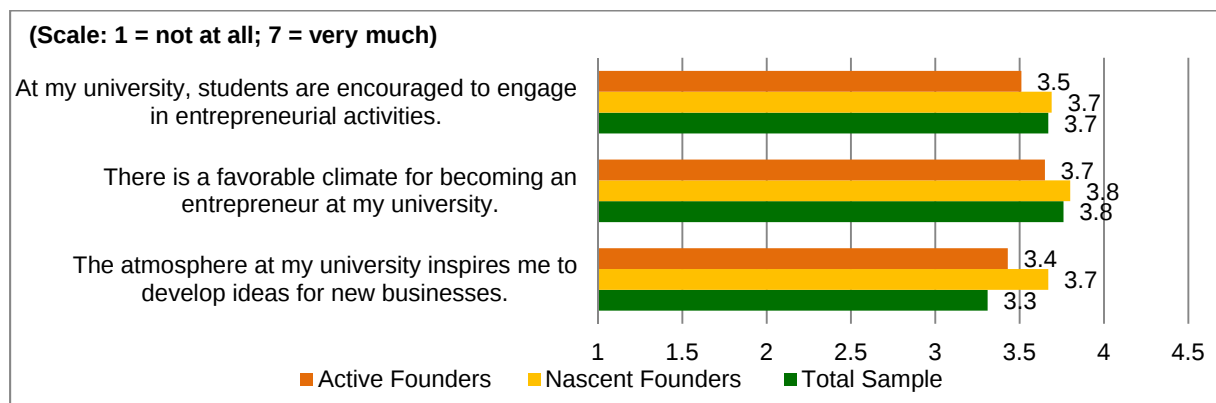


Figure 6: Assessment of the university environment to foster entrepreneurship

Educational programs and courses at the university level could foster the development of entrepreneurial motivations, intentions and skills. The study surveyed the self-assessment of students' entrepreneurial competency development related to attended university courses and offerings (Figure 7). Active founders – and even more pronounced nascent founders – rated the impact of university offerings on their development of their entrepreneurial competencies higher than the average student. Overall it can be seen that the university context mainly enhanced the "ability to develop networks" and increased the "understanding of entrepreneurial attitudes and values", followed the "ability to identify an opportunity".

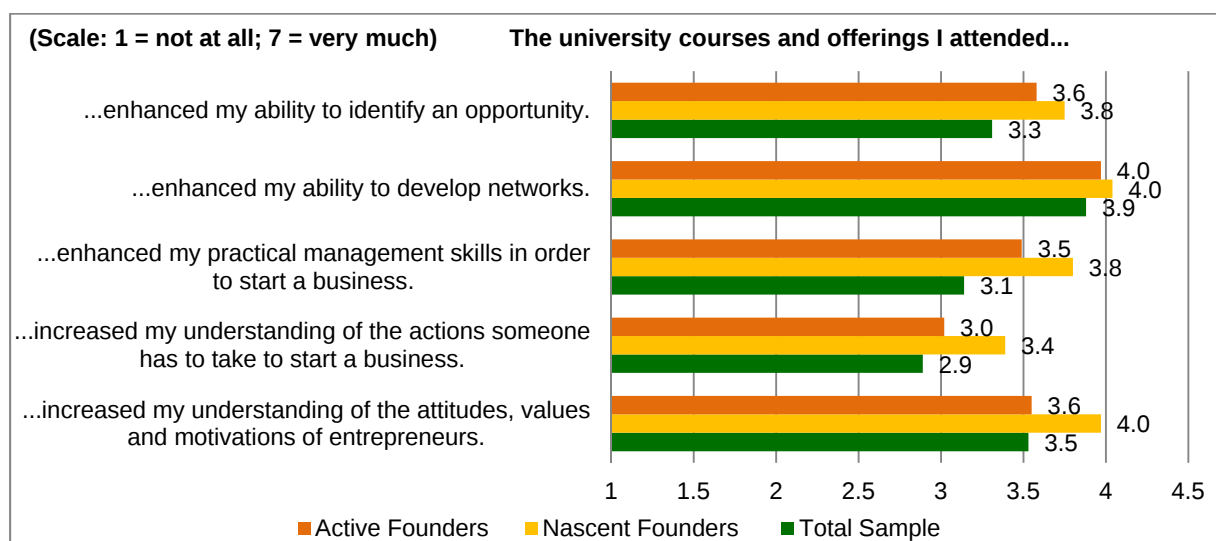


Figure 7: Students assessment of the university offerings concerning the development of their competences

3 Career choice intentions

3.1 Career choice intentions directly and 5 years after graduation

The expressed intention to aspire either self-employment or employment directly after studies respectively five years after graduation can serve as a first indicator for the strength of an individual entrepreneurial attitude. Alumni studies show that the career goals expressed in student surveys are to a considerable extent be put into practice (see Kailer 2010b; Kailer et al. 2012).

Generally it can be stated that **directly after graduation** more than half of the respondents (55%) intend to start their career as an employee in a firm (36% in an SME, 19% in a large firm). Another 15% of the respondents prefer an employment in the public service. An academic career path is preferred by 9%. The non-profit sector is the most likely career option for 6%.

Therefore, right after studies more than three fourth of the respondents strive for an employment in an already existing organization. 2.6% of the students intend to start or continue an own venture and about 1% aim to take over an already existing company (0.4% successor in parents' / family's firm and 0.3% successor in a firm currently not controlled by the family).

Five years after graduation the picture looks different:

- The percentage of the Austrian students, who tend to be in employment either in the private or public sector drops to under 60 (16% in a large firm, 16% in a SME, 10% at universities, 12% in the public sector and 4% in a non-profit organization).
- 18% of the respondents intend to found an own company 5 years after studies and 4% of the students are interested in taking over an existing company as a career option.
- Compared to the previous round of the GUESSS study (2011)¹² it can be stated that founding intentions are slightly lower (GUESSS 2011 – 29%). However, direct comparison between the two studies should be taken cautiously, because the composition of the sample is markedly different and the response categories of the survey questions have been altered.

¹² See for details (Kailer et al. 2013)

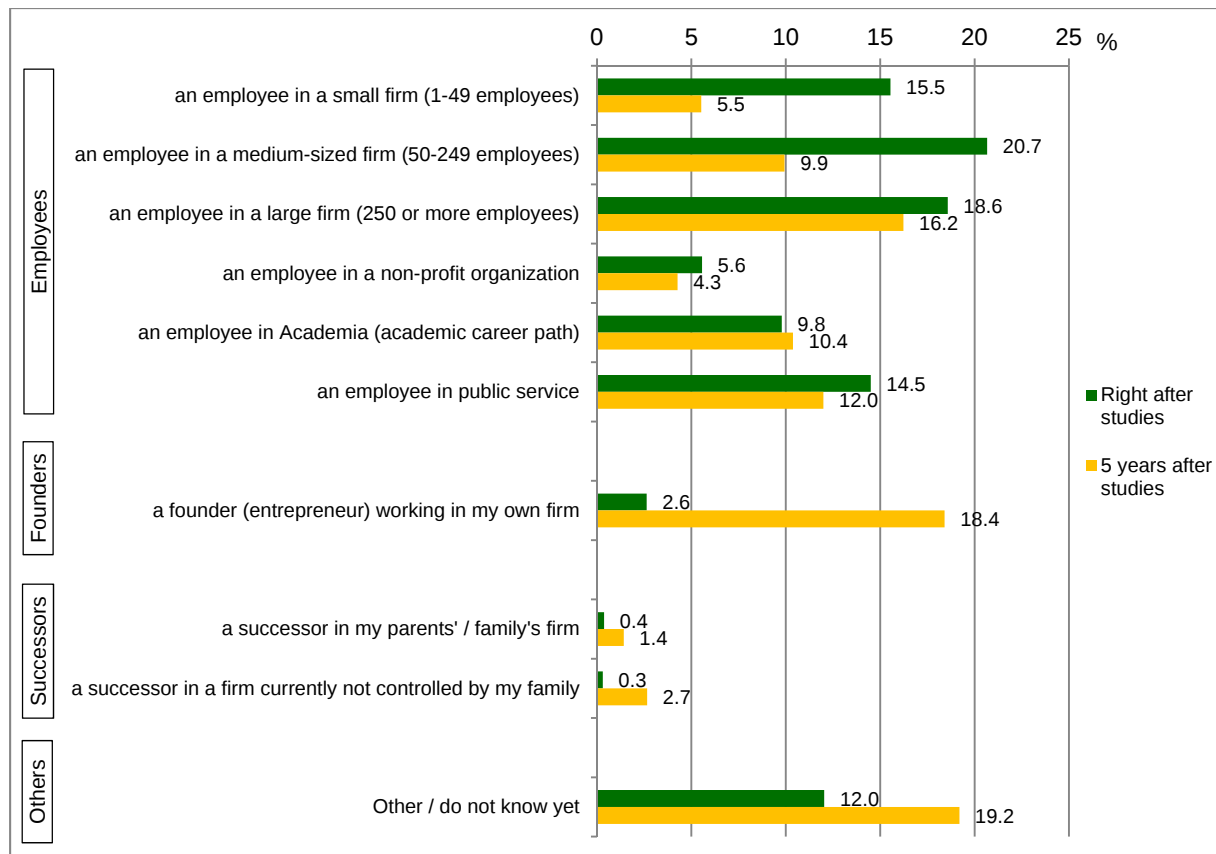


Figure 8: Career choice intentions: directly after studies and 5 years after graduation

To see whether students' preferences for their intended career path remain stable during the first five years after the completion of their studies, we grouped the 10 categories in 5 categories (Employees in SME, Large Firms or Public/Non-Profit Organizations; Self-Employed and Other/Do not know yet). *Table 1* reveals that more than three quarters of the students who want to be self-employed right after studies also intend to stay in this career path 5 years later. In contrast, only 26% of the students who consider starting their career in a small- or medium-sized firm and 40% who intend to start as an employee in a large firm think they will also work there 5 years after they graduated from university. 28% and respectively 25% intend to start their own business. Thus, we can expect a shift taking place from employment in SMEs and in larger enterprises towards self-employment.

Right after studies	5 years later				
	Employee (SME)	Employee (Large Firm)	Self-employed	Employee	Other/do not know yet
Employee (SME) (n=1528)	26%	17%	28%	15%	14%
Employee (Large) (n=784)	10%	40%	25%	14%	10%
Self-employed (n=140)	4%	4%	77%	9%	6%
Employee (NPO, Public) (n=1260)	9%	7%	13%	56%	15%
Other/do not know yet (n=508)	10%	5%	9%	14%	62%

Table 1: Career choice intentions: Expected changes in 5 years

3.2 Founding and succession intentions by fields of study

To see whether founding and succession intentions are equally distributed over all fields of study we extracted the students who declared that they want to be a founder or successor right after their studies and 5 years later. What can be seen from *Figure 9* is that the distribution between founders and successor is pretty equal across all study fields, except for medicine and health sciences (the small sample size should be taken into account).

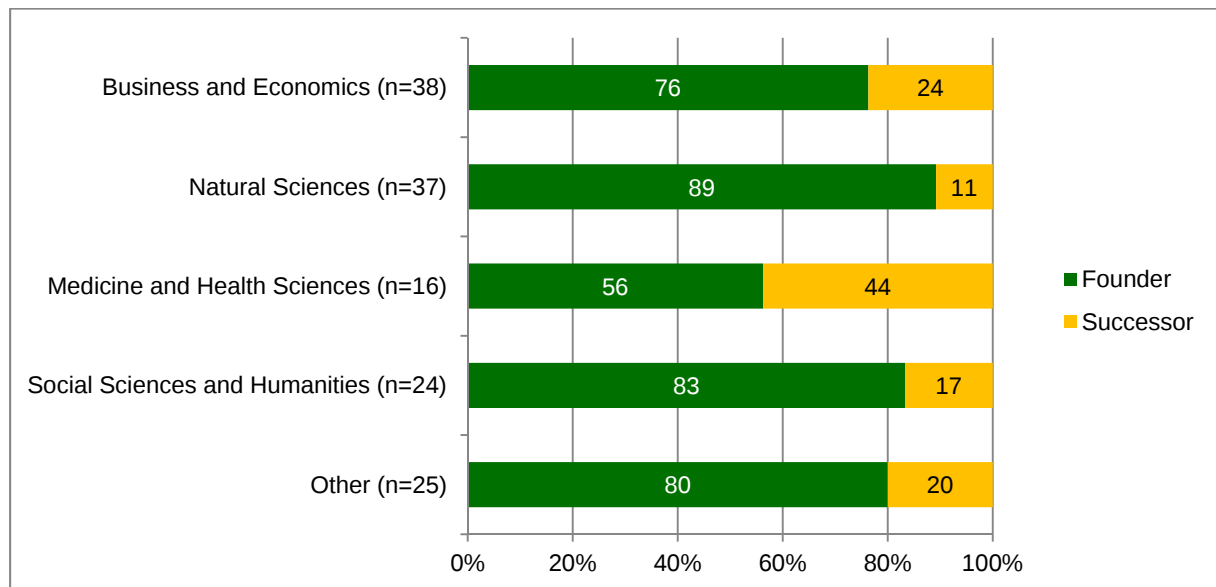


Figure 9: Intentional founders and successors right after graduation depending on study field

In a 5 year-perspective the intention to found or success an existing business increases in total (see Figure 8), but the ratio between founders and successors stays over all study fields basically the same.

