GUESSS
Global University Entrepreneurial Spirit Students' Survey

2018 GUESS REPORT

REPUBLIC OF KOREA

NRF

KOREA ENTREPRENEURSHIP FOUNDATION

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I. Introduction

1.1. Background of the Study

Global University Entrepreneurial Spirit Students' Survey (GUESSS) is an international research project which investigates the entrepreneurial intentions and activities of students using a geographical and temporal comparison. Guesss project started since 2003 at the Swiss Research Institute of Small Business and Admninistration at the University of St. Gallen. This report is the second report since 2018. The objectives of this report are as follows.

- Observe students' entrepreneurial intention and activities in a structural and longitudinal ways.
- Recognize factors that decisively affect students having intentions to start new ventures and being entrepreneurs.
- Examine and evluate the supporting activities at univerisities for entrepreneurial activities.

1.2. Theoretical Framework

The theoretical foundation of GUESSS is the Theory of Planned Behavior (Ajzen, 1991). TPB is the theory which asserts that the intention of a specific behavior is affected by three main factors such as attitude toward the behavior, subjective norms, and perceived behavioral control.

1.3. Project Organization and Data Collection Procedure

GUESSS project is coordinated by KMU-HSG (The Swiss Research Institute of Small Business and Entrepreneurship at the University of St. Gallen), and Professor Philpp Siege directs the international report. There is one representative per country and online survey is sent to each representative from KMU-HSG. For Korea, Korea Entrepreneurship Foundation (KoEF) is the representative which has conducted various studies on entrepreneurship. The report, by Korea Entrepreneurship Foundation (KoEF), was based on an online survey of all university students throughout the country every other year.

II. Participants and Sample

2.1 Universitieis and Response Rate

The survey was conducted from October 11 to December 21, 2018, in which 832 students from more than 18 universities participated <Table 1>.

<Table 1> Universities Participated in GUESSS 2018

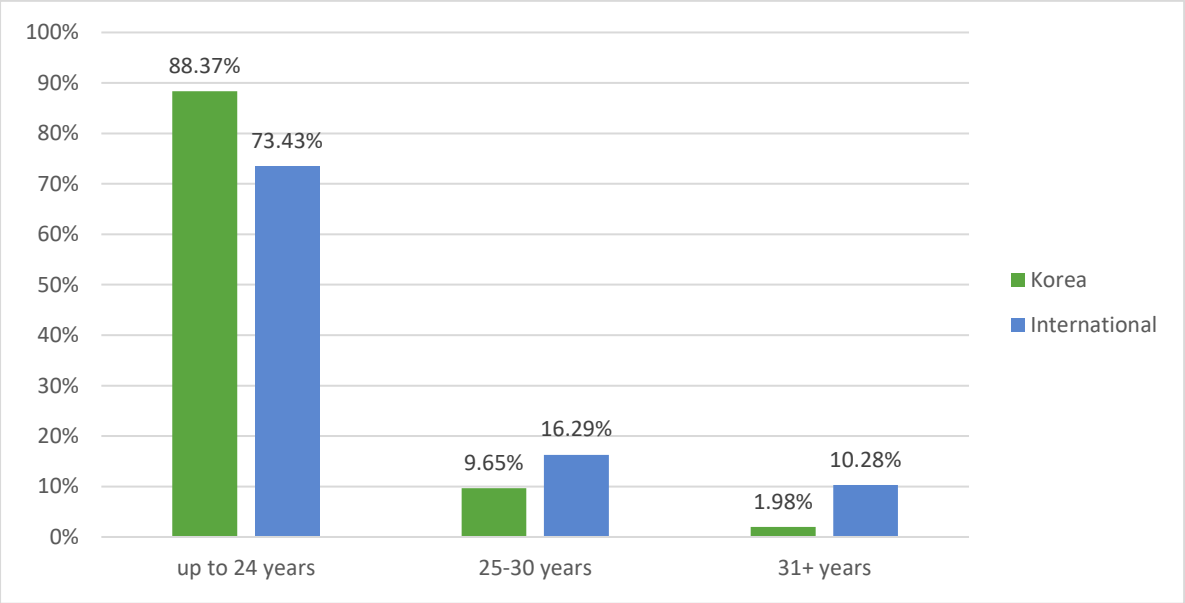
NO.	University
1	Catholic Kwandong University
2	Deagu University
3	Dongguk University
4	Dongseo University
5	Hanyang University (Seoul)
6	Hanyang University (ERICA)
7	Jeon-ju University
8	Joongbu University
9	Keimyung University
10	Korea University
11	Korea Nazaren University
12	Korea Advanced Institute of Science and Technology
13	Kyung Hee University
14	Kyungil University
15	Sungkyunkwan University
16	Pohang University of Science and Technology
17	Yeungnam University
18	Yonsei University (Wonju Campus)
19	Other

* The number of samples varies from university to university, so please refer to quotation.

2.2 Student Demographics

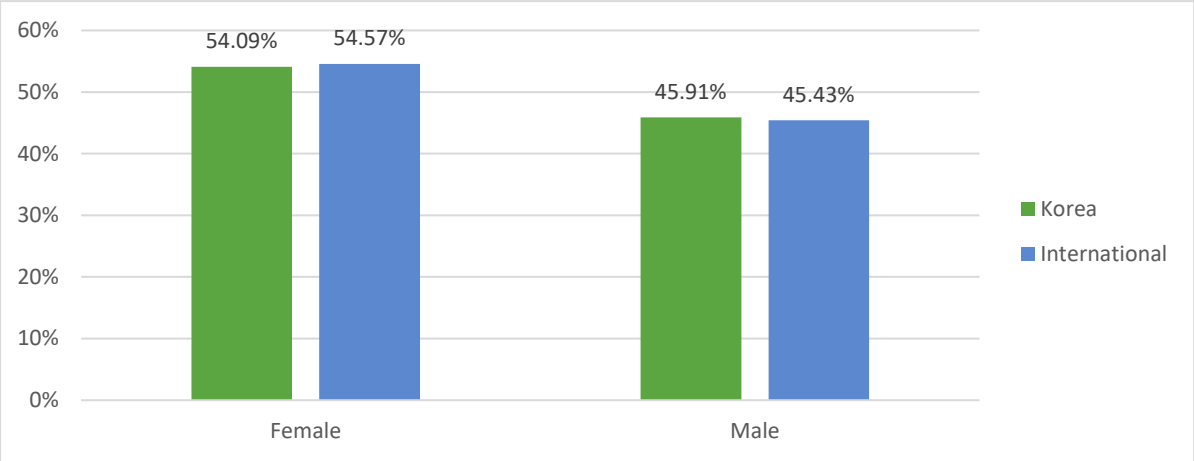
The age profile of the Korean sample was as shown in Figure 1. Respondents were highly skewed in a group up to 24 years old. Especially 88.37% of respondetns with Korean nationality belonged to the group of up to 24 years old while only 9.65 % of them belonged to the age group between 25-30 years old and 1.98% of them belonged to the age group over 31 years old. However, international respondents had about 6% point more for the age group between 25-30 years old and 8% point more for the age group over 31 years old compared to the Korean nationality respondents.

<Figure 1> Age of Respondents



Out of total 832 studetns, more female than male students participated in the survey: 54.09% vs. 45.91%. This gender ratio of respondents was similar between Korean nationality group and international group.

<Figure 2> Gender of Respondents



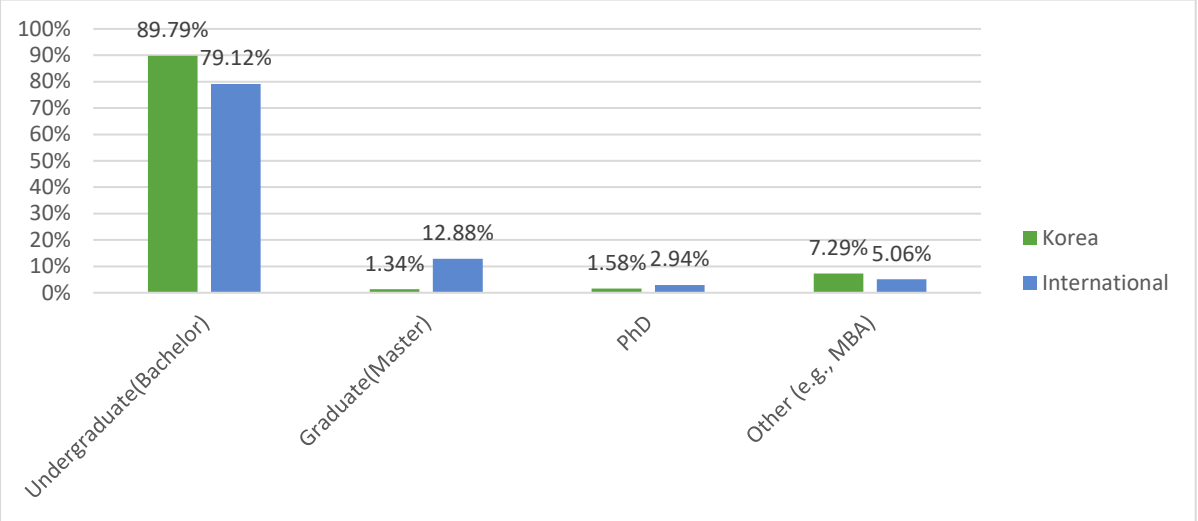
In terms of nationality of survey participants, 98.99% of them hold a South Korean nationality.

<Figure 3> Nationality of Respondents

2.3 University Studies

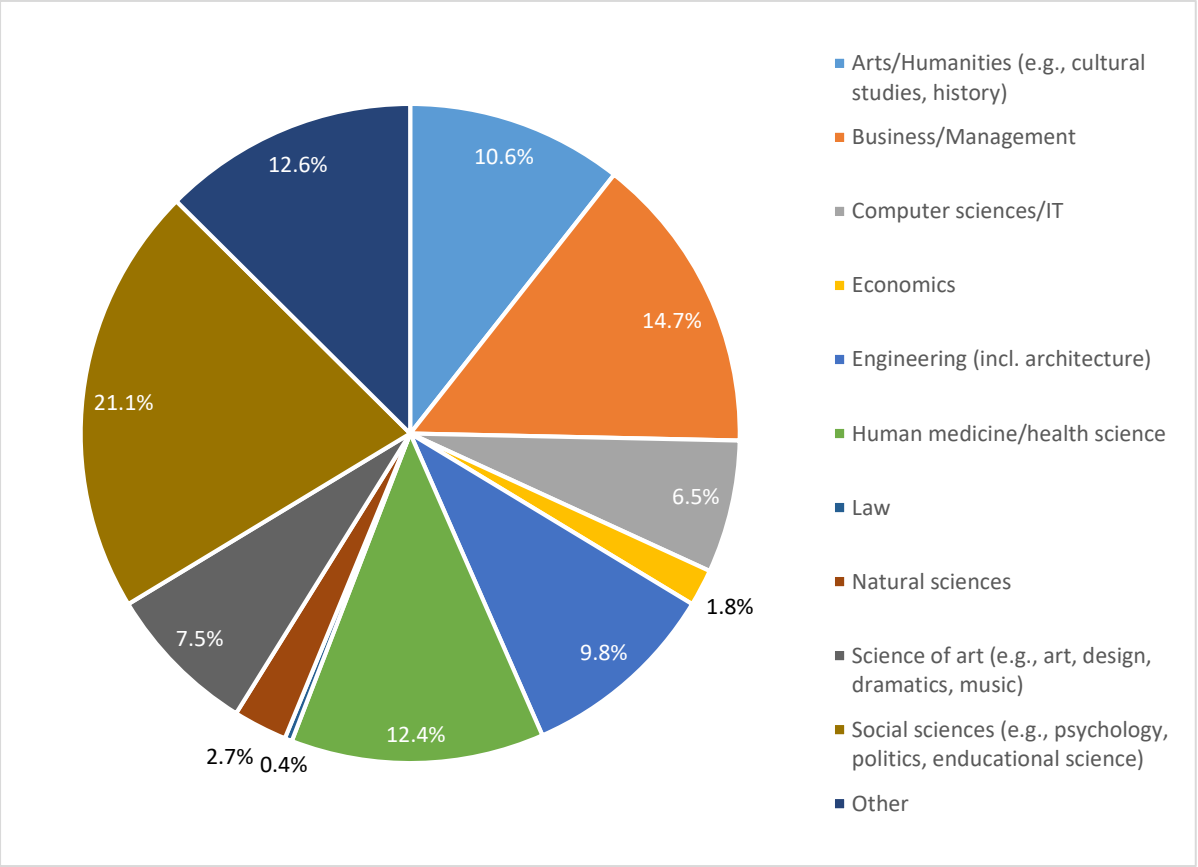
The majority of Korean nationality students was undergraduate (89.79%), with 1.34% graduate studetns, 1.58% PhD students, 7.29% in other degrees such as MBA. Relatively more international students were engaged in Graudate level studies than Korean nationality respondents.

<Figure 4> Current level of Study



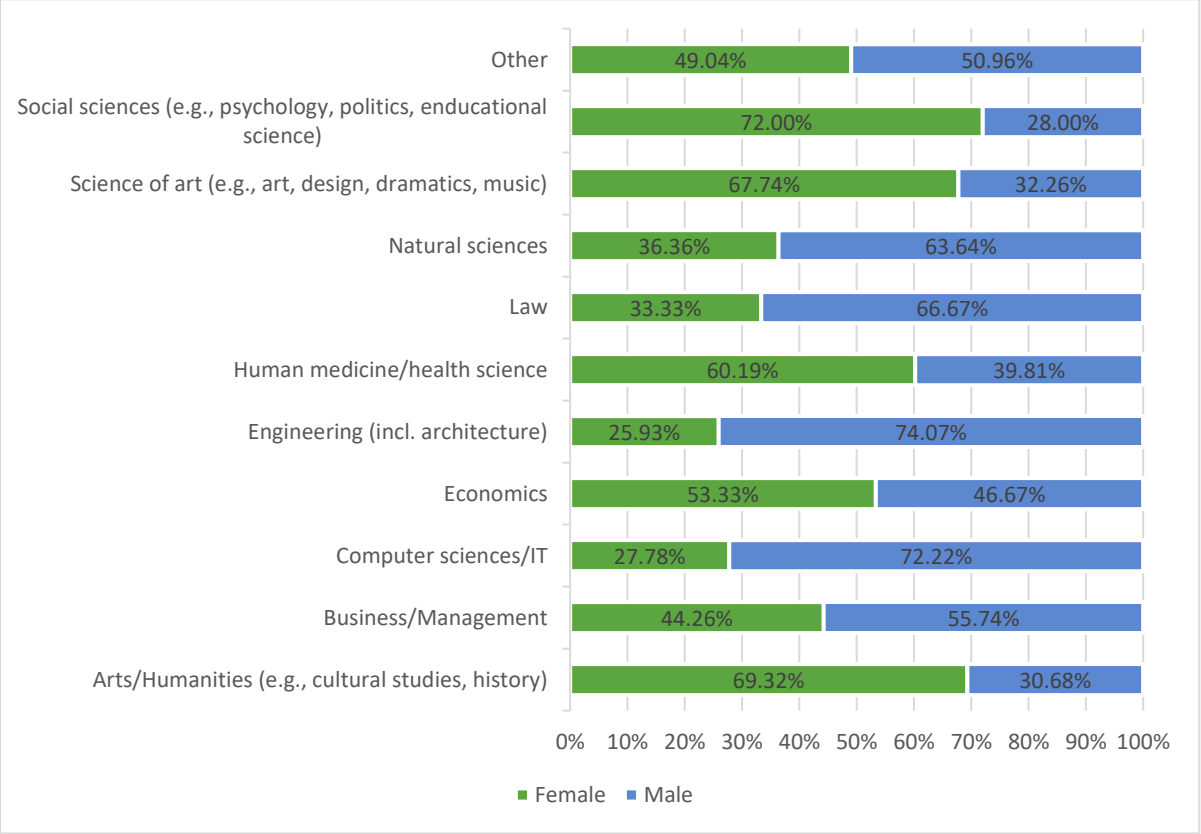
Out of 832 survey participants, 21.1% of them studied in social science field (e.g., psychology, politics, educational science), 14.7% in Business/Management, 12.4% in Human medicine/ Health Science, 10.6% in Arts/ Humanities (e.g., cultural studies, history), 9.8% in Engineering, 7.5% in Science of art (e.g., art, design, dramatics, music), 6.5% in Computer Science/ IT, 2.7% in Natural sciences, 1.8% in Economics, 0.4% in Law.

<Figure 5> Study Field by Sample



In terms of gender of the study field, the higher proprition of men compared to women appeared in the following fields: Business/Management, Computer Science/ IT, Engineerig including architecgture, Law, and Natural Sciences.
The higer proportion of women were shown in Arts/ Humanties, Economics, Human medicine/ Health science, Science of arts, and Social science (e.g., psychology, politics, educational science).

<Figure 6> Study Field by Gender



III. Career Choice Intentions

3.1 General Overview

The career choice intentions of students right after graduation and after 5 years are compared in Table 2. While after graduation the portion of students who want to work in established companies was about 47% (small, medium, and large-sized firms, 10.34%, 24.40%, 11.90%, respectively), five years later, the portion was about 35% (small, medium, and large-sized firms, 2.52%, 11.42%, 20.55% respectively). Meanwhile, the portion of students who want to be entrepreneurs was 7.57% after studies and 15.38% 5 years after their studies.
Interestingly, about 20% of students reported that they have not yet decided about their careers or have other career options.

<Table 2> Career choice intentions right after studies and 5 years after studies

	after studies	**5 years later**
An employee in a small firm (1-49 employees)	10.34%	2.52%
An employee in a medium-sized firm (50-249 employees)	24.40%	11.42%
An employee in a large firm (250 or more employees)	11.90%	20.55%
An employee in a non-profit organization	2.88%	3.13%
An employee in Academia (academic career path)	5.53%	5.53%
An employee in public service	14.66%	19.59%
A founder (entrepreneur) working in my own firm	7.57%	15.38%
A successor in my parents' / family's	0.84%	2.28%
A successor in a firm currently not controlled by my family	1.44%	1.20%
Other / do not know yet	20.43%	18.39%
Total	**100.0%**	**100.0%**

3.2 Career Choice across Fields of Study

<Figure 7> shows that career chocie after graduation by the field of study. We examined what percentage of students want to be employed by a small, medium sized, or large firm. Specifically, 47.73% of students majoring in Arts/Humanities reported to be employed, 59.84% for students majoring in Business/Management, 66.66% for students majoring in Computer Science,/IT, 46.67% for students majoring in Economics, 55.55% for students majoring in Engineering including Architecture, 57.29% for students majoring in Human Medicine/ Health Science, 66.66% for students majoring in Law, 54.55% for students majoring in Natural Sciences, 20.96% for students majoring in Science of Art, 35.43% for students majoring in Social Science, 34.62 % for students from other majors.

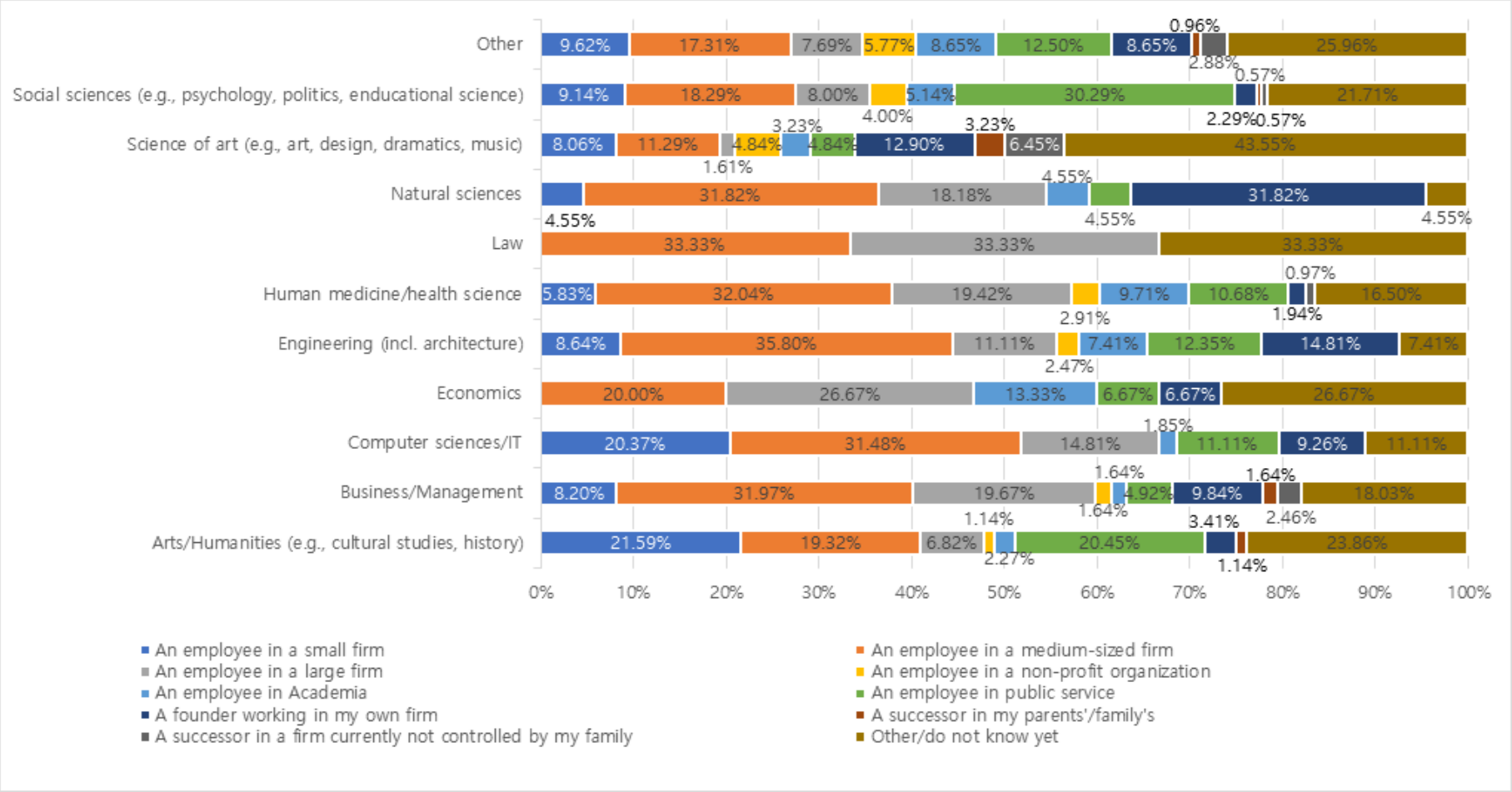
At the same time, our study shows that 3.41% of students majoring in Arts/Humanities reported to be self-employed, 9.84% for Business/Management studetns, 9.26% for Computer Science,/IT students, 6.67% for Economics studetns, 14.81% for Engineering including Architecture students, 1.94% for Human Medicine/ Health Science students, 0% for Law studetns, 31.82% for Natural Sciences studetns, 12.90% for Science of Art studetns, 2.29% for Social Science, 8.65% for students from other majors.

<Figure 8> shows career chocie at 5 years after graduation by the filed of study. We examined what percentage of studetns want to be employed by a small, medium-sized, or large firm after 5 years of their graduation. In particular, 29.54% of students majoring in Arts/Humanities reported to be employed, 40.98% for students majoring in Business/Management, 68.52% for students majoring in Computer Science,/IT, 53.33% for students majoring in Economics, 40.74% for students majoring in Engineering including Architecture, 39.81% for students majoring in Human Medicine/ Health Science, 33.33% for students majoring in Law, 36.37% for students majoring in Natural Sciences, 19.36% for students majoring in Science of Art, 24.57% for students majoring in Social Science and 25.96 % for students from other majors.