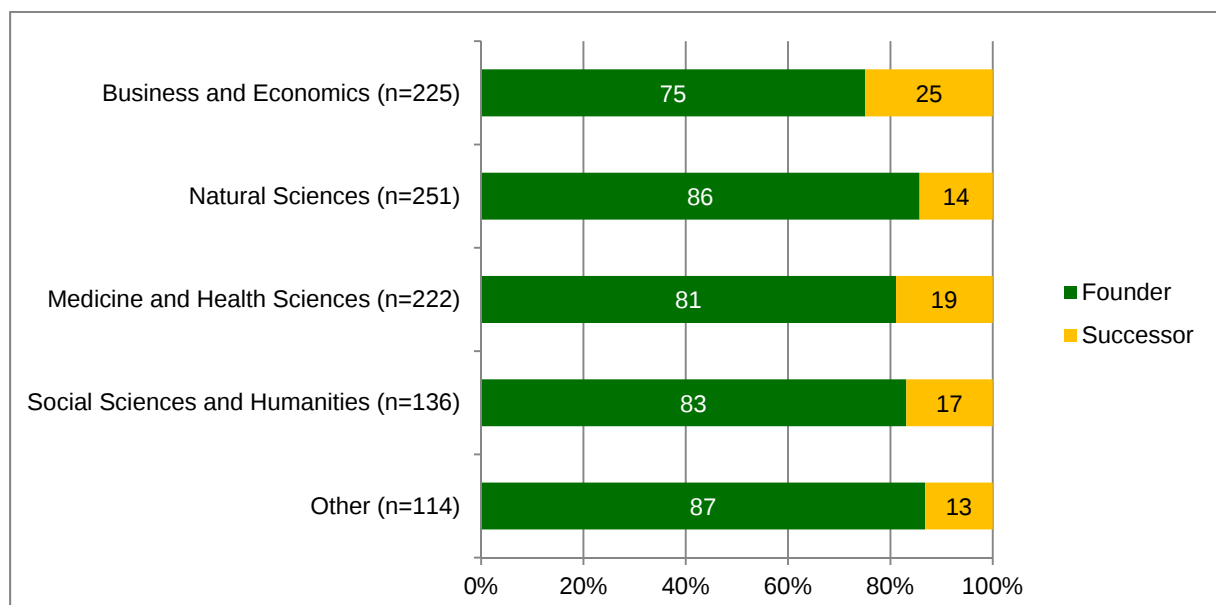


Figure 10: Intentional founders and successors five years after graduation depending on study field

3.3 Career choice intentions in detail

Five years after studies for many students dependent employment is distinctively less attractive than right after graduation. This tendency is visible more clearly when we categorize the different career choice intentions into the groups of employees, founders, successors and others (Figure 15). In contrast, the career option “self-employment” seems to gain relevance after five years in dependent employment.

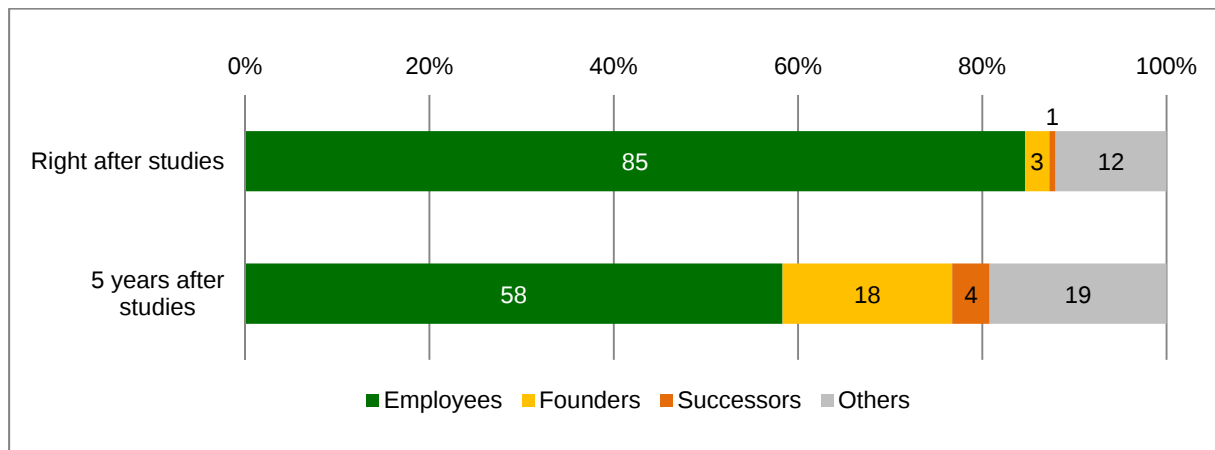


Figure 11: Career intentions by groups

3.3.1 Career choice intentions directly after graduation

Figure 9 illustrates the career choice intentions directly after studies depending on the field of study. It can be stated that the intention to found or succeed a company right after studies is relatively equal over all fields of study.

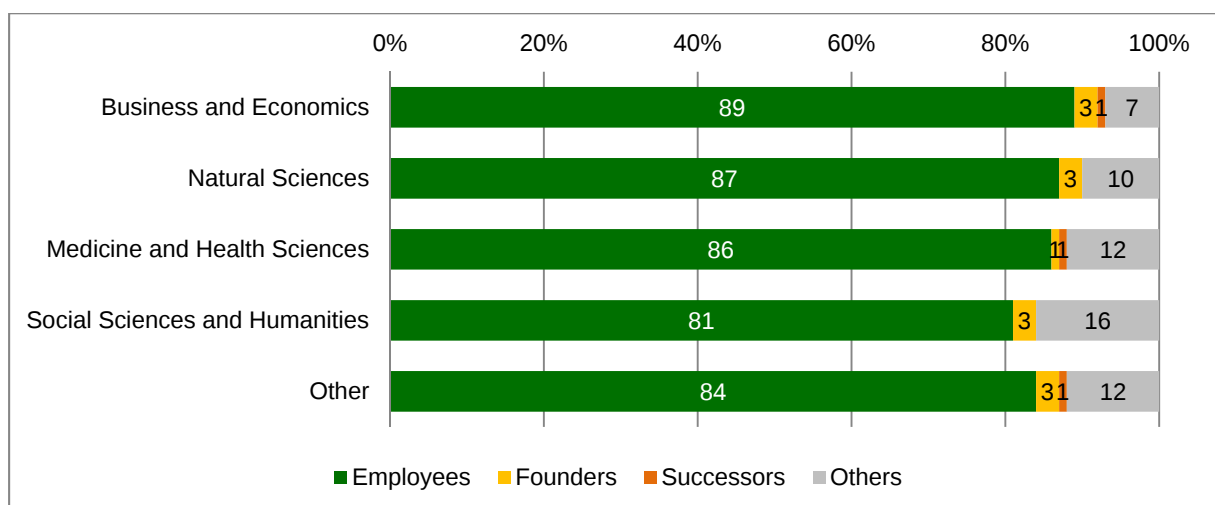


Figure 12: Career choice intentions right after graduation by fields of study

3.3.2 Career choice intentions five years after graduation

Five years after graduation the career option “self-employment” seems to become more important, compared to career paths in established organizations (mostly small and medium-sized firms). The intention to found one’s own company or to take over an existing business increases markedly in all study fields. 27% of the students of Business and Economics, 23% of the students of Natural Sciences, 25% of Medicine and Health Sciences and 17% of Social Sciences and Humanities perceive self-employment as a desirable career path.

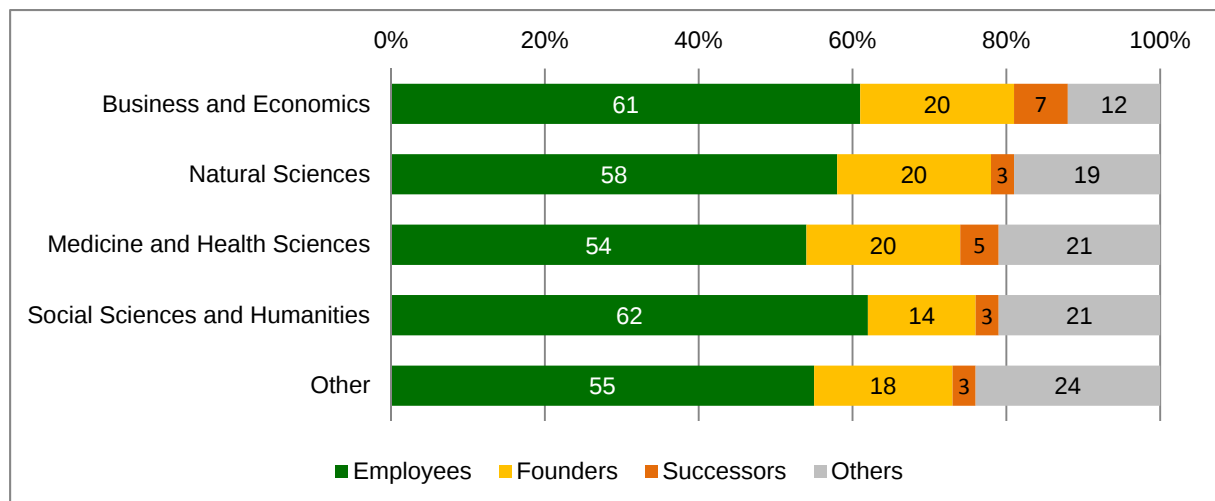


Figure 13: Career choice intentions five years after graduation by fields of study

3.3.3 Career choice intentions by gender

Directly after graduation 6% of the male graduates, but only 3% of the female graduates intend to start an entrepreneurial activity (either as a Founder or Successor). In a five year perspective 27% of the male and 20% of the female respondents plan to pursue an entrepreneurial career.

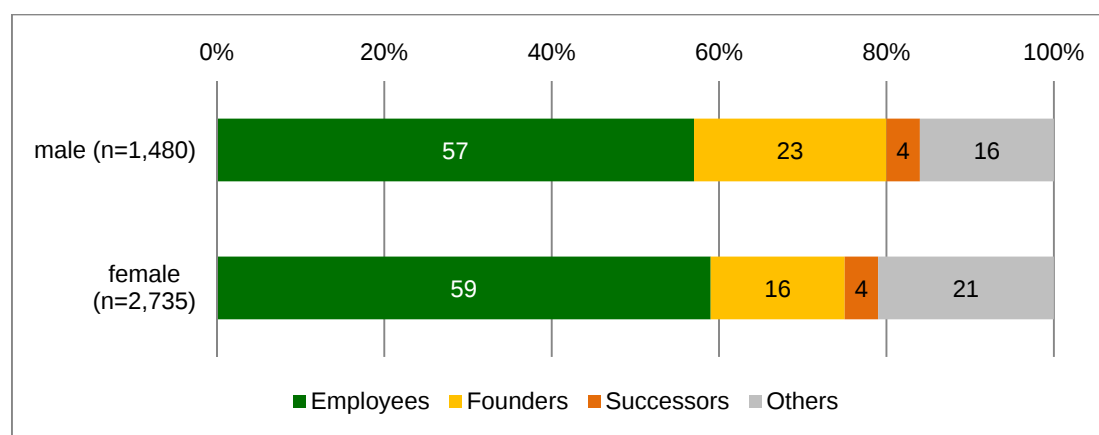


Figure 14: Career choice intentions five years after graduation by gender

3.4 Motives for the choice of the future career path

The most important motive for the Austrian students concerning their choice of future career paths is “to have an exciting job”. Other important motives are personality and achievement-orientated motives like to “realize a dream” and “to have a challenging job”. The motives “freedom” and “independence” seem also to have an impact on the choice of future career paths.

The motives which were rated as less important in the overall sample are the so called power motives (e.g. “be your own boss” or “to have authority”). However, these motives, especially the motive “be your own boss” seems to be more important for active founders than for non-founders. Other entrepreneurial motives like to “have power to make decisions” and “create something” are also rated higher by active and nascent founders, indicating that these groups are different in their motive structure.

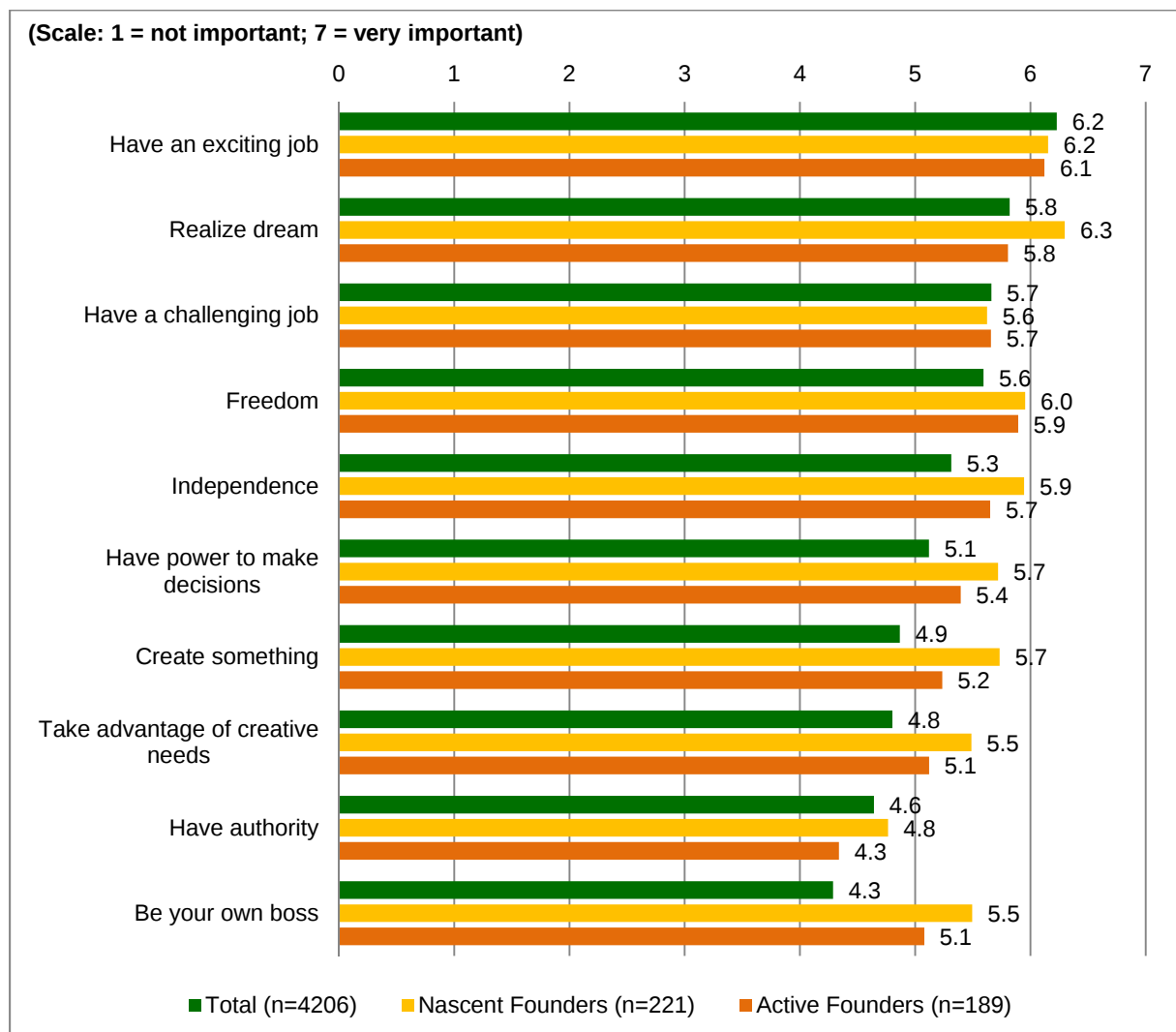


Figure 15: Motives for future career path

4 Students and Entrepreneurship

This section addresses the entrepreneurial intentions and attitudes of the Austrian students (n=4220) (with nascent founders), but excluding the active founders (n=191), which will be examined in detail in chapter 6.