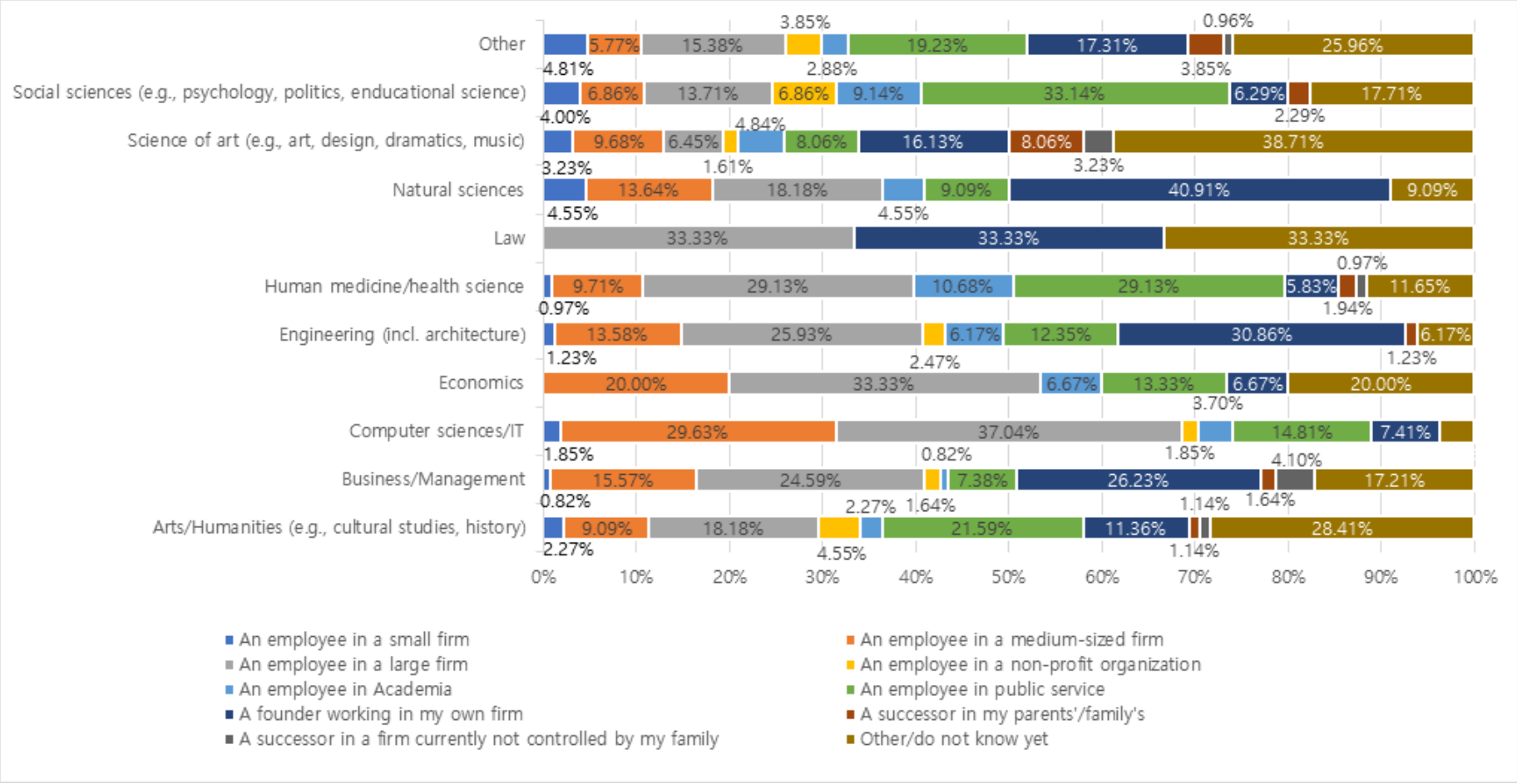
At the same time, 11.36% of students majoring in Arts/Humanities reported to be self-employed, 26.23% for Business/Management studetns, 7.41% for Computer Science/IT students, 6.67% for Economics studetns, 30.86% for Engineering including Architecture students, 5.83% for Human Medicine/ Health Science students, 33.33% for Law studetns, 40.91% for Natural Sciences studetns, 16.13% for Science of Art studetns, 6.29% for Social Science and 17.31% for students from other majors.

When comparing the career choice by the timing (immediately after graduation VS. 5 years after graduation), the portion of being an entrepreneur as a career choice after 5 years of the graudation was significantly higher than the one right after graduation except for the students majoring in computer science. Specifically, business/management and engineering students considered being an entrepreneur after 5 years of their studies compared with right after the graduation (16.39% point increase for business/management students and 16.05% point increase for engineering student.

<Figure 7> Career choice after graduation by study field



<Figure 8> Career choice 5 years after graduation by study field



3.3 Gender Comparisons

When comparing the career choice by gender, the portion of students who want to be an employee after graduation was 45.1% and 48.4% for female and male students, respectively. On the other hand, the portion of students who want to be an entrepreneur after graduation was 3.1% and 12.8% for female and male students, respectively.

Meanwhile, the portion of students who want to be an employee 5 years later was 34.2% and 34.8% for female and male students, respectively. However, the portion of students who want to be an entrepreneur after graduation was 8.9% and 23% for female and male students, respectively.

This finding shows that more male students seriously think about the entrepreneurial path as their career after graduation and 5 years after their graduation compared to female students.

<Table 3> Career intentions of male and female students

	Career path after studies			**Career path 5 years later**		
	Female	**Male**	**Total**	**Female**	**Male**	**Total**
An employee in a small firm (1-49 employees)	12.9%	7.3%	10.3%	3.8%	1.0%	2.5%
An employee in a medium-sized firm (50-249 employees)	20.9%	28.5%	24.4%	10.4%	12.6%	11.4%
An employee in a large firm (250 or more employees)	11.3%	12.6%	11.9%	20%	21.2%	20.6%
An employee in a non-profit organization	2%	3.9%	2.9%	3.1%	3.1%	3.1%
An employee in Academia (academic career path)	4.4%	6.8%	5.5%	6.9%	3.9%	5.5%
An employee in public service	18.6%	9.9%	14.7%	23.1%	15.4%	19.6%
A founder (entrepreneur) working in my own firm	3.1%	12.8%	7.6%	8.9%	23.0%	15.4%
A successor in my parents' / family's	0.2%	1.8%	0.8%	1.3%	3.4%	2.3%
A successor in a firm currently not controlled by my family	1.3%	1.8%	1.4%	0.9%	1.6%	1.2%
Other / do not know yet	0.25%	14.9%	20.4%	21.6%	14.7%	18.4%

IV. Determinants of Entrepreneurial Intention

4.1 Indicators and Index of Entrepreneurial Intentions

Six items were used to measure students' entrepreneurial intentions. Students were asked to indicate their level of agreement to six statements from 1 (strongly disagree) to 7 (strongly agree). Mean and standard deviation of each indicator is illustrated as below in Table 4.

<Table 4> Indicators of Entrepreneurial Intention

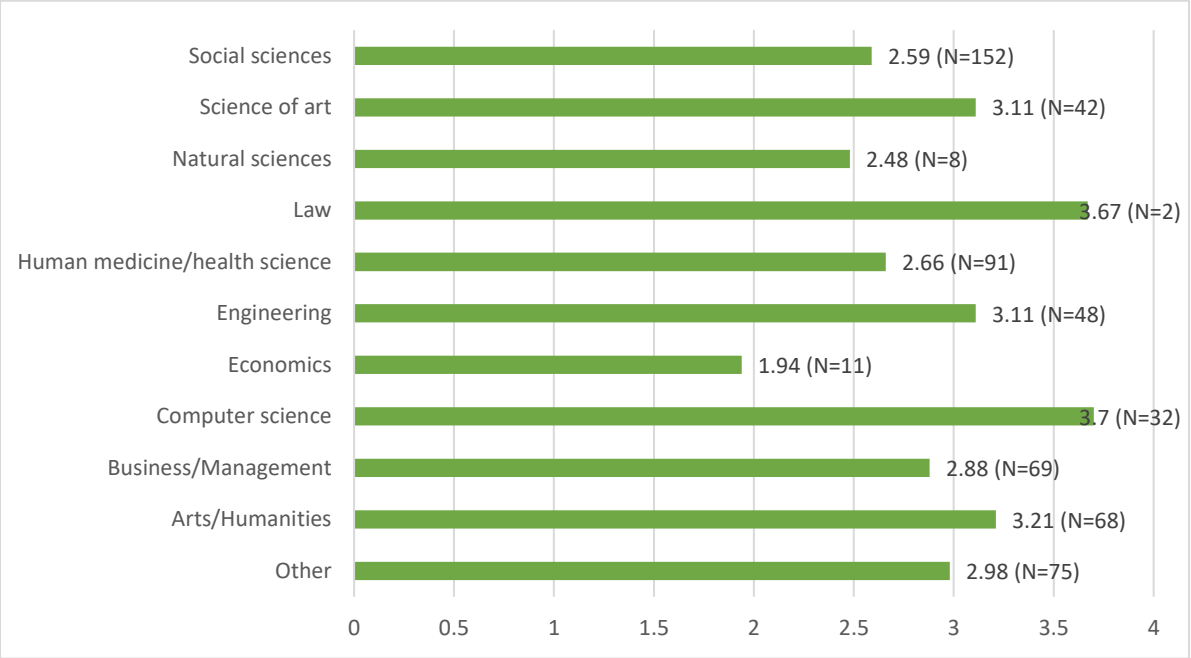
	N	Mean	SD
I am ready to do anything to be an entrepreneur	624	3.06	1.520
My professional goal is to become an entrepreneur	619	2.68	1.533
I will make every effort to start and run my own firm	618	3.33	1.712
I am determined to create a firm in the future	619	2.68	1.563
I have very seriously thought of starting a firm	612	2.65	1.525
I have the strong intention to start a firm someday	609	2.72	1.641

1 (strongly disagree) to 7 (strongly agree)

An aggregated entrepreneurial index was then generated as the mean of all six answers. Furthermore, the average value of the index was used to compare the strength of entrepreneurial intentions across fields of study and gender, as shown in Figure 9 and Figure 10.

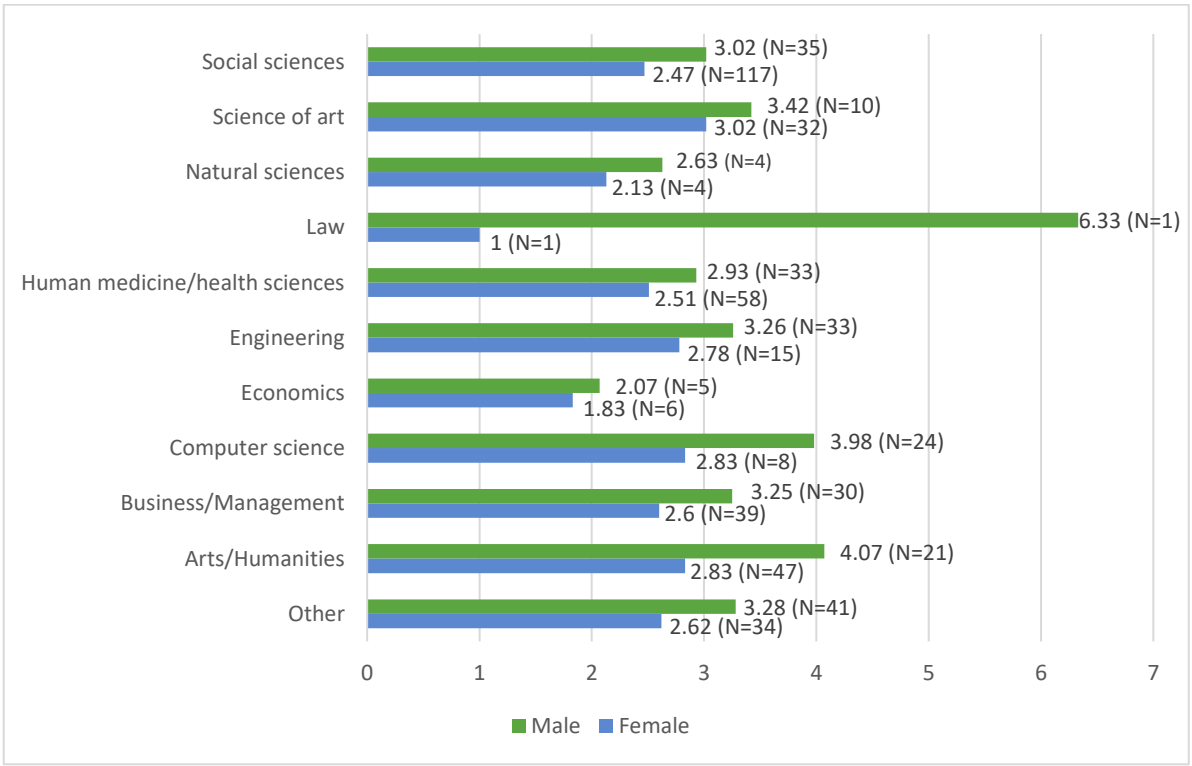
An ANOVA test produced a significant value ($F=3.44$ $p<0.01$). A post hoc test (Scheffe) shows that students in computer science had significantly higher entrepreneurial intentions than those in other disciplines.

<Figure 9> Strength of entrepreneurial intentions across fields of study



The result shows that there is a gender difference in entrepreneurial intentions. Male students had significantly ($p<0.01$) stronger entrepreneurial intentions (average=3.31) than female students (average=2.60). The difference was the largest for the students in arts/humanities while the smallest difference was observed for students in Law.

<Figure 10> Entrepreneurial intentions across gender



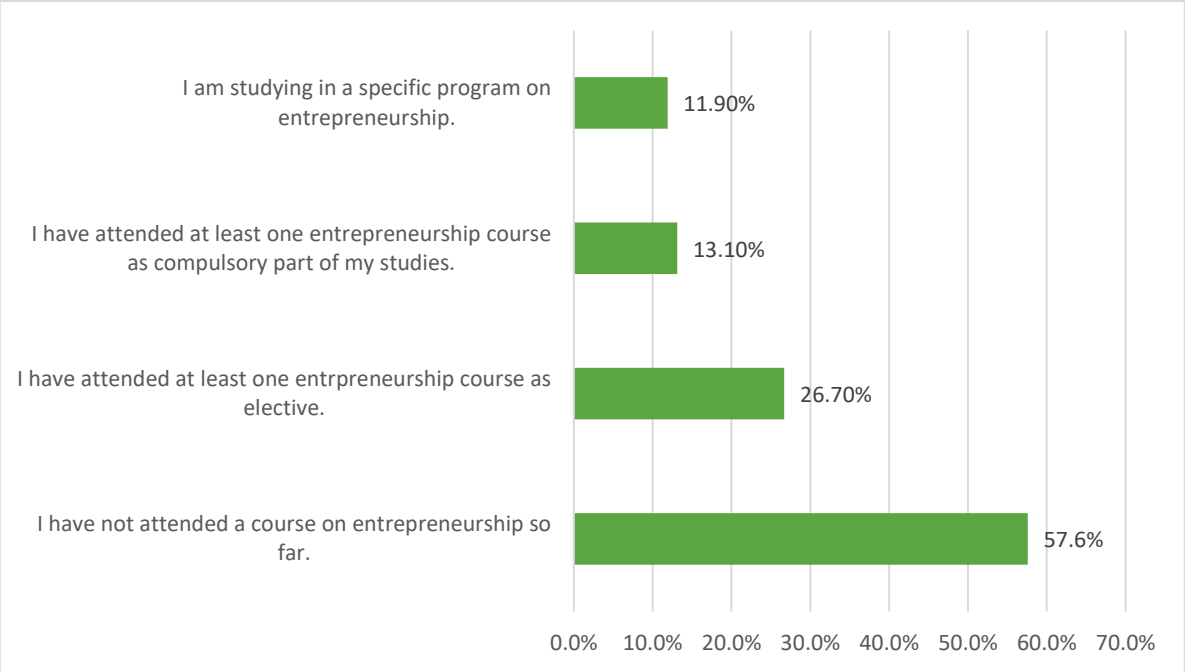
4.2 The University Context

University context has been found to influence entrepreneurial intentions of the students. Universities provide entrepreneurial education and therefore naturally engange in students' entrepreneurial intentions.

4.2.1 Attendance of entrepreneurship courses

The survey asked to what extent they have attended university level courses. More than 42% of the respondents have attended more than one entrepreneurship course in their universities. In other words, this result means that about 58% of students have not attended any entrepreneurship related class.

<Figure 11> Attendance of entrepreneurship courses



4.2.2 Assessment of entrepreneurial learning

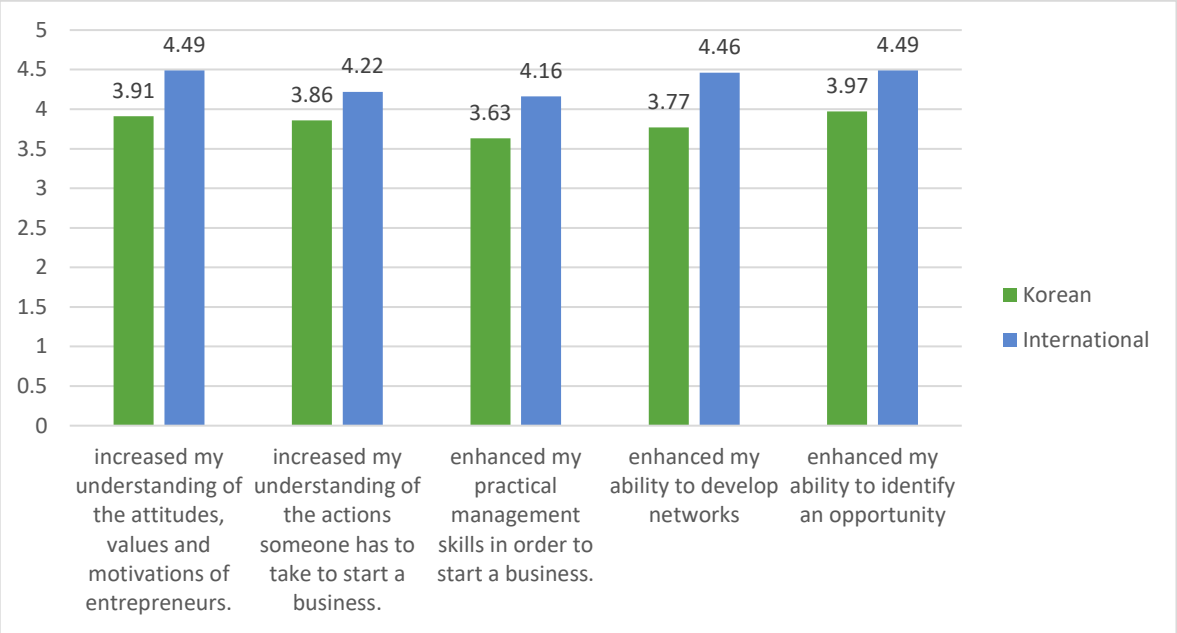
The students who had attended an entrepreneurship class(es) were asked what they learned from the class(es). They indicated the extent to which they agree to the following statements about their learning progress during their studies (1 = not at all, 7 = very much). The statements are shown in Table 5.

<Table 5> Learning progress during the studies

	Item (started with "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

The result of students' learning progress is shown in Figure 12. Among the five statements, the enhancement of practical management skills to run a business has the lowest score. Moreover, the result shows that there is a difference between Korean nationality students and international students. Generally, international students reported that they have more benefit from the entrepreneurship class compared with Korean students.

<Figure 12> Learning process during studies (attendance of the courses and offerings…)

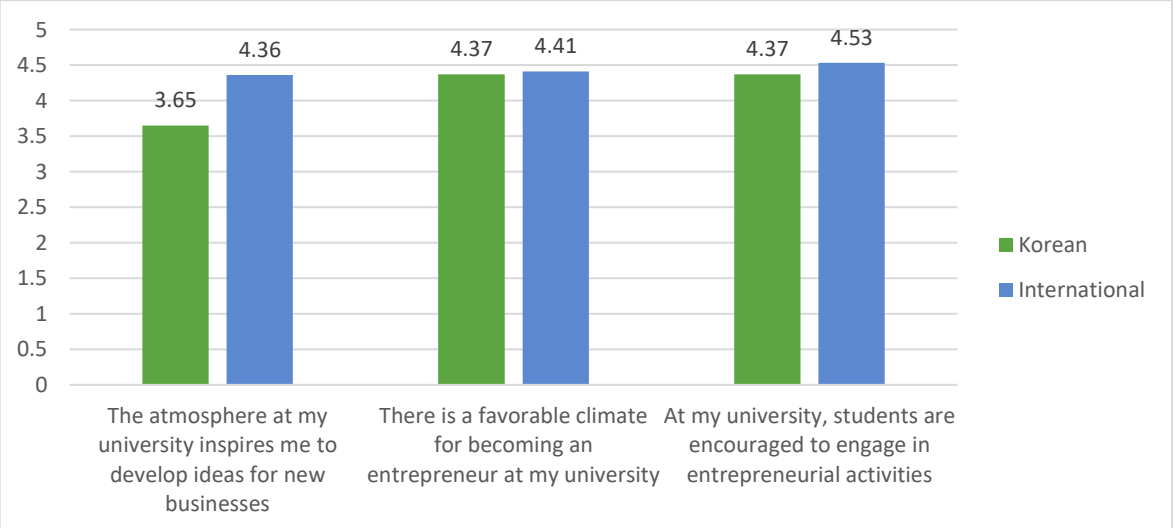


4.2.3 The University Environment

The climate of university related to entrepreneurship is known to have an impact on the students' entrepreneurial intentions. The respondents were asked to what extent they agree or disagree from 1 to 7 scale, with a set of statements regarding their learning experience. The results are depicted in Figure 13.

The result shows that Korean students disagree with the statement that says, 'the atmosphere at my university inspires me to develop ideas for new business' compared with two other statements. At the same time, international students are more satisfied with the university environment than Korean students.

<Figure 13> The University Environment



4.3 The Family Context

Several studies show that family contributes much to entrepreneurial intentions. Especially, the occupational background of parents is believed to play an important role. Students were asked if any of their parents are self-employed.
Figure 14 shows the results. About 71% of respondents answered that neither of their parents was self-employed. 16.8% of them have self-employed father, while 4.3% have self-employed mother. In addition, 8.1% of the students have reported that both their parents were self-employed.