4.1 Entrepreneurial intentions and attitudes

The intention to pursue an entrepreneurial career depends upon several demographic, social and personality factors also on the personal attitude toward entrepreneurship (Liñán/Chen 2009; Schwarz, Wdowiak, Almer-Jarz, & Breitenacker 2009). Thus, this study surveys the entrepreneurial attitudes and intentions among students to examine their relationship. *Figure 16* shows the items of the entrepreneurial intention construct in a ranking between students who are currently trying to start their own business (nascent founders) and students who are neither trying to start their business nor are already running their own business.

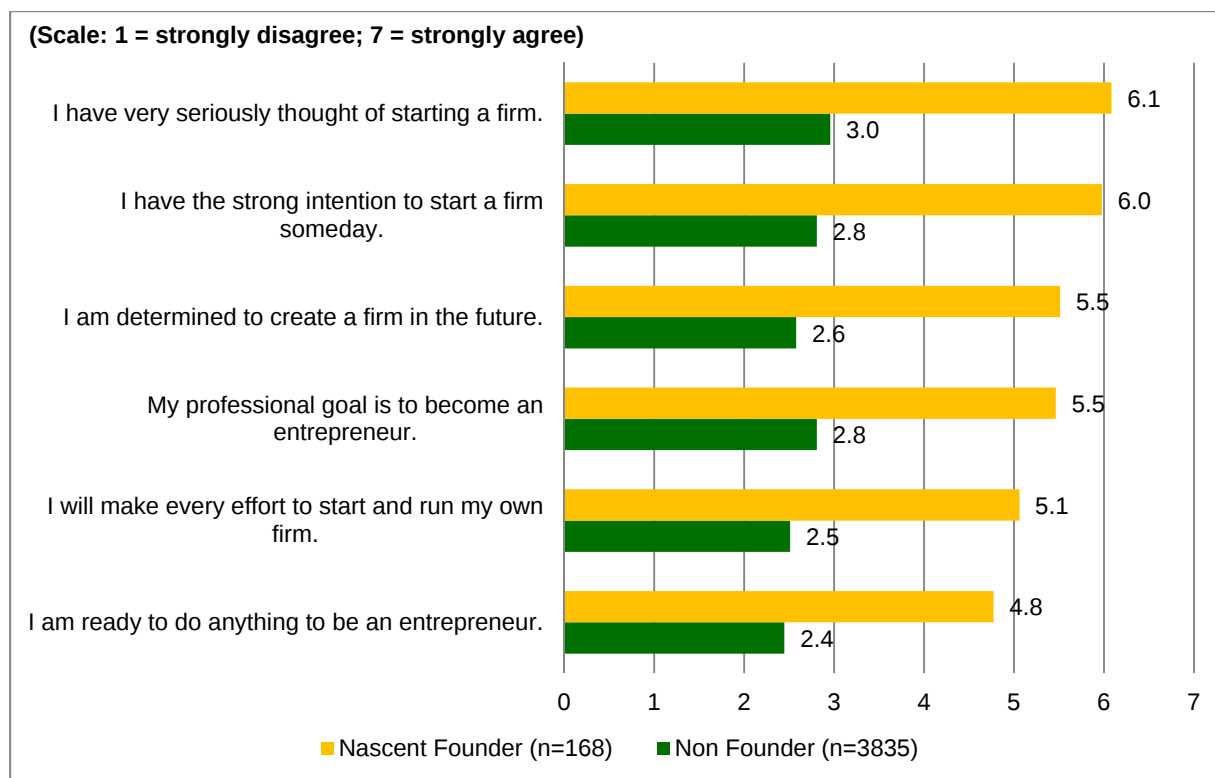


Figure 16: Founding intentions

It is obvious that nascent founders have a much higher intention to become entrepreneurs than the “non-founders”-group.

The decision to pursue an entrepreneurial career depends on many factors. One important one is the perception of the desirability of an entrepreneurial career path. The following

questions (*Figure 17*) survey the student's attitudes toward an entrepreneurial career path in comparison to other possible occupations.

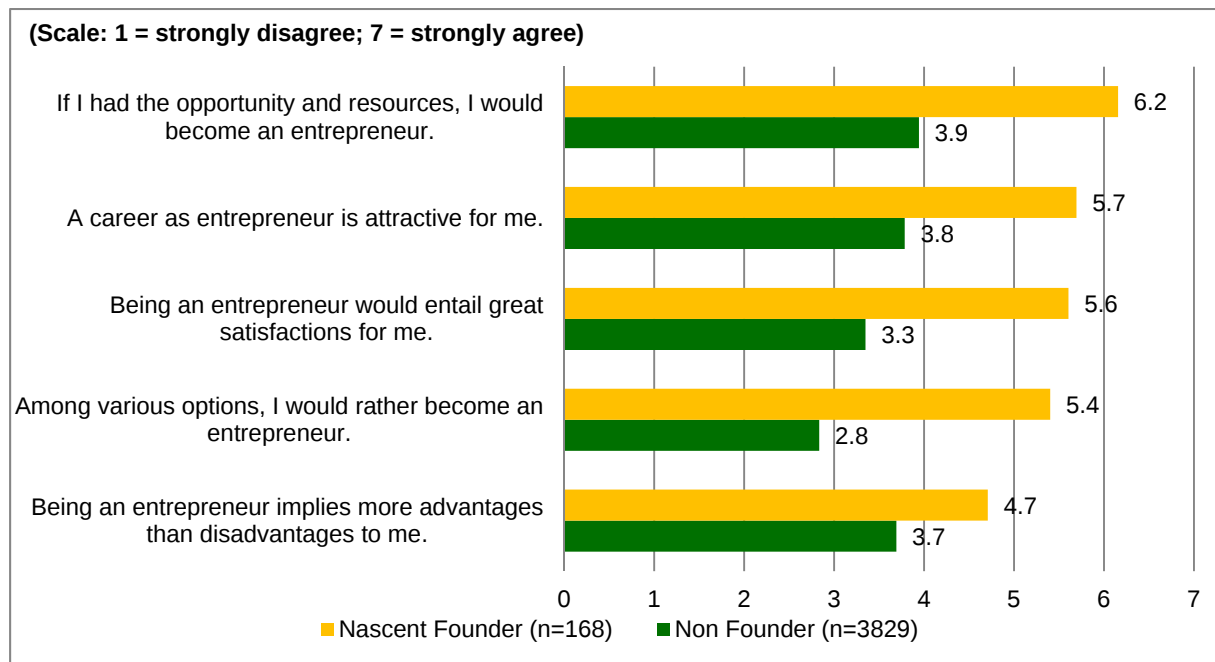


Figure 17: Attitude toward an entrepreneurial career

On average, the “Non-Founders” score significantly lower in all items than the “Nascent Founders”. However, the group of Non-Founders seems to be more heterogeneous in their intentions and attitudes toward an entrepreneurial career (in terms of standard deviation). This indicates that there are potential entrepreneurs who have not yet started their own business but envision of doing so in the future.

4.2 Self-efficacy and perceived behavioral control

Self-efficacy and perceived behavioral control are two constructs that measure the student's perception to influence their external environment and to be in control of their own destiny. A high score on these items suggests that the students are more internal than external oriented, which in turn effects their reaction to obstacles and difficult life situations.

Figure 18 plots the average scores for the students who are currently trying to start their business (nascent founders) and the comparison group (currently not starting a business). The first three items survey the self-assessment of one's own internality with regard to work and life in general. We can see that there are no major differences between the two groups. The rest of the items focus more on the internality associated with an entrepreneurial career. It is obvious that the group of nascent founders scores on these items higher than the group of non-founders.

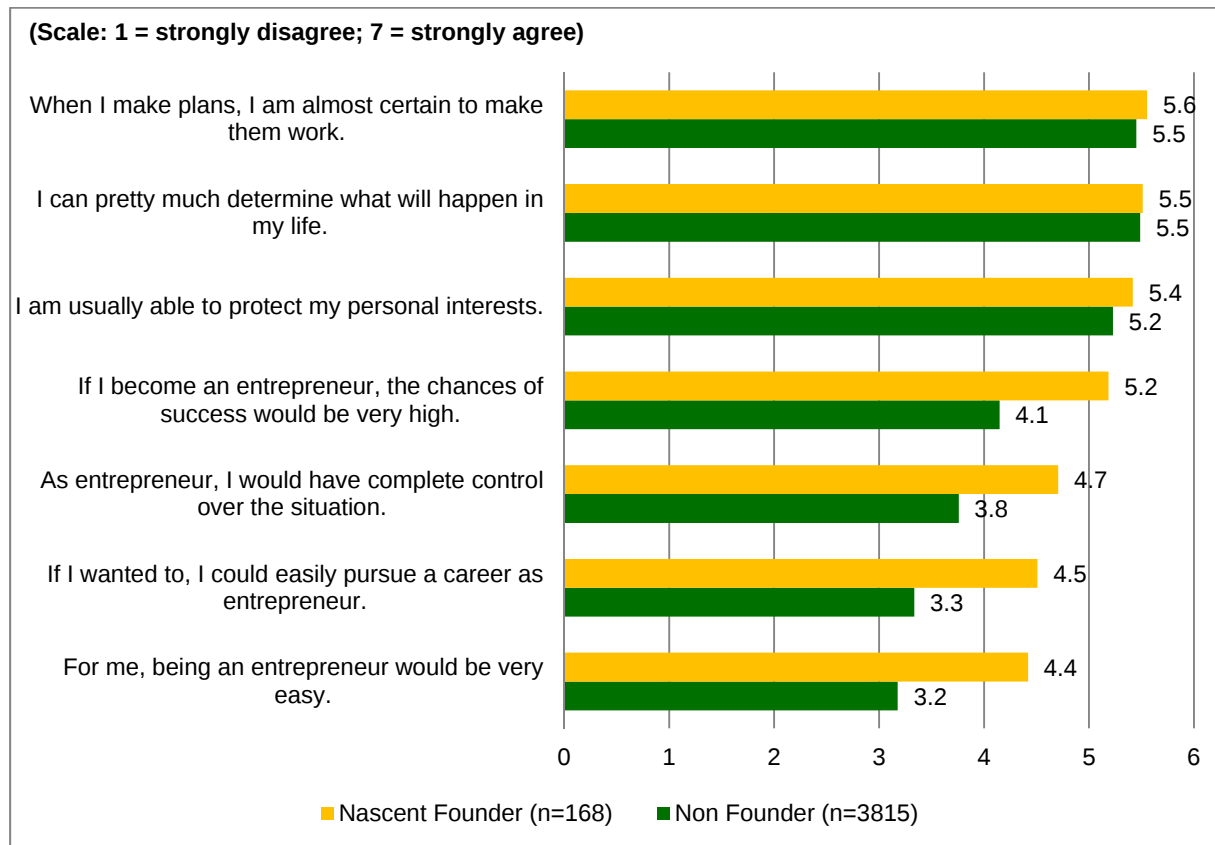


Figure 18: Students self-efficacy and locus of control

4.3 The reaction of the environment

The external environment can influence the decision to pursue a career as an entrepreneur. Thus, the following questions exhibit the perceived reaction of friends, students and family if the decision is made to found a company.

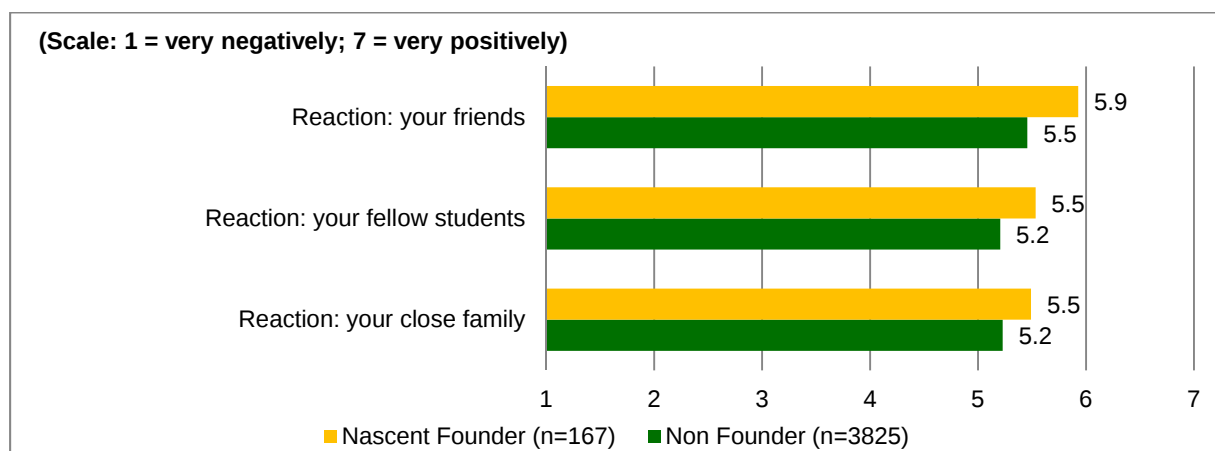


Figure 19: Reaction of the environment toward an entrepreneurial career

4.4 Entrepreneurial competences and skills

Competences and skills play an important role in the successful creation of new ventures (Kailer/Stockinger 2007). To identify new business opportunities, to communicate effectively with costumers and to build up a professional network are required competences and skills in the context of start-ups (Kailer 2014; Kailer/Gruber-Mücke 2010). The following questions evaluate the self-assessed competences of nascent founders in comparison with the group of non-founders. *Figure 13* shows that nascent founders score higher on all requested competences. The differences between the two groups are less distinctive with regard to unspecific competences (e.g. building up a professional network or being a leader and communicator).