<Figure 14> Self-employed parents

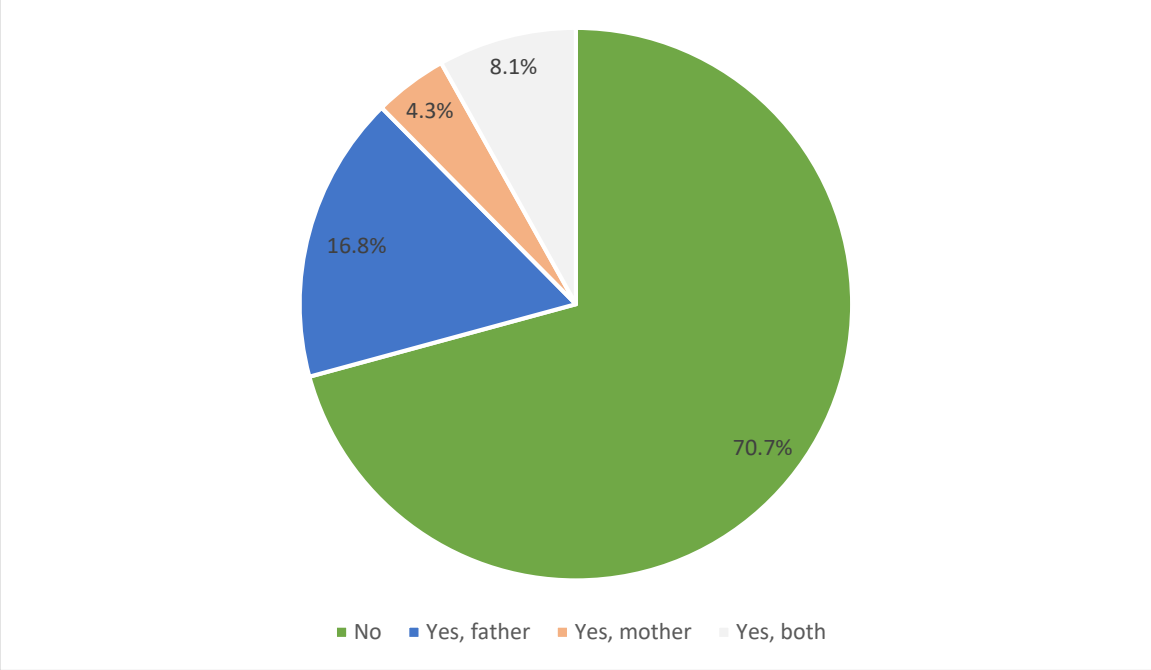
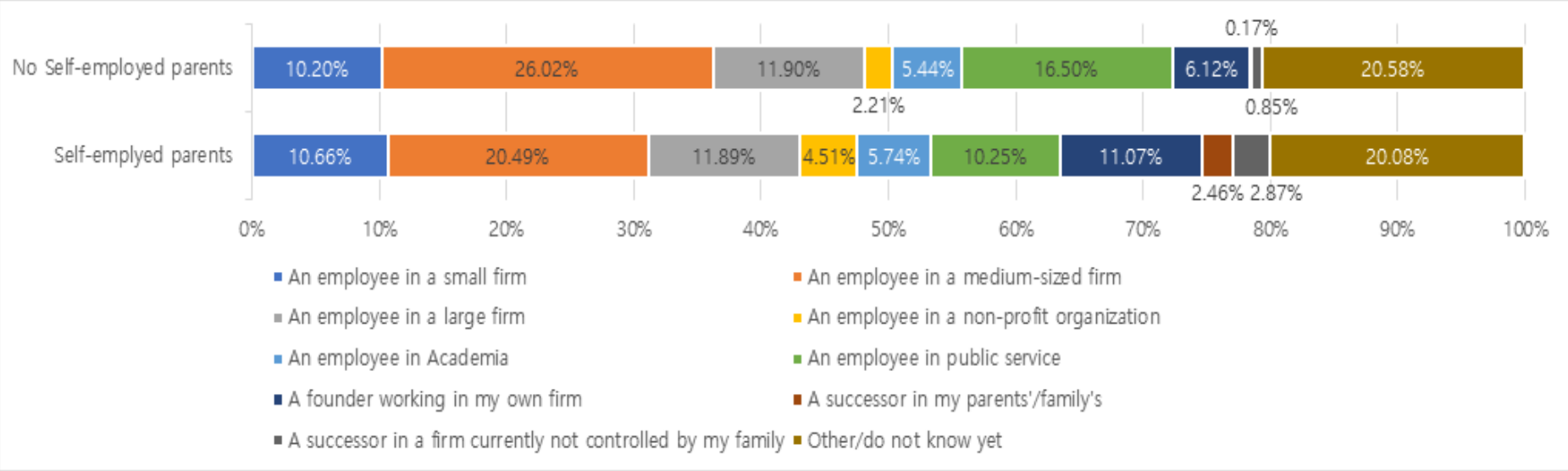


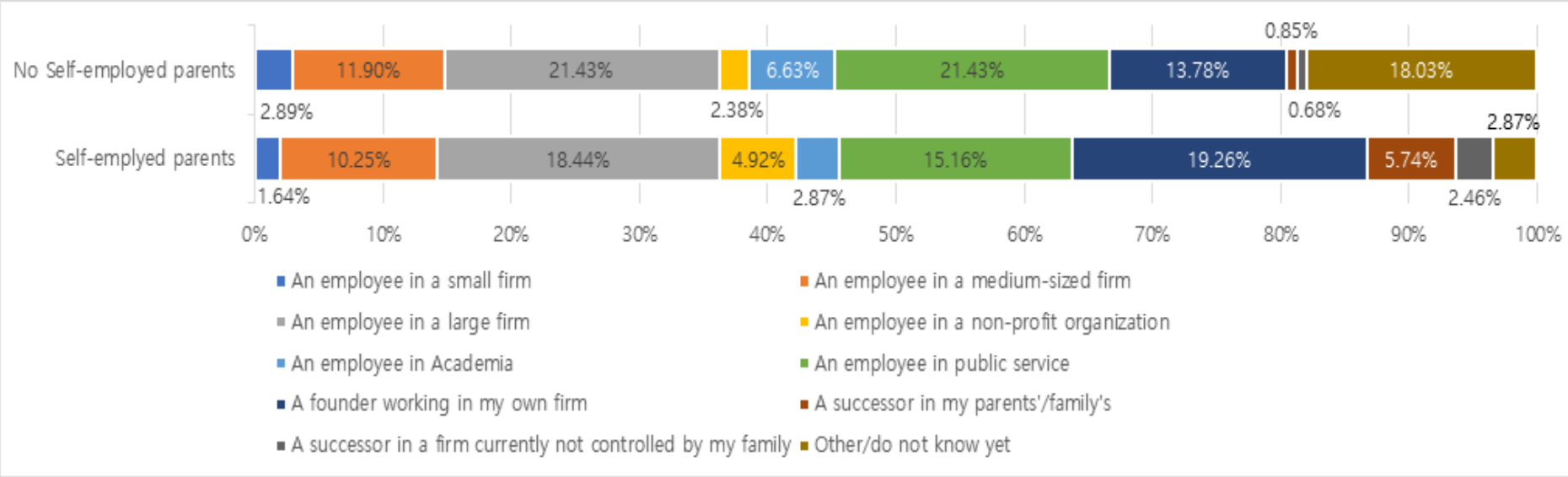
Figure 15 shows career choice intentions by family background after graduation. Similar with the previous study that shows the positive relationship between self-employed parents and entrepreneurial intention, our result is no exception. The result shows that students with self-employed parents have stronger intention to be entrepreneurs after their graudation (11.07%) compared to students without self-employed parents (6.12%).

Figure 16 shows career choice intentions by family background 5 years after graduation. The result shows the stronger relationship between students having self-employed parents and expressing entrepreneurial intention. The result shows that students with self-employed parents have stronger intention to be entrepreneurs after their graudation (19.26%) than ones without self-employed parents (13.78%). Moreover, the intention to succeed a family business is also stronger to those students with self-employed parents rather than the students without self-employed parents.

<Figure 15> Career choice intentions by family background



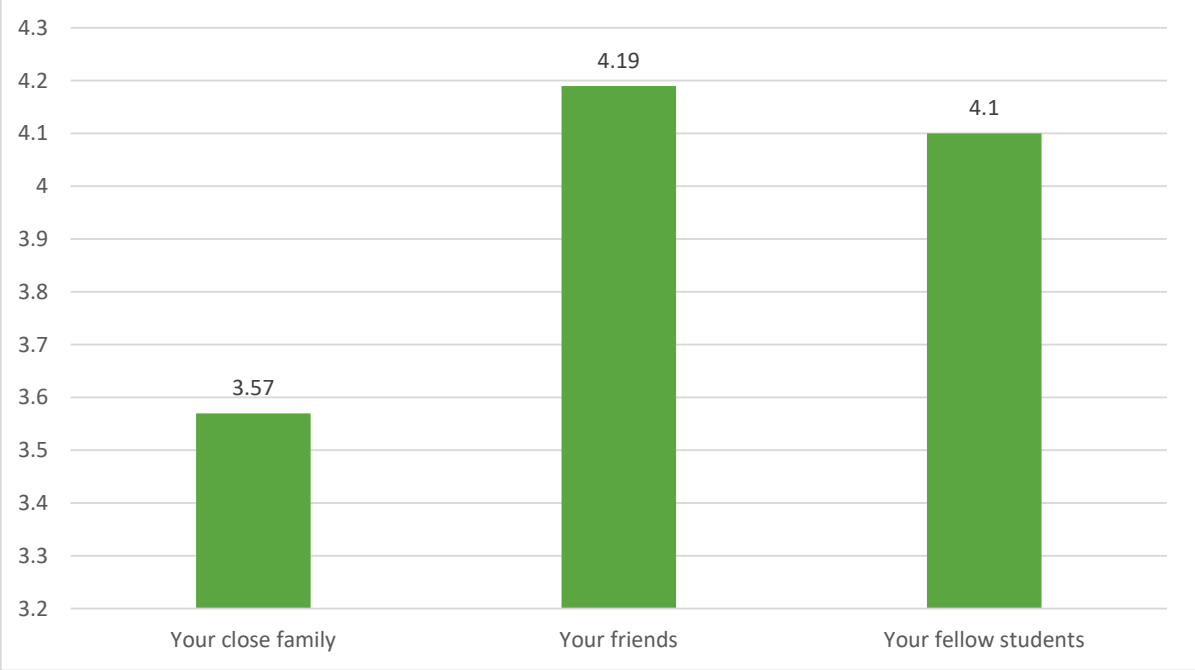
<Figure 16> Career choice intentions by family background 5 years after graduation



4.4 The social and cultural context

It is widely accepted that social and cultuarl context influences entrepreneurial decisions and behaviors including career choice and entrepreneurial intention. Students were asked how people within their environment (close family, friends, and fellow students) would react if they were told that a student decided to pursue entrepreneurial career. This study used the scale from 1 (very negatively) to 7 (very positively). While students perceived relatively positive reaction from their friends (4.19) and fellow studetns (4.1), they expected that their family would not support their decision to become entrepreneurs (3.57).

<Figure 17> Subjective norms (expected reaction)



1 (very negative) ~ 7 (very positive)

We further examined how students perceive the cultural environment in their society. This is an important question since the previous studies show that perceived cultural factor such as power distance, centralism and others may affect entrepreneurial activities. Compared with western countries, our study shows that obeying leaders without question is more valued (4.27) and power concentration at the top is still high (5.44).

<Table 6> General perception toward Korean Society

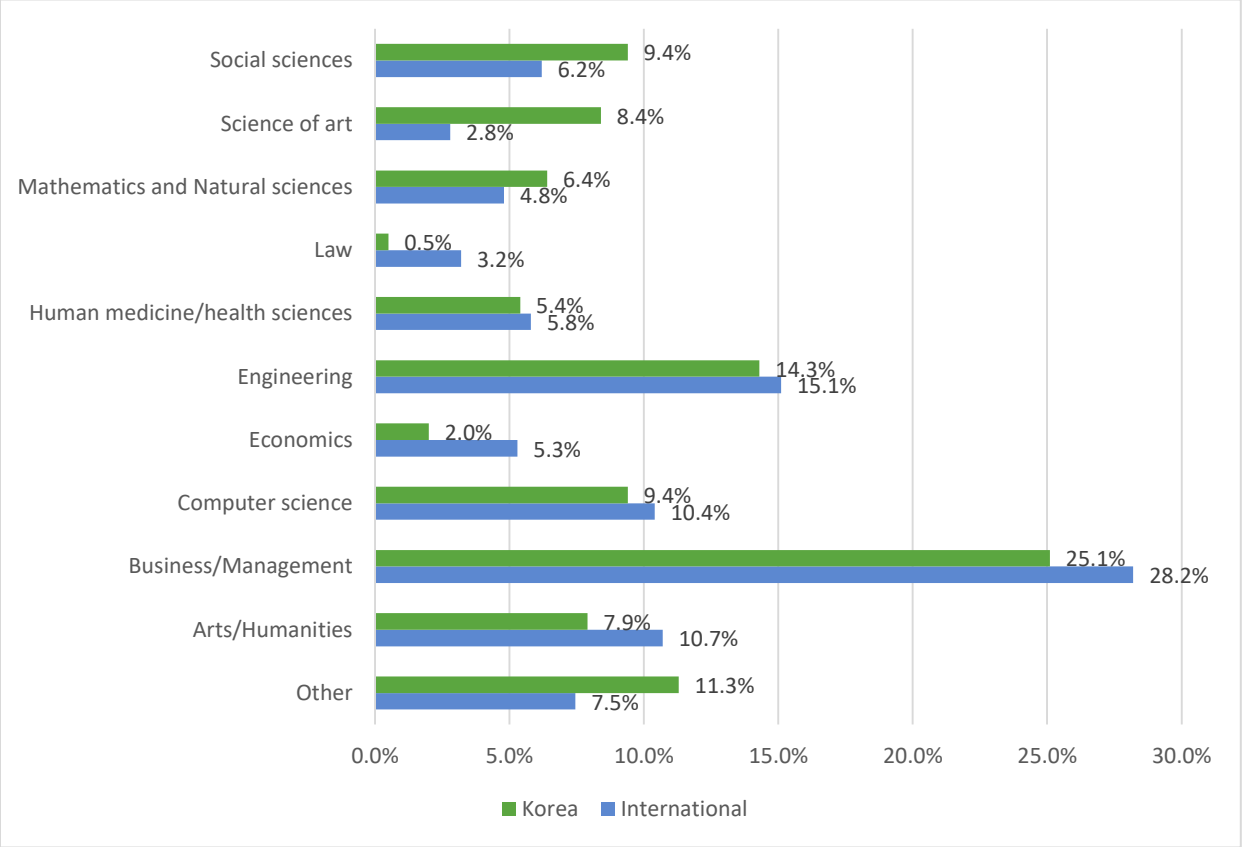
item	N	Mean	SD
In my society, followers are expected to: 1 (Question leaders when in disagreement) ~ 7(Obey leaders without question)	830	4.27	1.63
In my society, power is: 1 (Shared throughout society) ~ 7 (Concentrated at the top)	830	5.44	1.40

V. Nascent Entrepreneurs

5.1 Personal Characteristics

Nacent entrepreneurs are defined as those who engage in creating their new businesses. Our study identified 24.5% (204 out of 832 students) of our sample as nascent entrepreneurs. When we looked at their study fields for Korean nationality students, the student group majoring in business/management has the highest portion (25.1%), followed by the group with engineering major (14.3%). This pattern was not different from the international student group. The detailed portion of the study fields of nascent entreprenerus is depicted in Figure 18.

<Figure 18> Study fields of nascent entrepreneurs



We also examined the study field of nascent entrepreneurs by gender. Similar with the previous findings, male students were more engaged in nascent entrepreneurial activities than female students, especially in the fields of engineering and business/management. However, we identified a few exceptions in social science, arts/humanities, economics, human medicne/health science, science of arts and other majors. The detail is shown in Figure 19 at below.

<Figure 19> Study Fields of Nascent Entrepreneurs by Gender

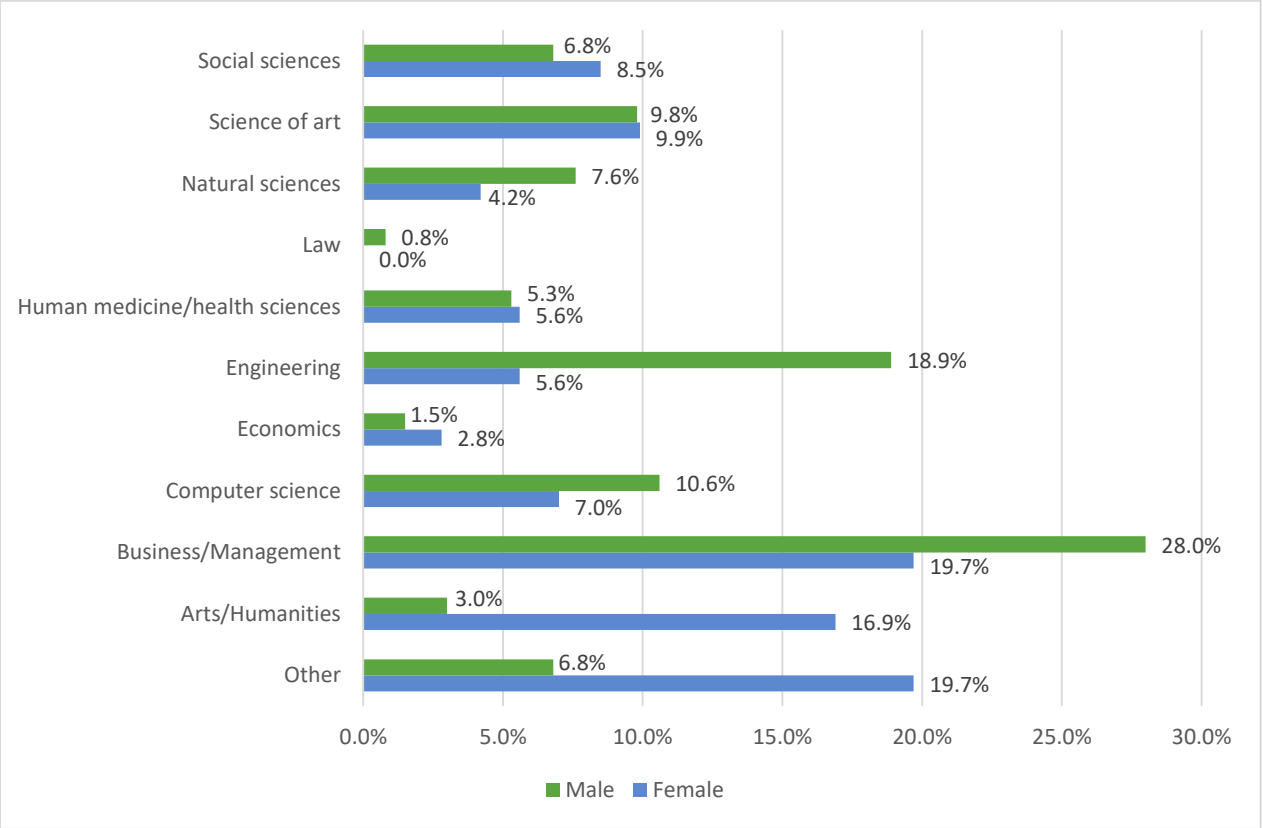


Figure 20 shows what kind of activities has been conducted by nascent entrepreneurs to start their venture. We examined their progress in the entrepreneurship process with 11 activities. Only 1.5% of the nascent entrepreneurs have registered the business, while the majority of nascent entrepreneurs is an early stage of the entrepreneurship process such as identifying entrepreneurial opportunity (21.6%), conducting market research (15.7%), writing a business plan (13.7%) and developing a prototype (9.3%). In addition, 17.6% of nascent entrepreneurs reported that they had not done anything yet to start a business.

<Figure 20> Gestation activities conducted by nascent entrepreneurs

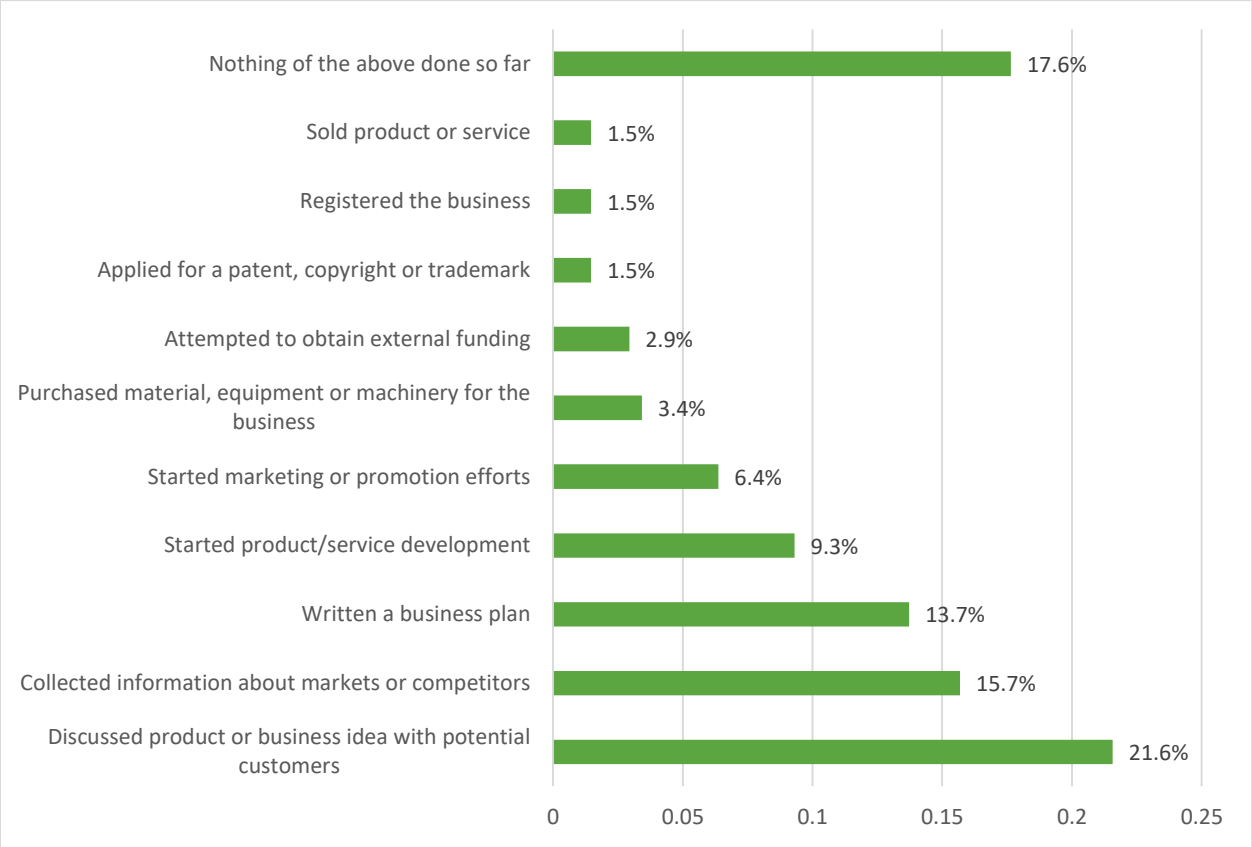
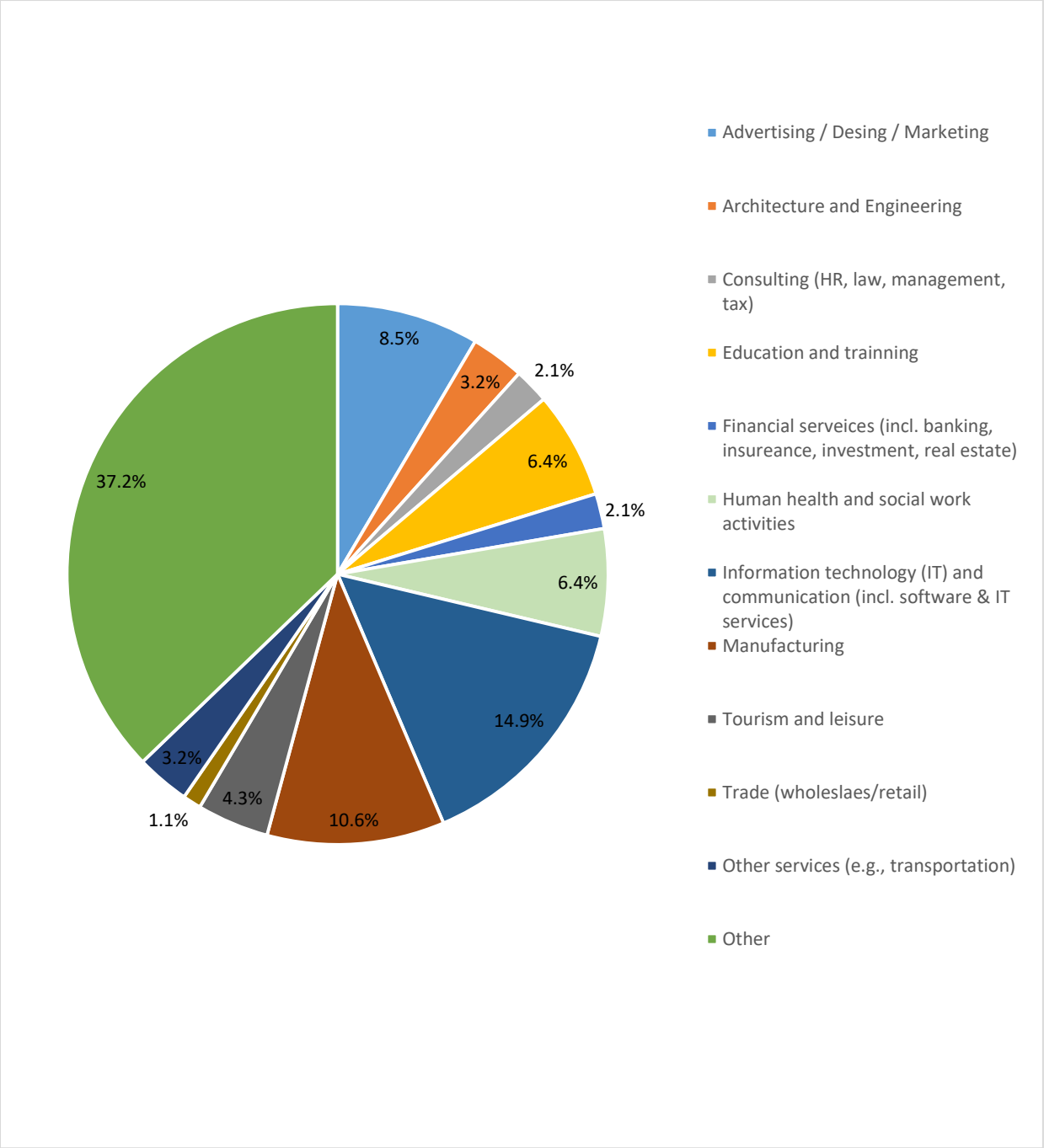