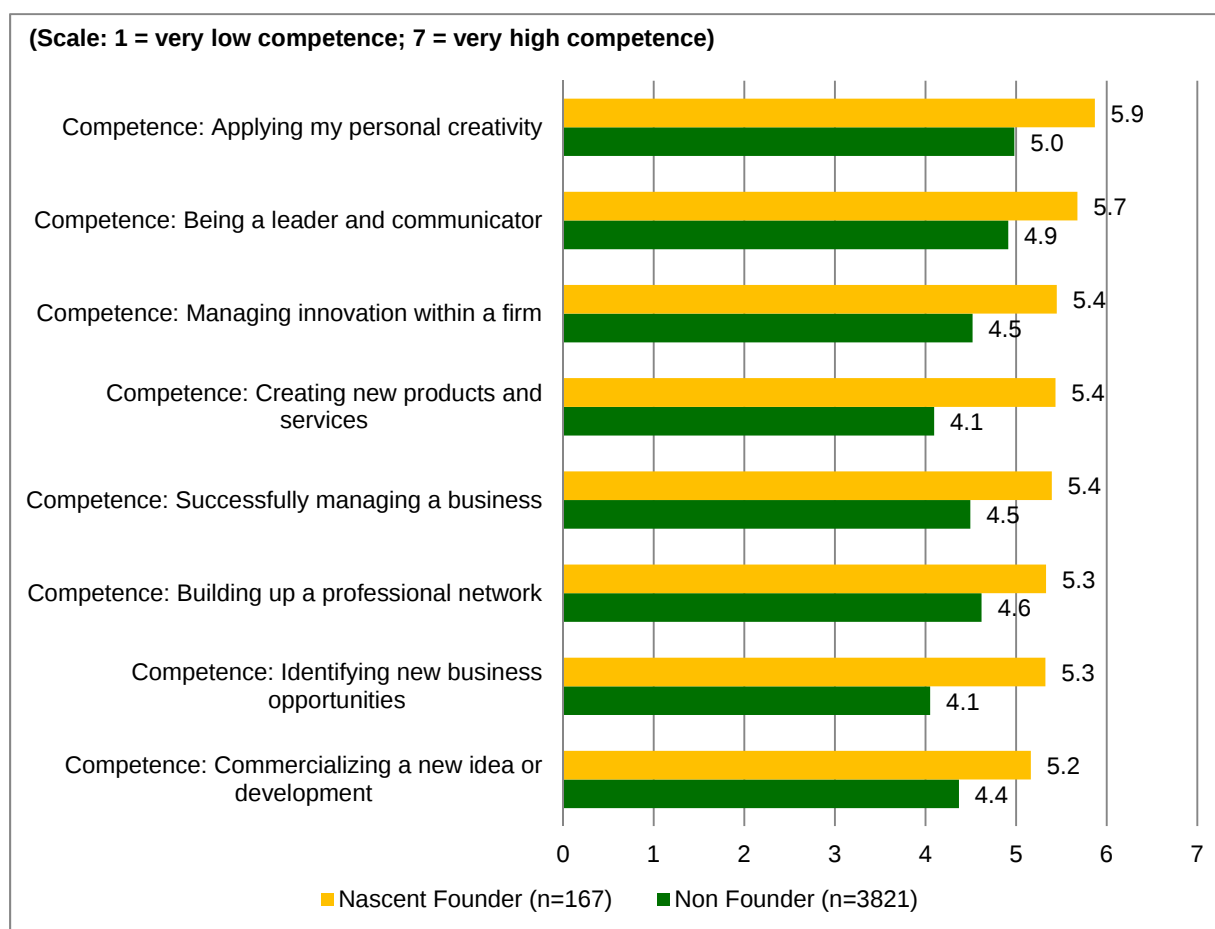


Figure 20: Entrepreneurial competences

4.5 Family Background

The family backgrounds as well as the personal network affect the intention to start a business. This also holds true for the decision to succeed a business (Kailer & Gruber-Mücke 2012; Blanka, Kailer, & Wimmer-Wurm 2013) Parents who are self-employed can act as role

models for their children, which will likely influence how these students act in entrepreneurial situations. *Figure 21* shows the percentage of student's parents who are self-employed. The three groups for which we make a comparison are: active founders, nascent founders and non-founders.

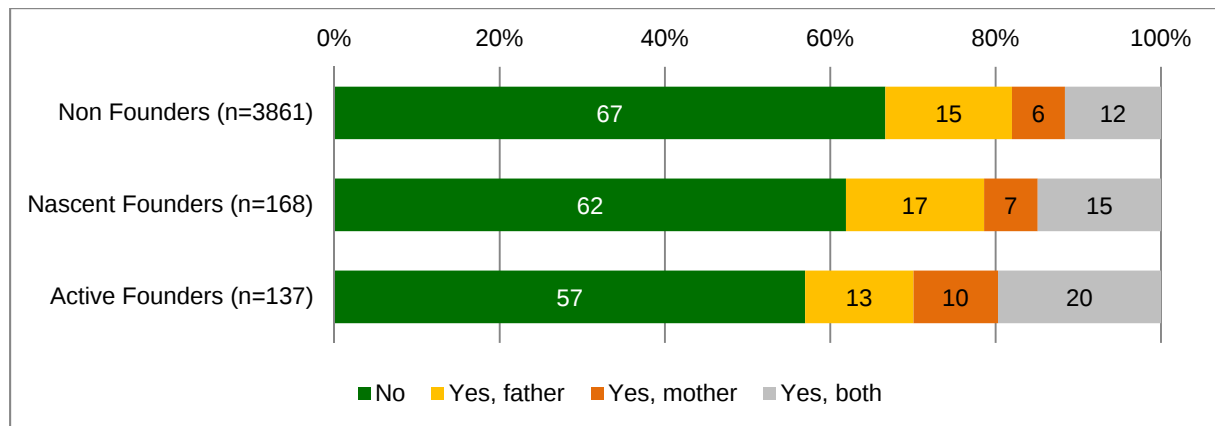


Figure 21: Current self-employment of parents

There are differences between the three groups, although the proportion of self-employed parents increases slightly from the non-founders group to the active founders. Additionally, the participants were asked to specify if their parents are majority shareholders of a firm. In *Figure 22* the three groups were again compared concerning the proportion of parents (father, mother or both) who are majority shareholders. Again we can see the same picture, with an increase of majority shareholders from non-founders to active founders.

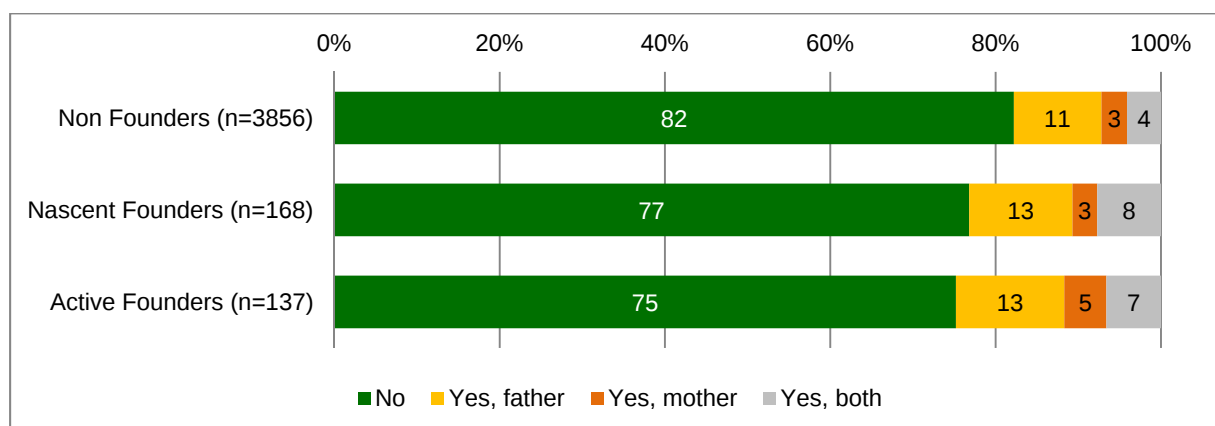


Figure 22: Parents are majority shareholder of a firm

Other family members (siblings and grandparents) (Laspita, Breugst, Heblich, & Patzelt 2012) and close friends can also affect the students' propensity to act entrepreneurially.

The next two questions focus on these social groups to see if there are different frequencies between nascent-, active- and non-founders. Thus, the respondents were asked to state if other family members and/or close friends were self-employed and/or majority shareholders of a private firm. *Figure 23* reveals that there is no difference between the group of active

founders and non-founders. The proportion of nascent founders who have a grandparent and/or a sibling that is self-employed is slightly larger compared to the two groups.

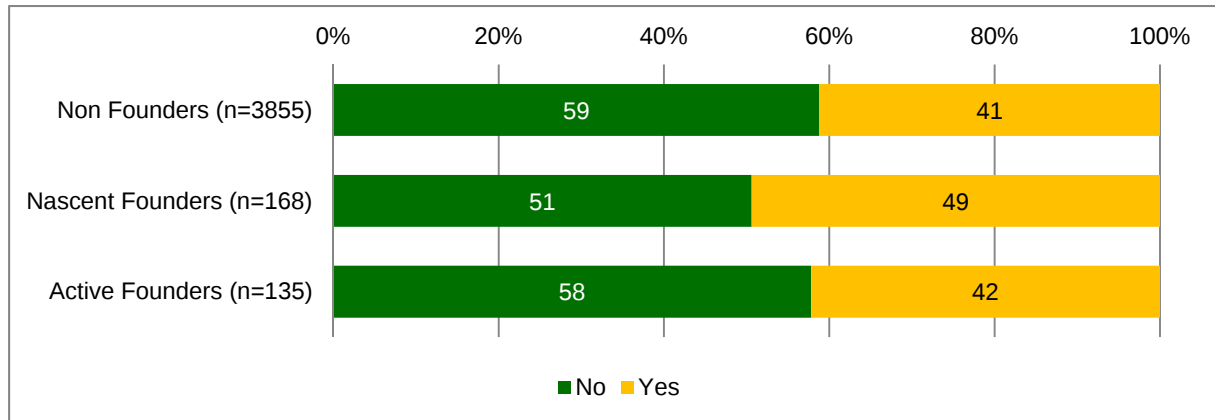


Figure 23: Other family members (siblings, grandparents) are self-employed

With regard to the students' close friends network the picture looks different. The proportion of students who declared that they have close friends who are self-employed and/or majority shareholders of a firm is significantly higher for nascent and active founders than for non-founders. Nearly three quarters of the active founders answered that they have close friends who are self-employed which gives us a hint that the entrepreneurial activity of students is mainly influenced by close friends rather than by family members.

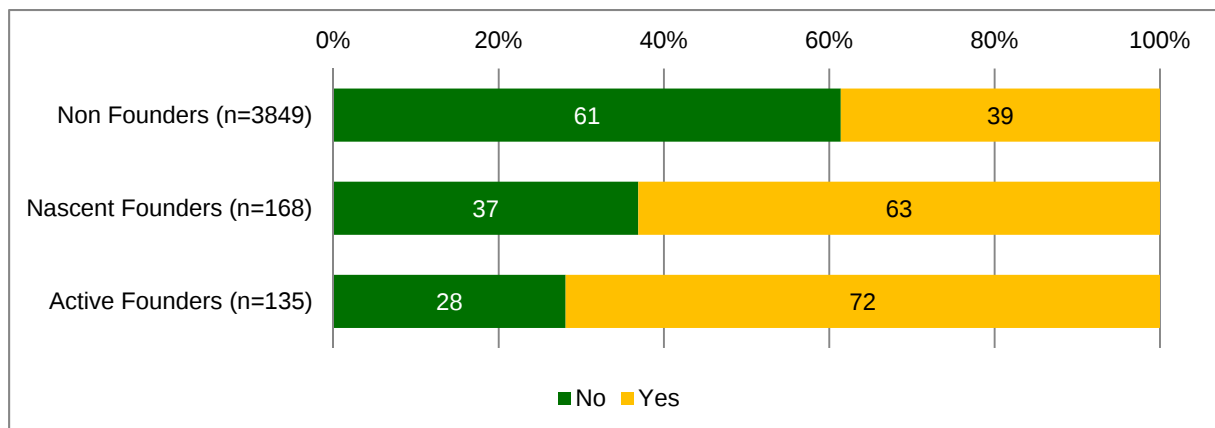


Figure 24: Close friends are self-employed and/or majority shareholders of a firm

5 Nascent founders

5.3% of the Austrian respondents (222 students) are nascent founders, meaning that they are currently trying to start a business or are trying to become self-employed. Most of these nascent founders are studying at the University of Linz (20%), Graz University of Technology (12%) and University of Innsbruck (9%).

5.1 Characteristics of the nascent founders

The average age (median) of the nascent founders is 26 years. 47% of them are women. About 30% of the nascent founders are studying Natural Science, followed by Business and Economics (28%) and Social Sciences and Humanities (15%). The nascent founders intend to found their own business within 12 months on average. 28 students see 24 months as a realistic time span until the formation of their company and 35 students intend to found their company within 3 months. The start-up entrepreneurs plan to invest about 60% of their weekly working time in their own company.

5.2 Foundation partners

63% of the nascent founders plan to found their firm with one or more co-partners. Only 37% intend to start their business as a solo entrepreneur.

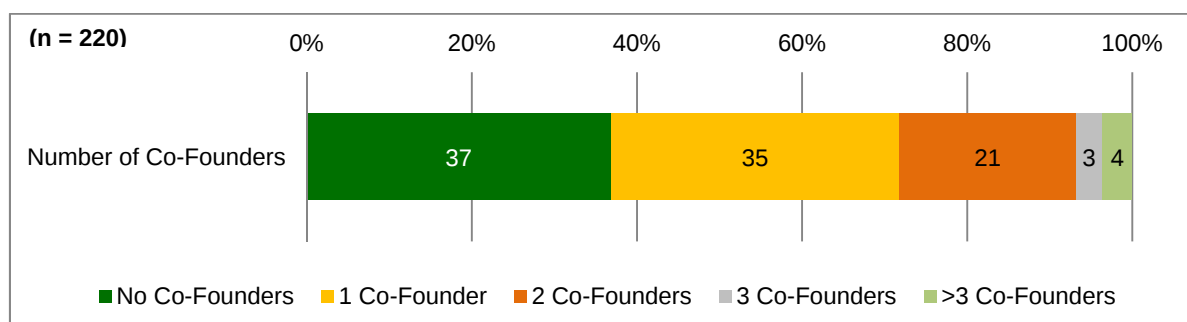


Figure 25: Number of Co-Founders

The distinction between male and female nascent founders exhibits no major differences in the propensity to found their company in a team. *Figure 26* shows that 44% of the nascent female entrepreneurs intend to start their business alone, compared to 31% of their male counterparts.

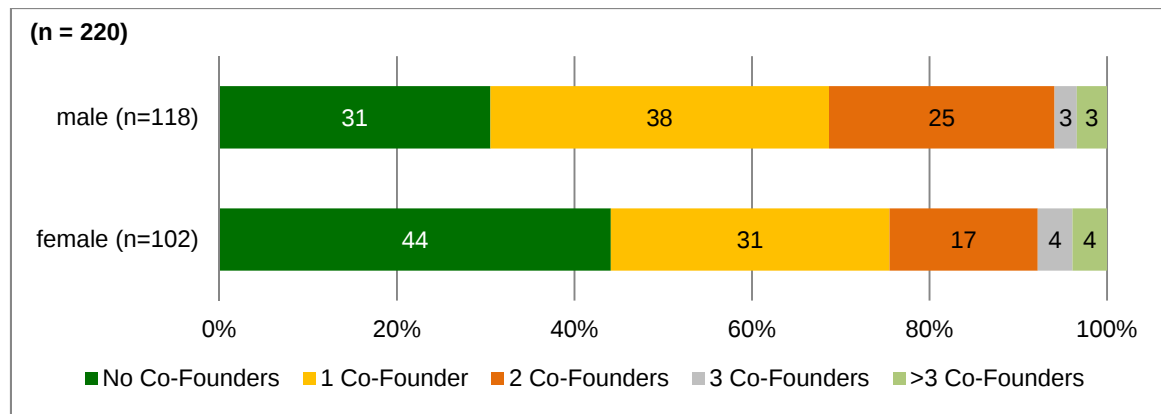


Figure 26: Number of Co-Founders depending on gender

The nascent team founders mainly intend to found the business with peers who have the same educational background. 44% of the nascent team founders declare that one co-founder has the same education, followed by 15% who plan to found with two co-founders with the same education. One third of the nascent entrepreneurs plan to involve no co-founder, who for example studies in the same study field.

Further, *Figure 27* shows that the university context is most important to meet potential start-up partners (61%). Almost equally important are the circle of friends outside the university, followed by the professional network and the family.

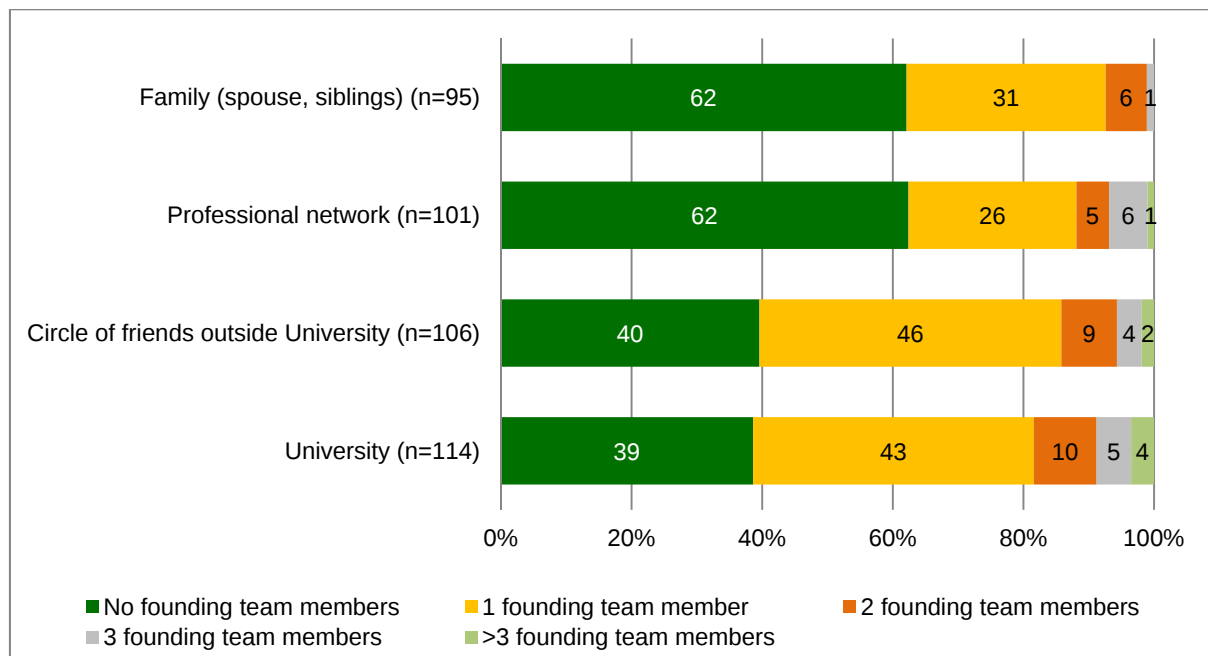


Figure 27: Context for team member recruitment

5.3 Industry sectors

The preferred industry sectors of the nascent founders among students for their start-up are information and communication technology (20%), health services (14%) and the advertising/marketing and design sector (8%). Only 2% of the nascent founders intend to establish their business in the construction and manufacturing sector.

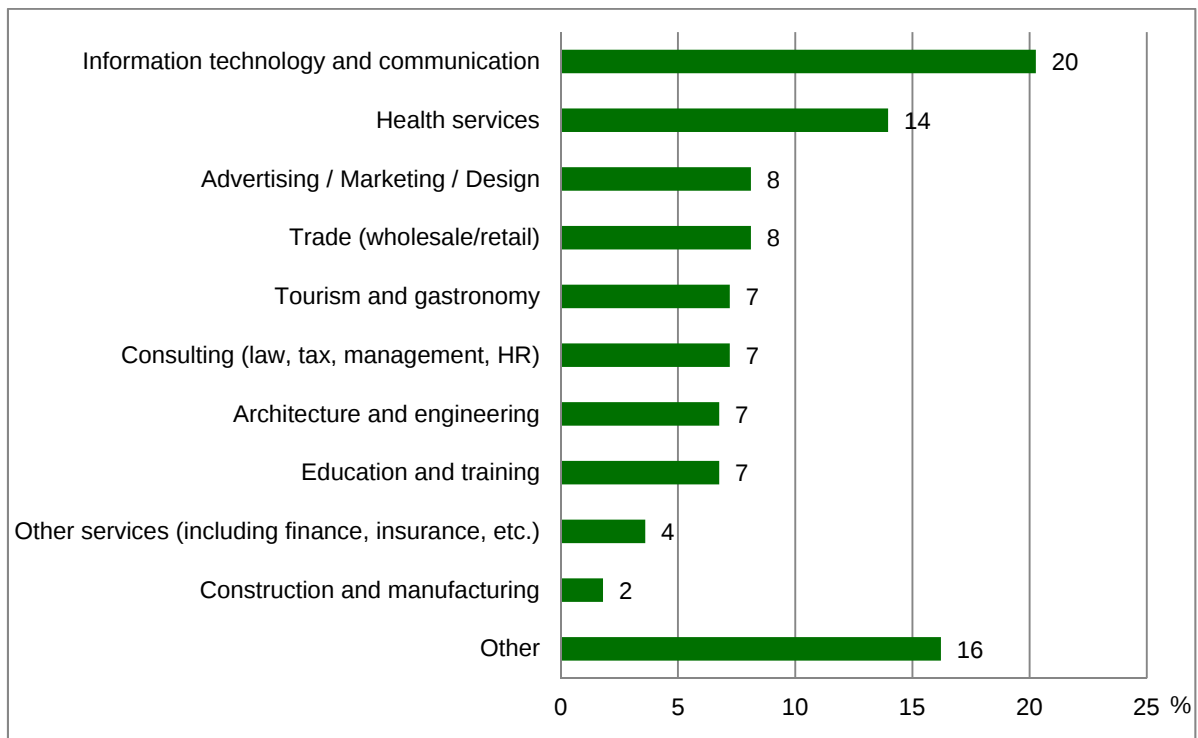


Figure 28: Industry sectors of nascent founders

5.4 Newness of the companies

The perceived newness of the products and services that will be offered in the market is an indicator for the degree of innovation in the future start-ups. 15% of the nascent founders think that they will provide a product or service which is new to all customers. More than half of the nascent founders rate their product or service as new to their customers (41% for the majority, 15% at least for a minority of their customers). 29% of nascent founders have answered that their products or services won't be new at all.

5.5 Equity and Finance of future companies

On average the nascent founders will hold nearly 60% (mean) of the total equity in the to-be-founded firm. More than half of the nascent entrepreneurs will be majority shareholders of their firms, thus holding a minimum of 51% of the total equity.

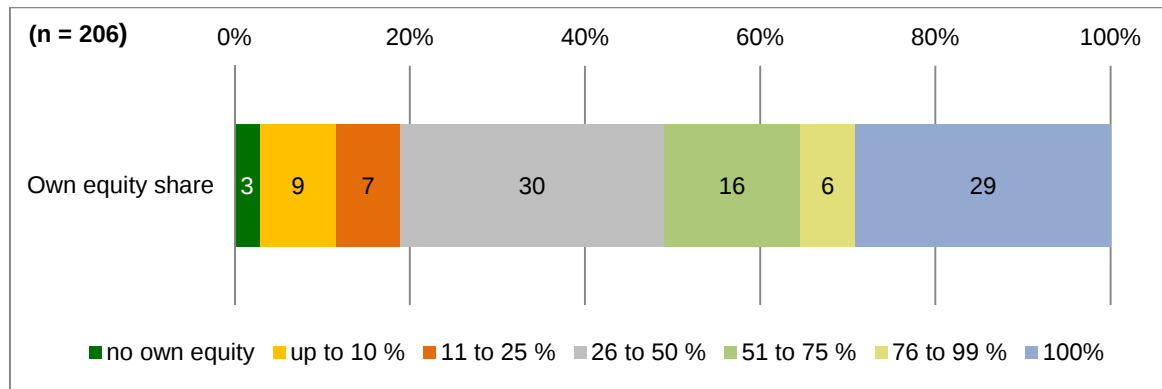


Figure 29: Equity share of the founders

55% of the nascent founders do not know yet how much money they will need in order to start their own business. Nearly half of the remaining nascent founders stated that they will need up to € 10,000 to get their business off the ground. 25% claimed that their start-up requires between € 10,100 to 30,000. The average share of own money by the nascent founders in that investment will be approximately 70%.

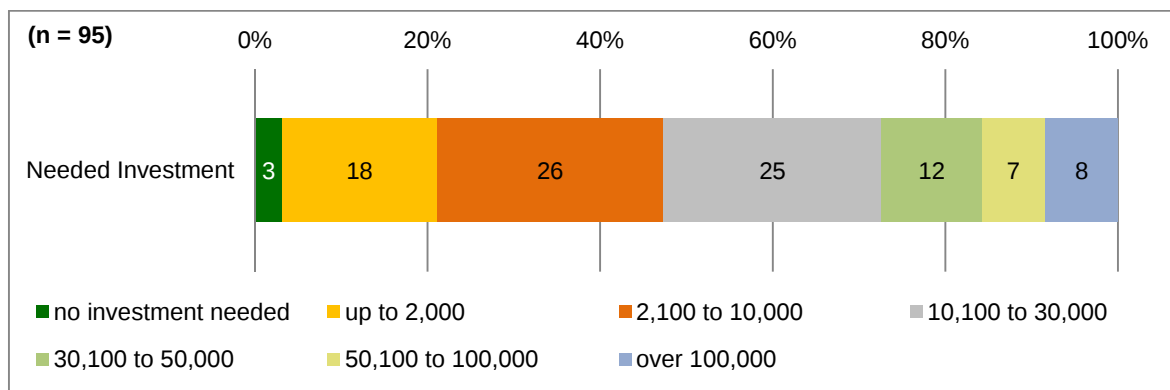


Figure 30: Needed investment of the to-be-founded firms

To check whether the writing of a business plan affects the needed investment of the to-be-founded firms we extracted this subgroup (n=73) from the sample. Despite the fact that financial planning is an important part of the business plan, it is seen that 30 respondents (42%) actually don't know how much money they will actually need to start their business. 17% of the nascent founders who have written a business plan stated that they will only need up to € 2,000. The majority of these founders (55%) will need between € 2,000 up to 30,000.

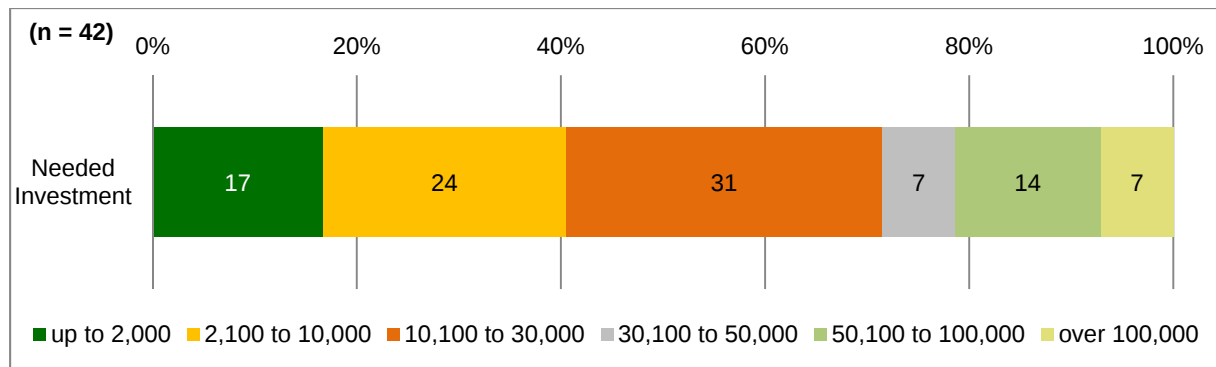


Figure 31: Needed investment of the to-be-founded firms with business plan

5.6 Steps taken to found the business

The range of the activities which nascent founders have already taken to found their own business varies from “nothing done so far” (17%) to “registered the company” (16%). The bulk of nascent entrepreneurs have collected information about markets or competitors (61%), discussed their business idea with potential customers (45%) and already started the product/service development (41%). At least a third wrote a business plan.