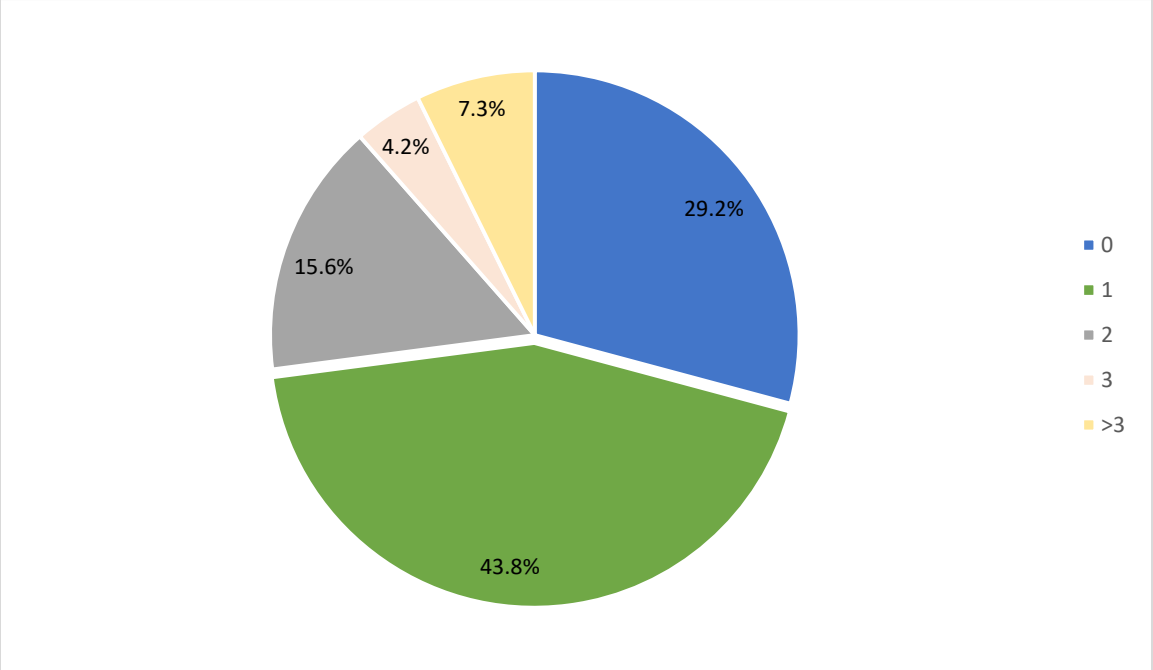
Figure 21 shows industry sectors that nascent entrepreneurs expected to participate in. The most popular industry was information and technology (14.9%), followed by trade sector (10.6%), Advertising/Design/Marketing (8.5%), Human Health and Social work activities (6.4%), Education and training (6.4%), and so on.

<Figure 21> Industry sectors of planned firms



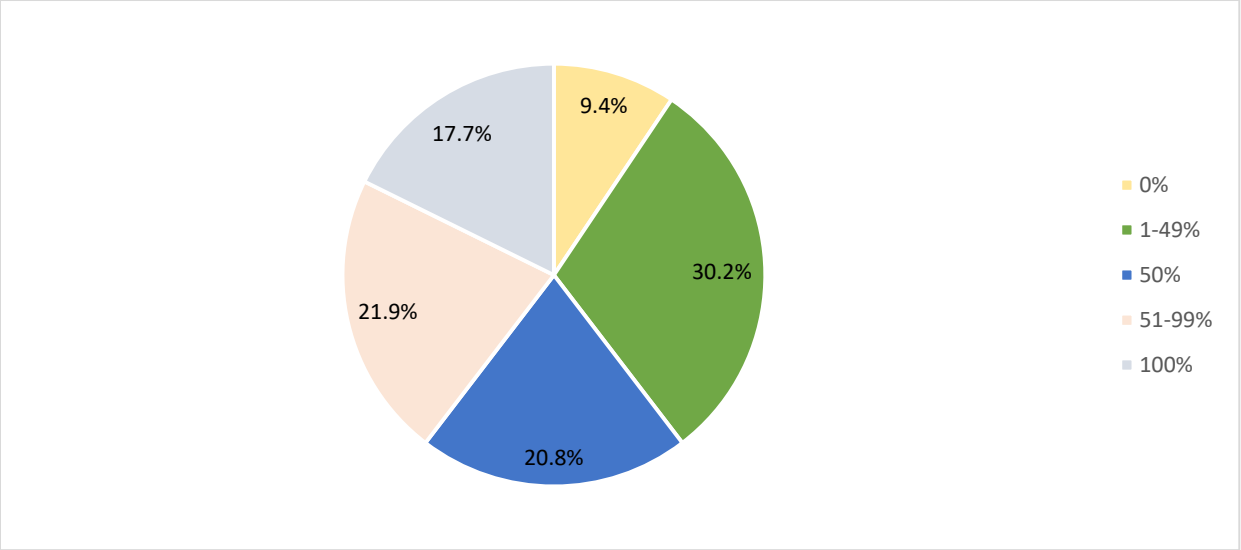
Nascent entrepreneurs in this study reported that they are planning to have a single-man entrepreneur team (29.2%), two-people entrepreneurial team (43.8%), three-people entrepreneurial team (15.6%), and more than four people entrepreneurial team (11.5%).

<Figure 22> Number of co-founders



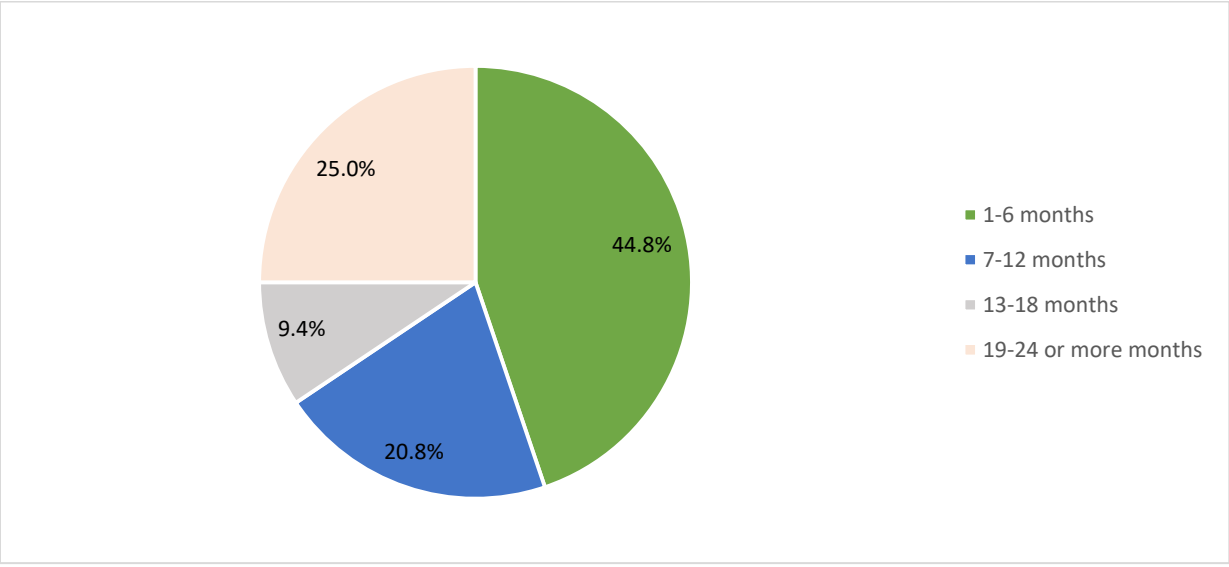
In terms of equity share owned by nascent entrepreneurs, 30.2% of the nascent entrepreneurs reported that they will have 1-49% of the firm's equity, while about 42% of them want to have 50-99% of the firm's equity. Moreover, around 20% of the nascent entrepreneurs would like to have 100% equity. The detailed is shown in Figure 23.

<Figure 23> Nascent entrepreneurs' equity share in the planned firms



When we asked the nascent entrepreneurs how many months they spent to plan for starting their businesses, 44.8% of respondents said the length is between 1 and 6 months, while 20.8%, 9.4% and 25% between 7 and 12 months, 13 and 18 months, and more than 19 months, respectively.