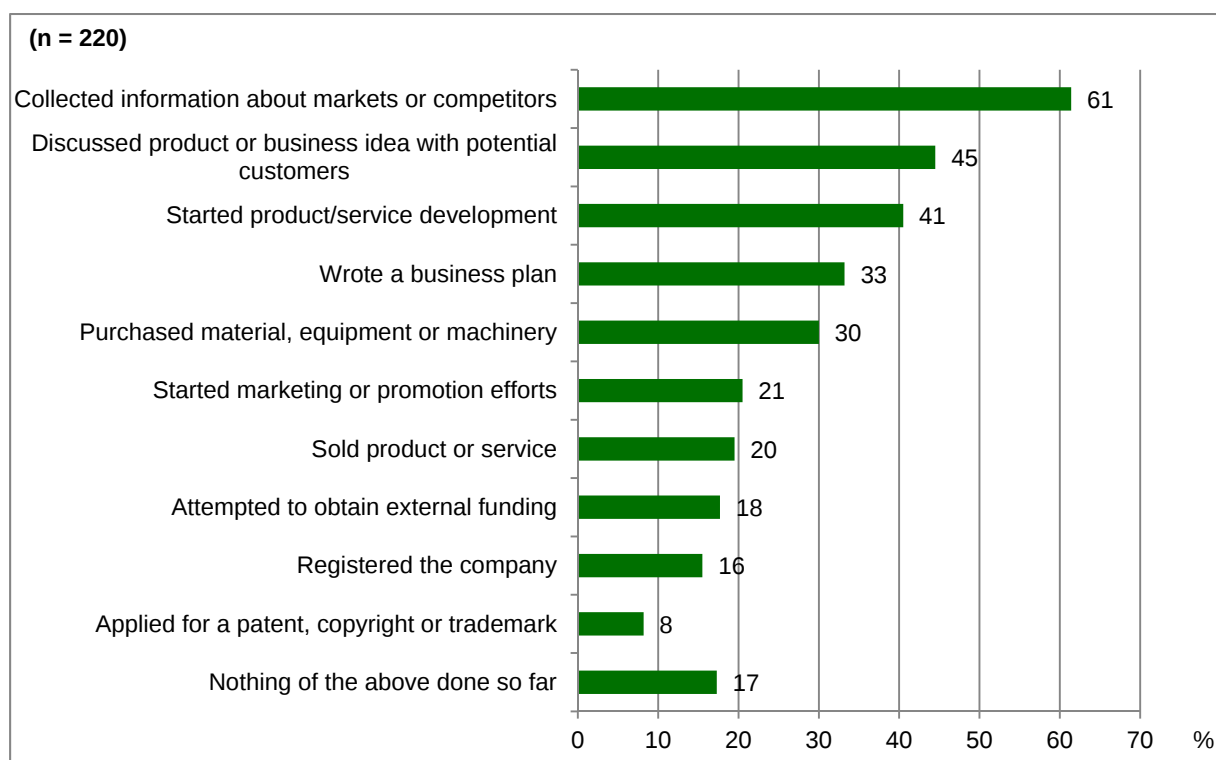


Figure 32: Steps taken to found a business (multiple responses)

6 Active founders

4.5% of the Austrian respondents (191 students) are already active founders, meaning that they are already running their own business or are already self-employed. 28% (54 students) of them have declared that they are active as well as nascent founders (currently trying to start their own business or are founding an additional business - serial entrepreneurs). Most of the active founders (n=191) are studying at the University of Linz (24%), Graz University of Technology (12%) and University of Innsbruck (10%).

6.1 Characteristics of the active founders

The average age (median) of the active founders is 27 years. 42% of them are women. About 29% of the active founders are studying Natural Science, followed by Business and Economics (21%) and Social Sciences/Humanities (17%). More than half of the active entrepreneurs (n=178) (55%) founded their start-up within the last three years. Nearly 14% have founded their business more than nine years ago.

The active founders employ two people on average. More than 70% of the enterprises in the sample do not have an employee at all, 27% have one to five employees. In a five-year-perspective it is mostly planned to increase the number from 2 to 3 employees on average. The proportion of companies without employees drops from over 70% to 53%. If you sum up the active founders (including one or more co-founders) with the employees of the start-ups today, you get approximately 400 jobs created by these 191 student businesses.

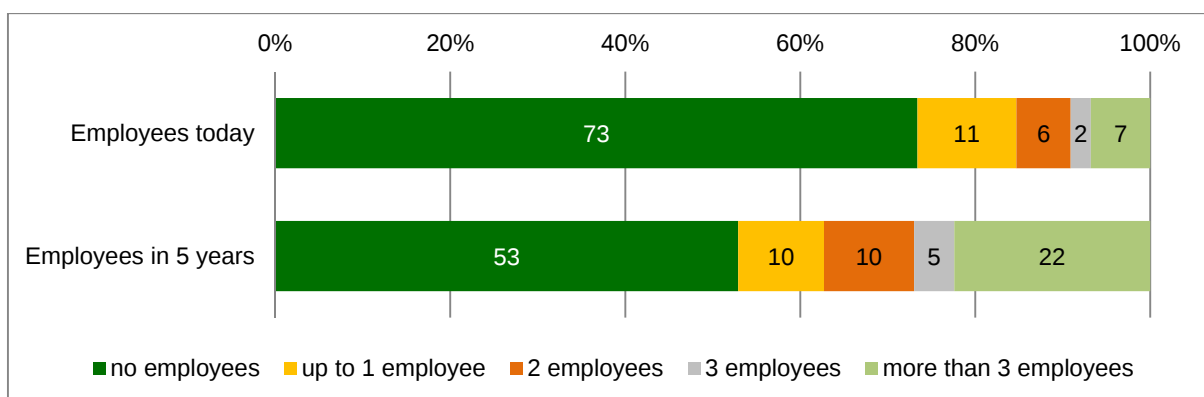


Figure 33: Number of employees today and in 5 years

6.2 Foundation partners

Almost 70% of the active founders have set up their business alone. Thus, 55 students founded with one or more partners. In comparison with nascent founders (see chapter 5) it is interesting to see that the proportion of solo entrepreneurs rises from 37% to nearly 70%.

This is an indication that although the intention to found in teams exists, the majority decide not to.

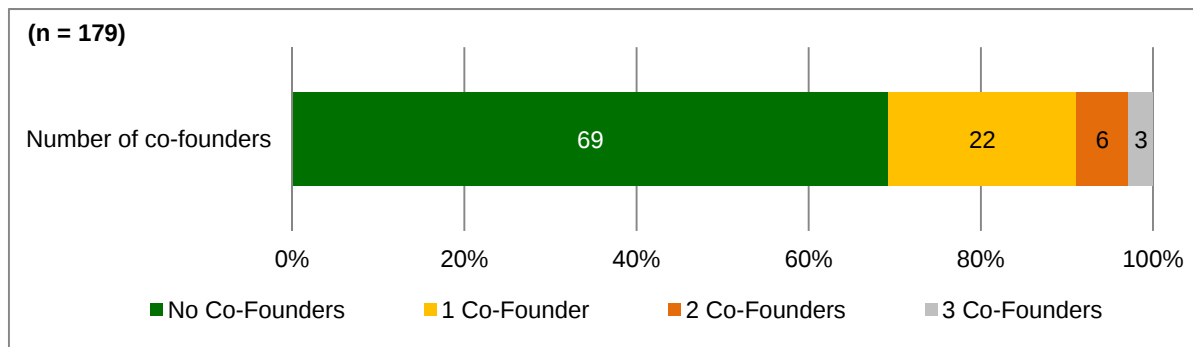


Figure 34: Number of Co-Founders

With regard to gender it can be said that there are not major differences between male and female founders. 74% of the female entrepreneurs have founded their company alone. 66% of the male respondents have stated that they have started their business without a business partner.

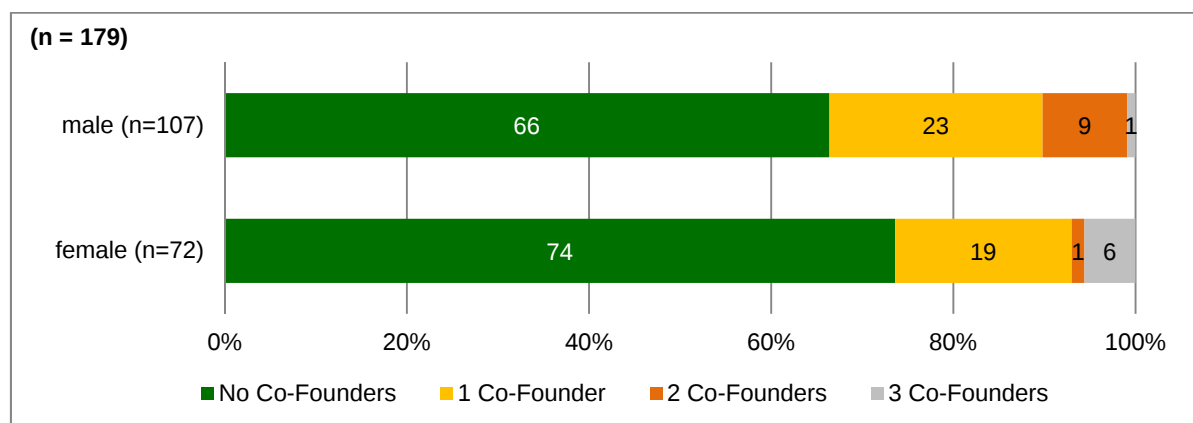


Figure 35: Number of Co-Founders depending on gender

The majority of the active team founders (53%) in the Austrian sample founded with partners who don't have the same educational background. 33% of the active team founders say that one co-founder has the same educational background, followed by 11% who have founded with 2 co-founders with the same education.

An interesting question is the social context in which the foundation partners are mostly met and recruited. *Figure 36* reveals that team members are more often met in "circle of friends outside University" and in the "family context" (spouse, siblings) compared to the "University" and "professional network" context. In direct comparison with nascent team founders (see chapter/figure) one can see that the proportion of team member recruitment in the context of University drops from slightly from 60% to 44%. On the other hand, the proportion of team

members, who were recruited in the family, raises from 38% to 51% between the nascent and the active team founders.

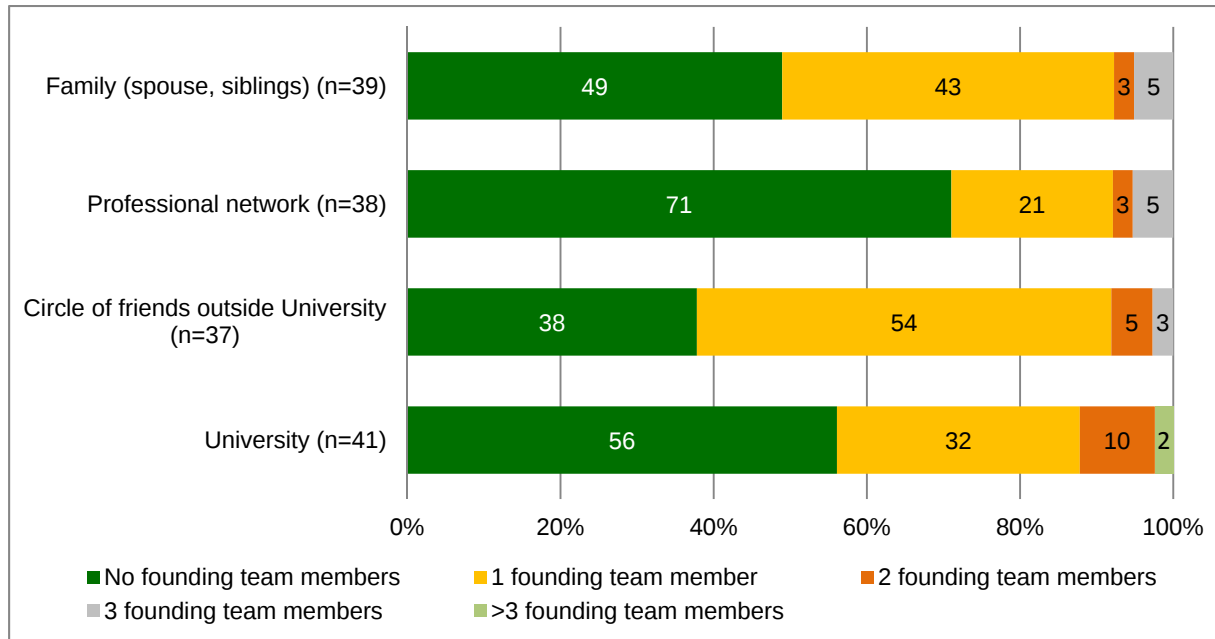


Figure 36: Social context from team member recruitment

Thus, when it comes to founding the company, family and circle of friends outside university become more important than other social contexts for team member recruitment. This result supports the notion that strong ties are of particular importance in entrepreneurial teams.

6.3 Industry sectors

The industry sectors in which most of the active student-founders start their business are in information technology and communication (24%), health services (11%) and Advertising/Marketing and Design (10%). This distribution of industry sectors corresponds with the nascent founders, where one fifth of the future entrepreneurs plan to found in the information/communication technology sector.

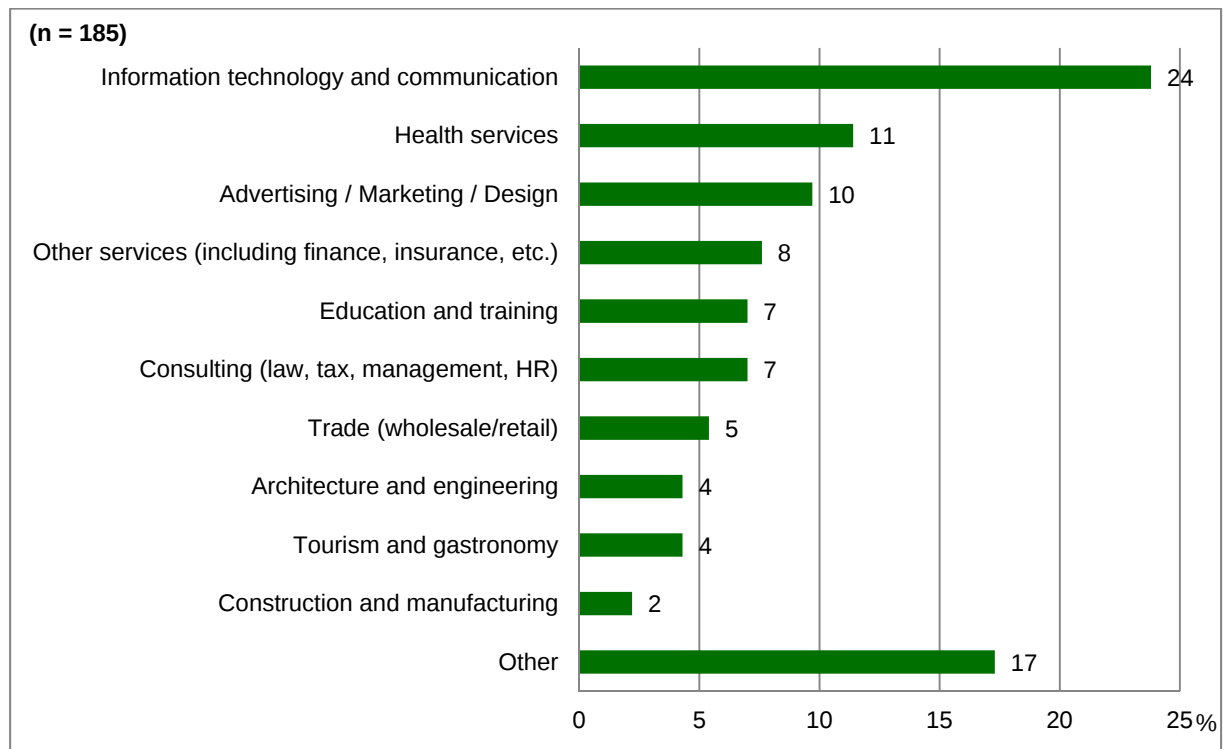


Figure 37: Industry sectors of active founders

6.4 Performance ratings

The active founders were asked to rate the company's' performance compared to their competitors since its establishment. The highest level of agreement (mean score) can be found for the performance measure "innovativeness". Other performance measures like "market share growth" or "job creation" are relatively low rated, which is plausible in the light of the youth of the companies.

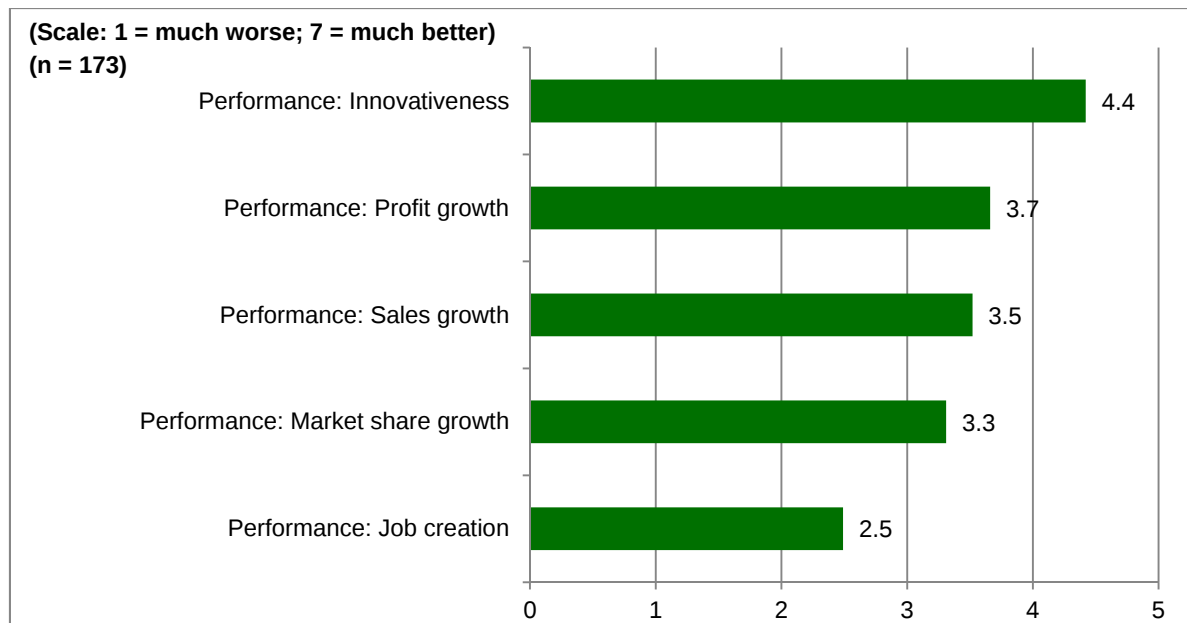


Figure 38: Performance ratings compared to competitors

6.5 Equity

On average the active founders hold 82% of the total equity in their company. 68% of the active founders are sole owners, holding 100% of the company's equity. This corresponds with the finding that about 70% of the active founders are solo entrepreneurs.

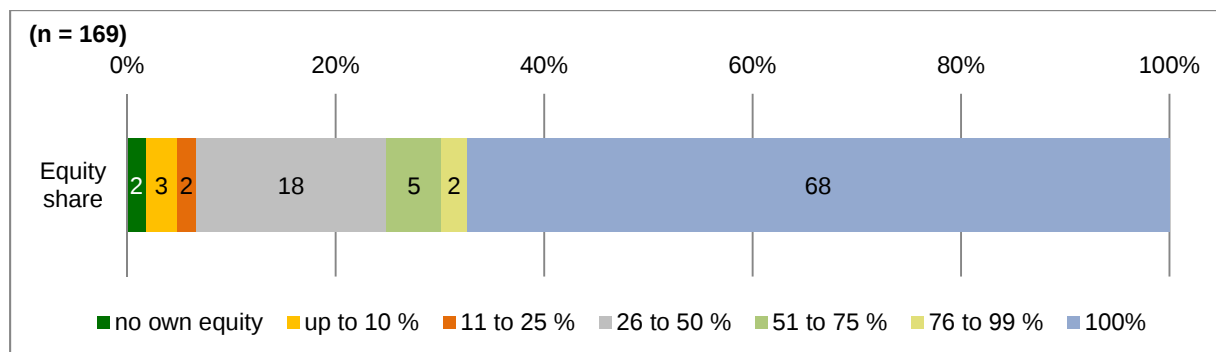


Figure 39: Equity share of the active founders

7 Nascent and Active founders – founding process, motivations and goals

This section draws attention to the founding process and the motivations and goals by comparing nascent with active founders to identify possible differences. To secure that the two groups do not get mixed up, we excluded the students who have declared that they are both nascent and active founders (e.g. serial founders).

7.1 The founding process

Business Planning is a crucial part in the founding process. It helps founders to focus on important aspects in the founding of a company and also serves as a communication tool to external stakeholders (e.g. banks, investors). The planning tasks encompass the development of business strategies including competitive analysis and selection of target markets, the design of production plans and the implementation of marketing efforts. *Figure 38* provides an overview of these tasks with regard to founding status.

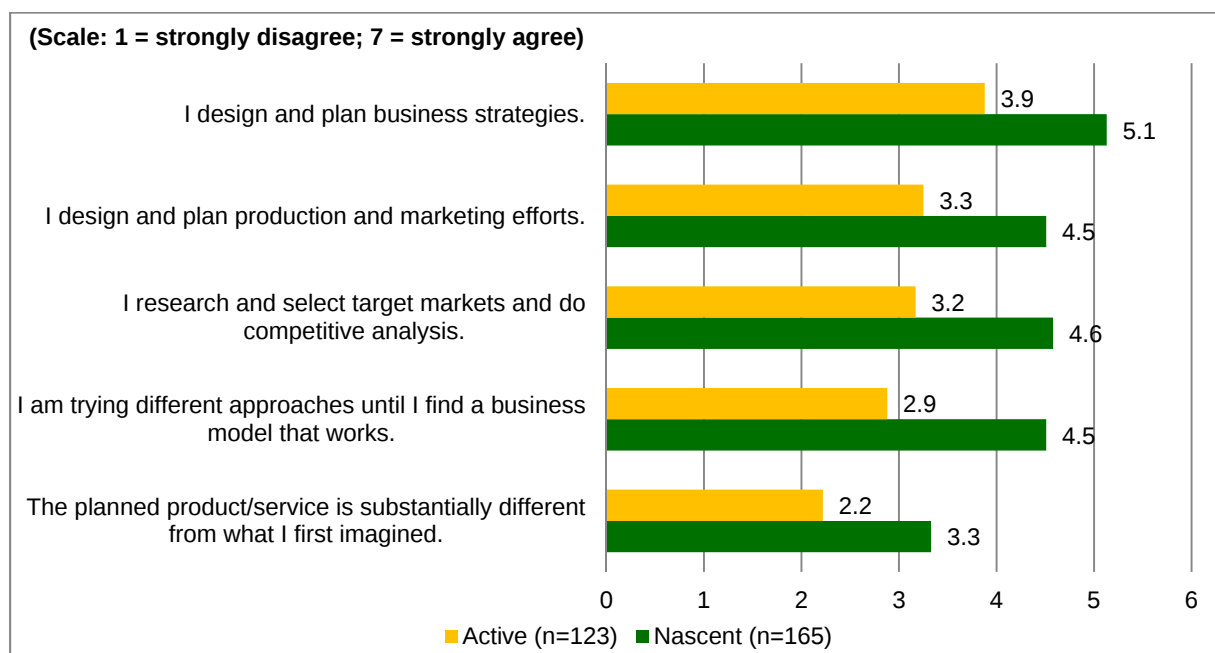


Figure 40: Business Planning Activities

The highest agreement was found for the item “I design and plan business strategies” followed by “I design and plan production and marketing efforts”. Nascent entrepreneurs rated all items significantly higher than active founders. One possible explanation why nascent founders scored higher than active entrepreneurs is the actual involvement of the nascent founders in the business planning process. Although the questions were asked in the past tense (for active entrepreneurs) and correspondingly in the present tense (for

nascent founders) it is likely that the limited time aspect affected the rating of the activities done in the founding process.

Especially in the founding process it is important to pay special attention to the consumption of resources (money, material) in order to secure solvency. The following questions deal with the careful use of existing resources in the start-up process and the flexible handling of business opportunities. *Figure 49* shows that all items related to resources and opportunities are rated high, which reveals an attitude towards minimization of risks in order to secure solvency. Apparently there are no differences between nascent and active founders in all items.

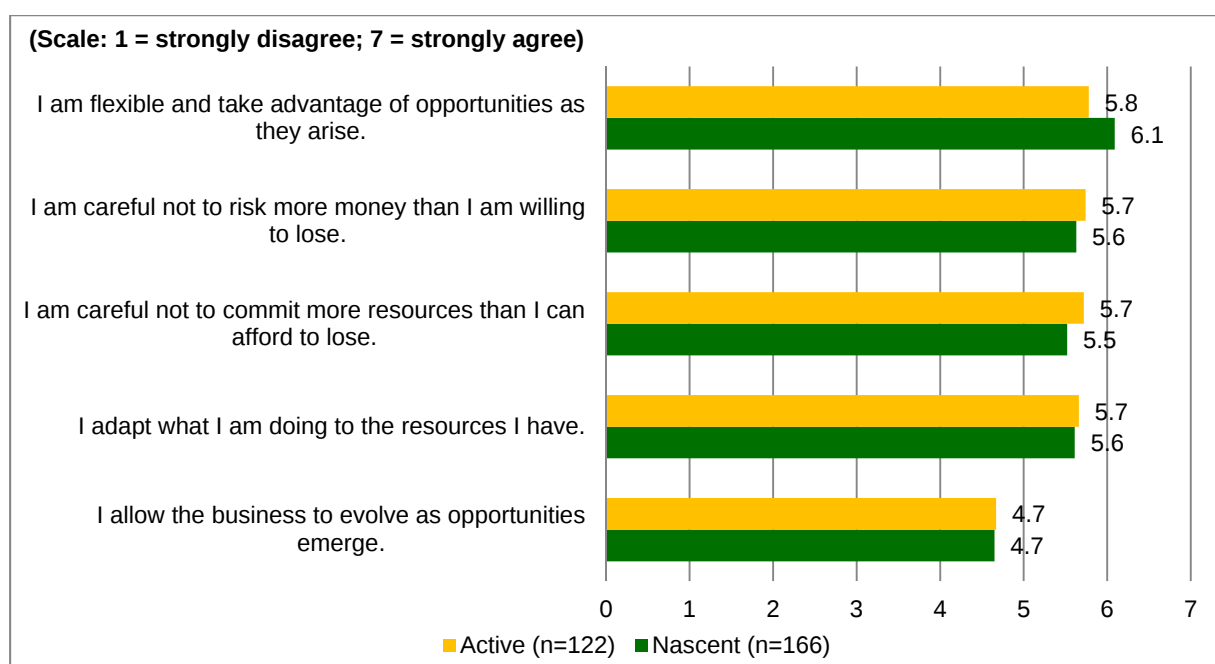


Figure 41: Attitude towards risk and opportunities

7.2 Parents support in the founding process

The active and nascent founders' parents can provide support for their children in the start-up process through different types of resources. Figure 49 reveals that nascent founders get mostly support through immaterial types of resources (knowledge and advice). Other types of resources (for example financial capital or equipment) that are needed to start a new venture are obviously less often provided by parents. There are some differences in the perception of parental support according to founder status (nascent vs. active). The most pronounced difference is seen for support in "idea generation/evaluation" and in "Knowledge and advice".

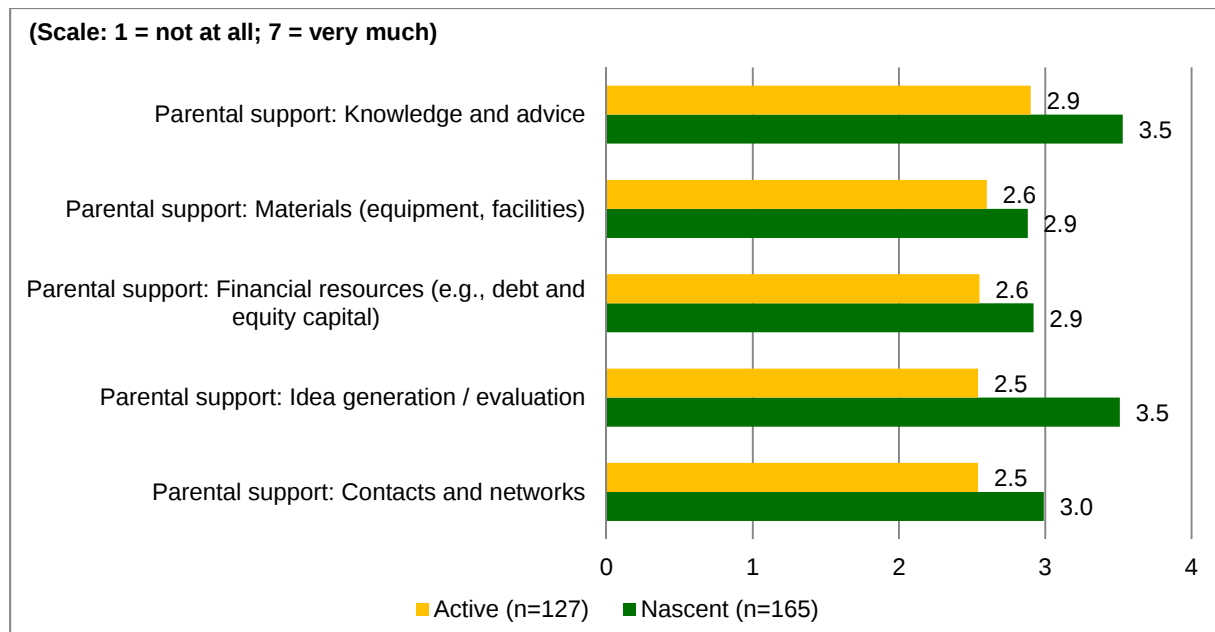


Figure 42: Types of support provided by parents

7.3 Motivations and goals

New firms are created due to different motives and goals. The following statements survey the agreement of active and nascent founders concerning different individual motives and goals. The most important motive to create a firm in this enumeration is for both founders groups “to advance the career in the business world” and “to make money and become rich”. Other motives (e.g. to play a proactive role in changing how the world operates”) are less important for active entrepreneurs but equally important for nascent founders.

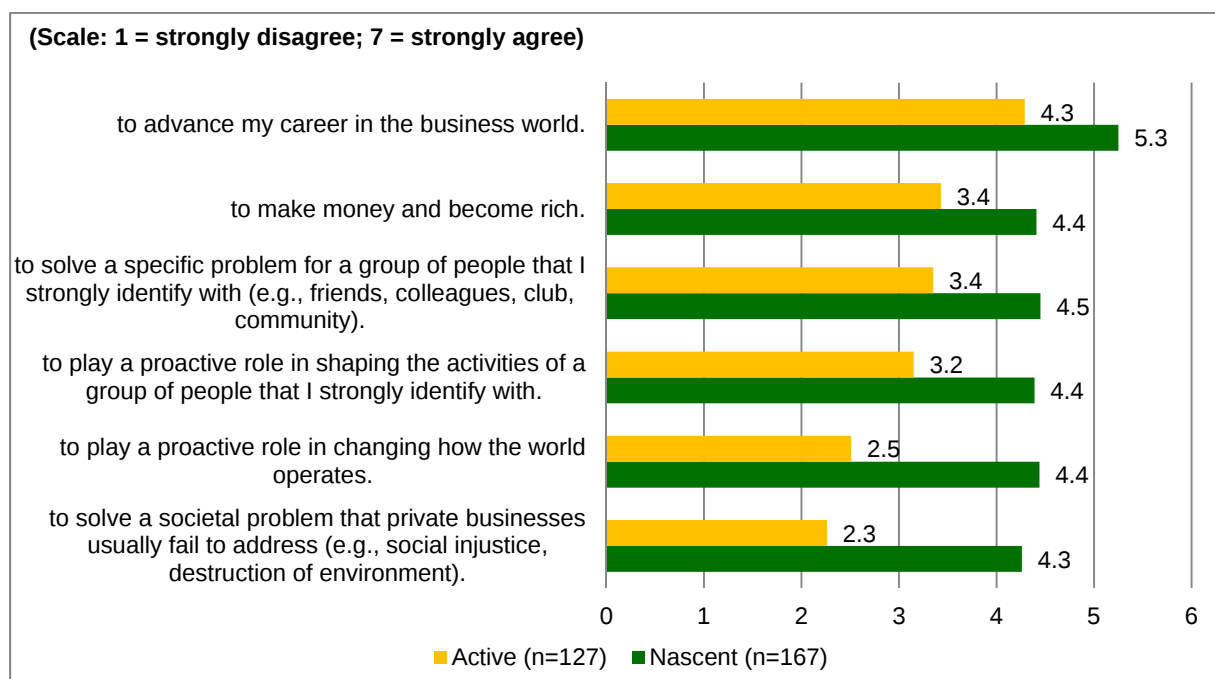


Figure 43: Motivations and goals

The following statements further assess how important active and nascent founders perceive different activities, abilities and attitudes in relation to their start-up and the world in general. For active founders it is important to “provide a product/service to a specific group...” and to “be able to express common views, interests and values with their customers”. The importance of management practices is apparently less important for active founders. Nascent founders perceive that a thorough analysis of their business financial prospects is important.

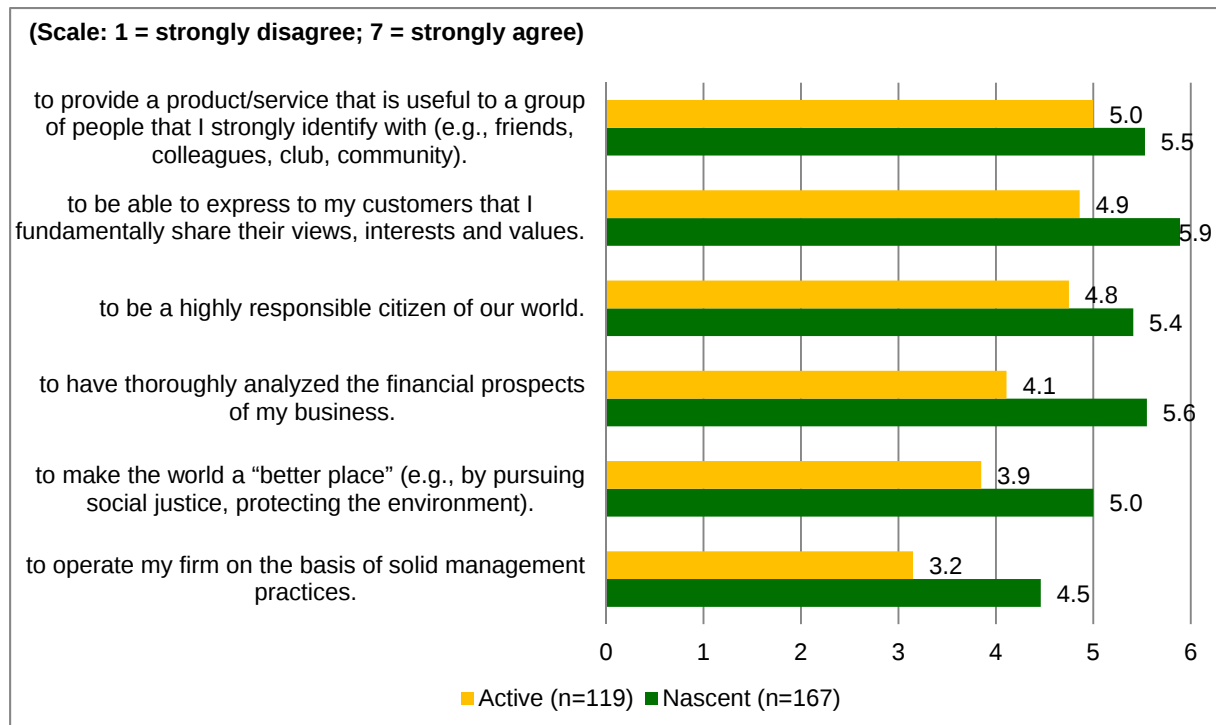


Figure 44: Practices and attitudes as a firm founder

The following statements examined how important nascent and active founders perceive the context of their own business (competitive advantage in competition, role in society). Both nascent founders and active entrepreneurs rather agreed that it is important “to establish a strong competitive advantage and significantly outperform other firms”. A less important factor for active entrepreneurs is a “strong focus on what the firm is able to achieve for society-at-large” (see *Figure 53*).

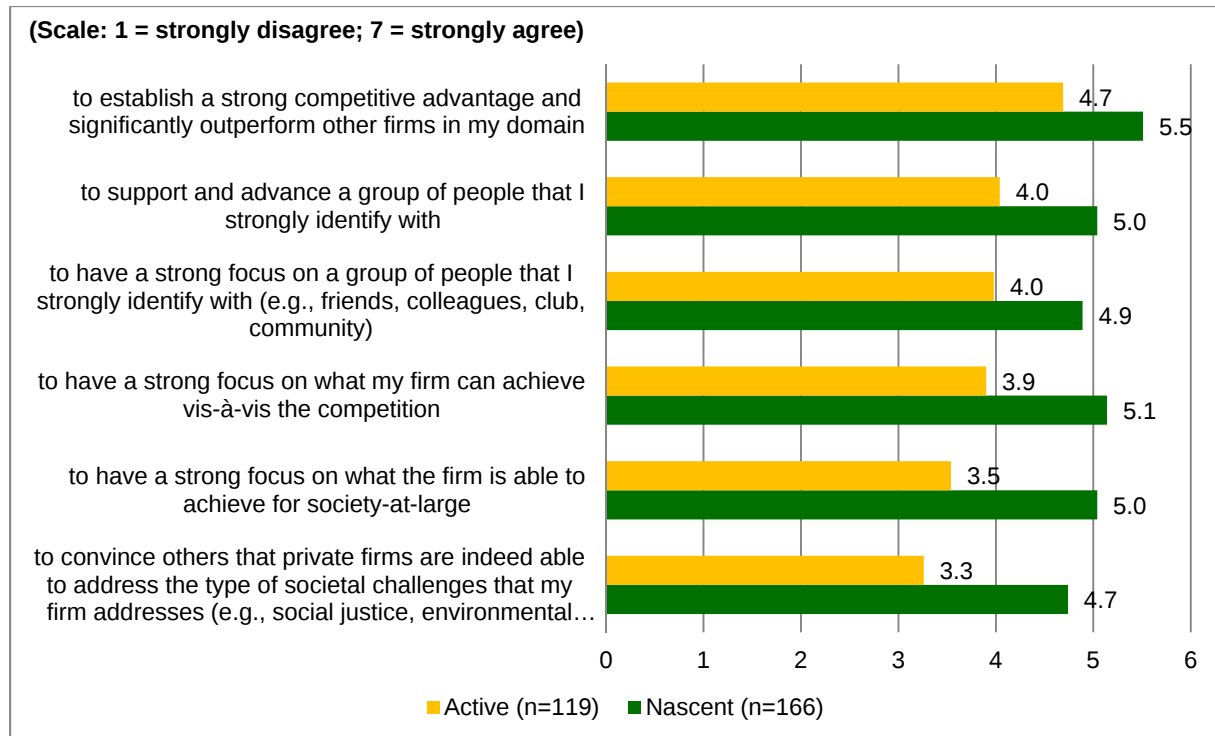


Figure 45: Activities concerning different stakeholders

8 Summary of findings

The Global University Entrepreneurial Spirit Students' Survey (GUESSS 2013) includes 34 countries worldwide. More than 100,000 students responded to this online-survey focusing on entrepreneurial intention and start-up activities of university students.

The Institute for Entrepreneurship and Organizational Development of the Johannes Kepler University Linz conducted the survey for Austria with support from the Start-Up Service of the Federal Chamber of Commerce, the Federal Government of Upper Austria and the WIFI Business Promotion Institute Austria. 4,220 students from 23 Austrian universities filled in the questionnaire (overall response rate for fully completed questionnaires: 5%).

The **main results** are:

- Directly after graduation three out of four students intend to work as employees (36% in an SME, 19% in a large enterprise, 10% in academia/research, 6% in a non-profit organization and 15% in the public service. 3% intend to be self-employed.
- In a 5 year perspective after graduation, there is a distinct shift towards the career option self-employment: 22% of the students want to be self-employed (18% working in their own firm, 4% as a successor).
- 222 students (5.3%) are currently trying to start their own business (so called nascent founders) and 191 students (4.5%) are already self-employed (active entrepreneurs).
- The industry sectors in which most of the active entrepreneurs have started their business are in the information technology and communication sector (24%), the health services (11%) and in the advertising/marketing sector (10%).
- The proportion between male and female student entrepreneurs (nascent and active) is fairly equal (nascent: 47% women, active: 42% women).
- A third of the nascent entrepreneurs already wrote a business plan. 30% already purchased material and equipment.
- Students plan to start their own business mostly in the following industries: Information technology/communication (20%), Health Service (14%), Marketing/PR (8%). 56% rate their product/service as new (15% new to all costumers, 41% new to the majority of customers).

- Almost two out of three of the nascent entrepreneurs (63%) intent to found their company in a team (with one or more co-founders). On the other hand, only 31% of the active student entrepreneurs have actually founded with a partner.
- The most important social context to meet potential co-founders seems to be the circle of friends outside university, followed by the family context. The university context plays a notably role for nascent founders (61% stated that they found one or more co-founders in the university context).
- The students' entrepreneurial intentions are closely connected with an entrepreneurially minded social network: 21% of the students without start-up interest have a family with entrepreneurial background and 32% are in contact with student entrepreneurs. There is a marked difference to entrepreneurially active students: 23% have a family with entrepreneurial background, but 72% know other active student entrepreneurs.
- The 191 active student entrepreneurs in the Austrian sample follow their studies at the University of Linz (46 students), followed by the Technical University of Graz (22 students) and the University of Innsbruck (19 students).
- The 191 active student entrepreneurs which participated in this study created approximately 400 jobs (including entrepreneurs plus co-founders and employees).
- Currently the majority of student entrepreneurs (68%) don't have any employees (expressed as full time equivalents). About one-fifth employs up to 3 persons. However, in five years, about 50% of the entrepreneurs expect to have at least one employee in their company.

9 Conclusions and Implications

Generally speaking the GUESSS study 2013 shows a high interest for entrepreneurship and a marked intent of students at Austrian universities to found their own company in the near future. There are a considerable number of students who are already active entrepreneurs or are currently trying to found their own company (nascent entrepreneurs). Given the fact that entrepreneurship requires action, these students acquire skills and competences through "learning by doing", which will be beneficial in either self- or dependent- employment. Entrepreneurship education at the university level should consider these (nascent or active) entrepreneurs as an important group by offering specific courses (e.g. coaching) and other

support measures that meet the specific needs of this target group. Support infrastructure (e.g. co-working spaces, pre-incubators and incubators) and financial support through venture capital funds (also of the university) are particularly important for technology-oriented start-ups. The promotion of these “high potential” start-ups through universities and other public and private institutions is crucial because of the potential economic effects (employment).

To foster entrepreneurial intentions and motivations of students who have not founded yet, it is important to arouse interest in an entrepreneurial career first. Practice-oriented lectures including entrepreneurs as role models should be introduced from the beginning. The opportunity to try one's hand at entrepreneurship through for example business plan competitions should also be helpful in gaining the first entrepreneurial experiences (f.i. “i2b” at national level or competitions on international level). Cooperation with other student entrepreneurs has a pronounced impact on students' entrepreneurial intention. Therefore, it should be enhanced f.i. through networking events or project-oriented courses working with real start-ups). A stronger cooperation between different faculties (e.g. technical, business, medicine, arts) is a prerequisite to foster entrepreneurship education at the university level and to develop the entrepreneurial competence-portfolio of founder teams.

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