<Figure 24> Length of time to plan nascent entrepreneurs' businesses

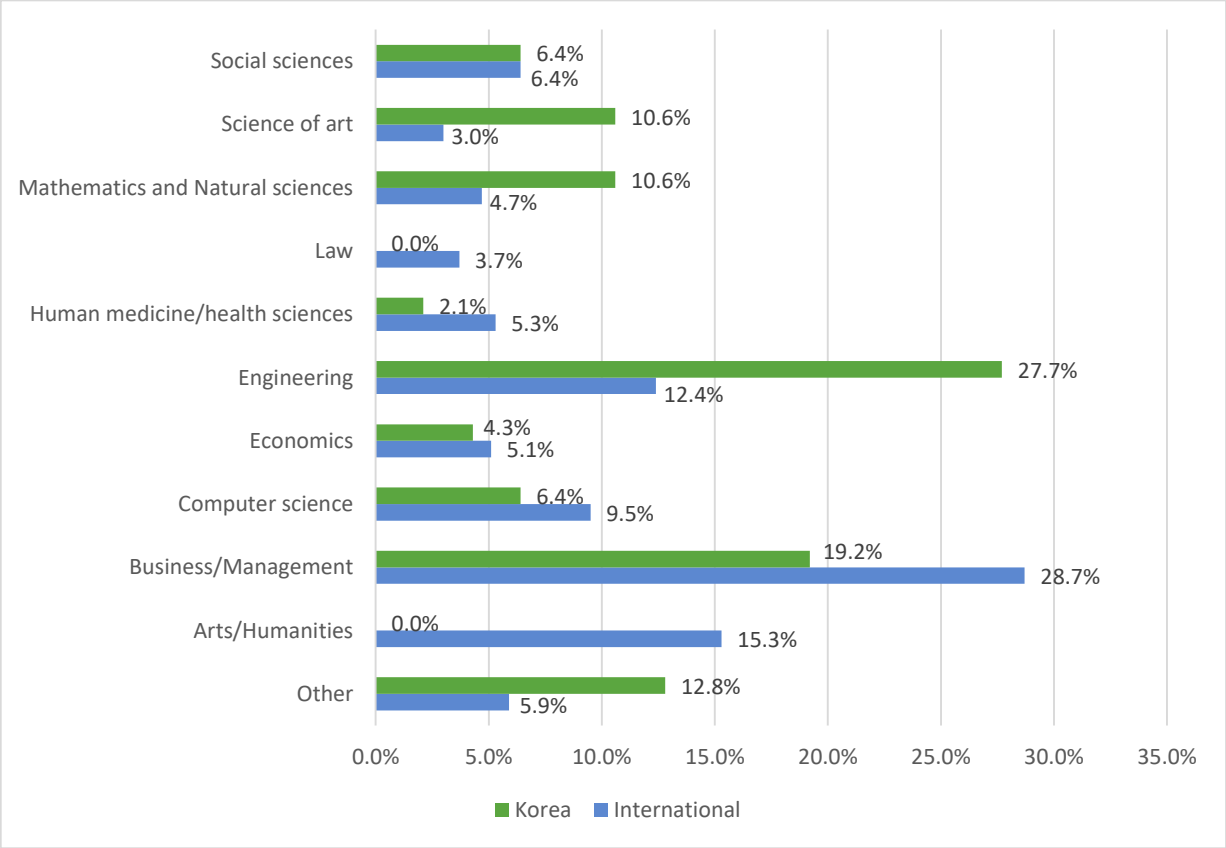


VI. Active Entrepreneurs

6.1 General Overview

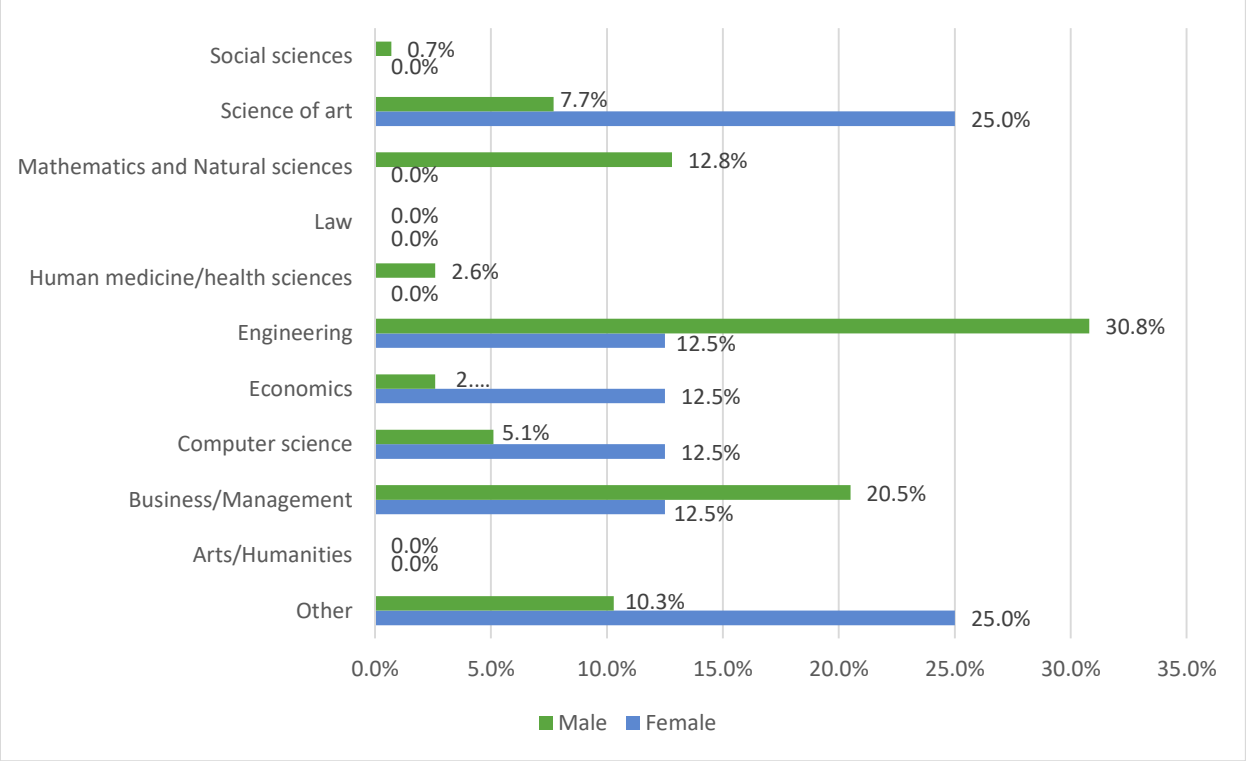
In addition to the analysis of nascent entrepreneurs, this study also explored active entrepreneurs. First, figure 25 shows the share of active entrepreneurs across study fields. Similar to the result of nascent entrepreneurs, most of the active entrepreneurs' activities among Korean nationality students were from engineering (27.7%) and business/management (19.2%). At the same time, international students group also showed a similar result: engineering (12.4%) and business/management (28.7%).

<Figure 25> Share of active entrepreneurs across study fields



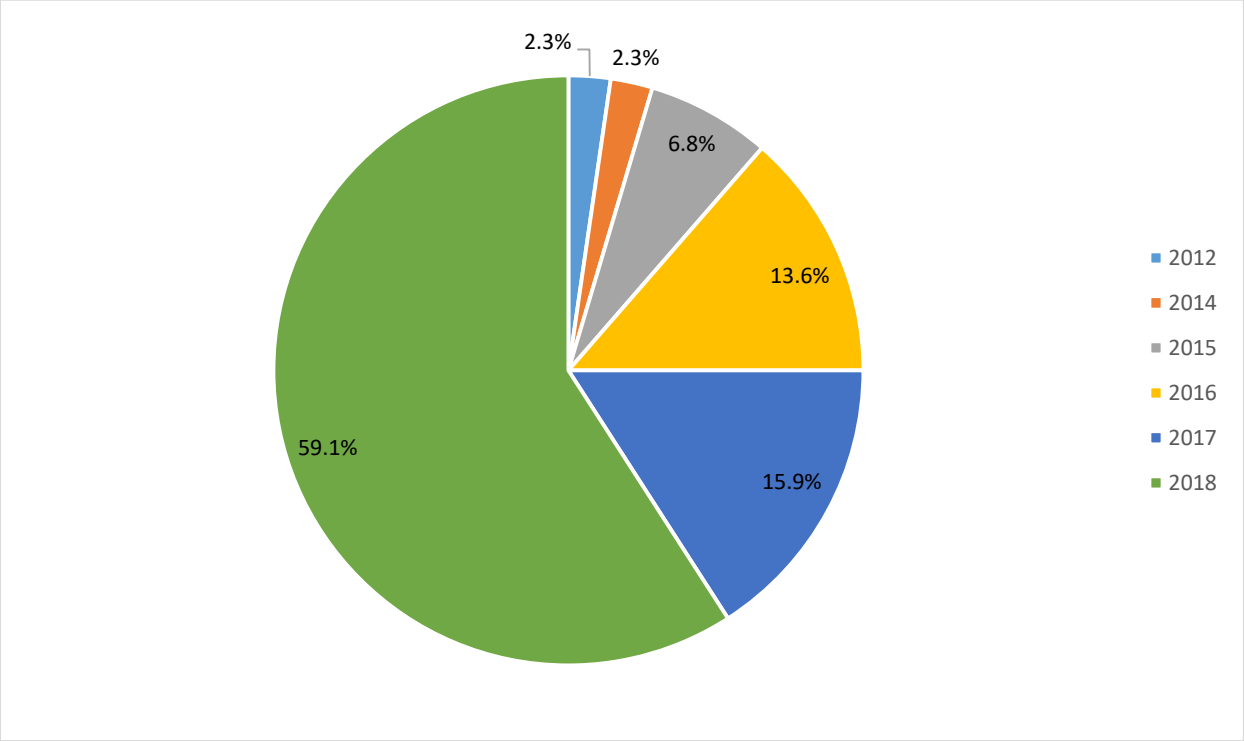
In terms of gender, male students from engineering and business/management were largely engaged in active entrepreneurial activities. However, more active female students were from the science of art, economics, computer science and other majors.

<Figure 26> Share of active entrepreneurs across gender and study fields



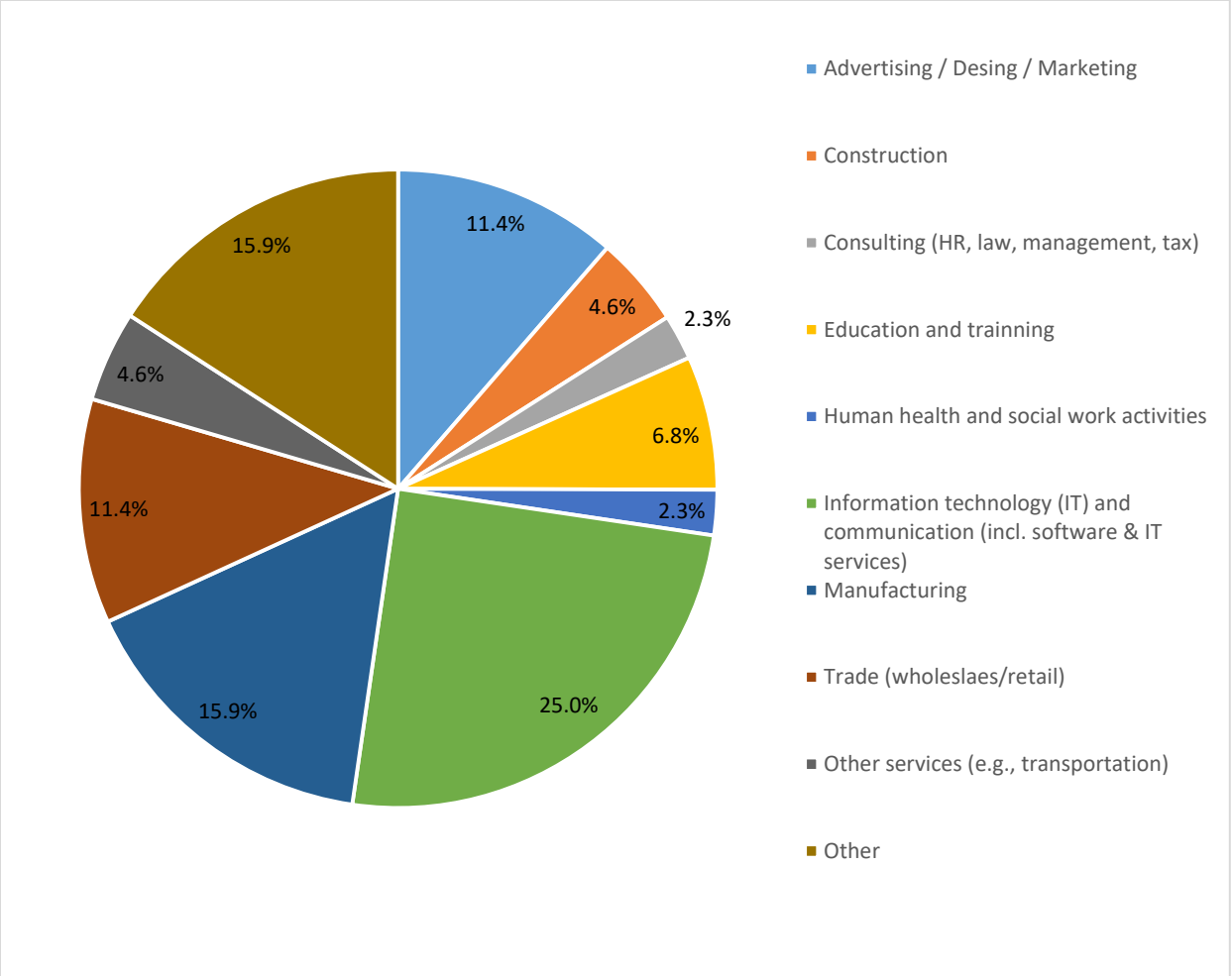
The active entrepreneurs reported the founding year of their firms. Nearly 60% of the firms were estblished in 2018, while about 16% of them have been operating beween 1 and 2 years and about 14% of them between 2 and 3 years. Little more than 10% of the firms were older than 3 years.

<Figure 27> Founding year of the existing firms



When we looked at industry sectors of firms operated by active entrepreneurs, the most popular industry was information and technology (25%), manufacturing (15.9%), advertising/design/ marketing (11.4%) and trade industry (11.4%).

<Figure 28> Industry sectors of existing firms



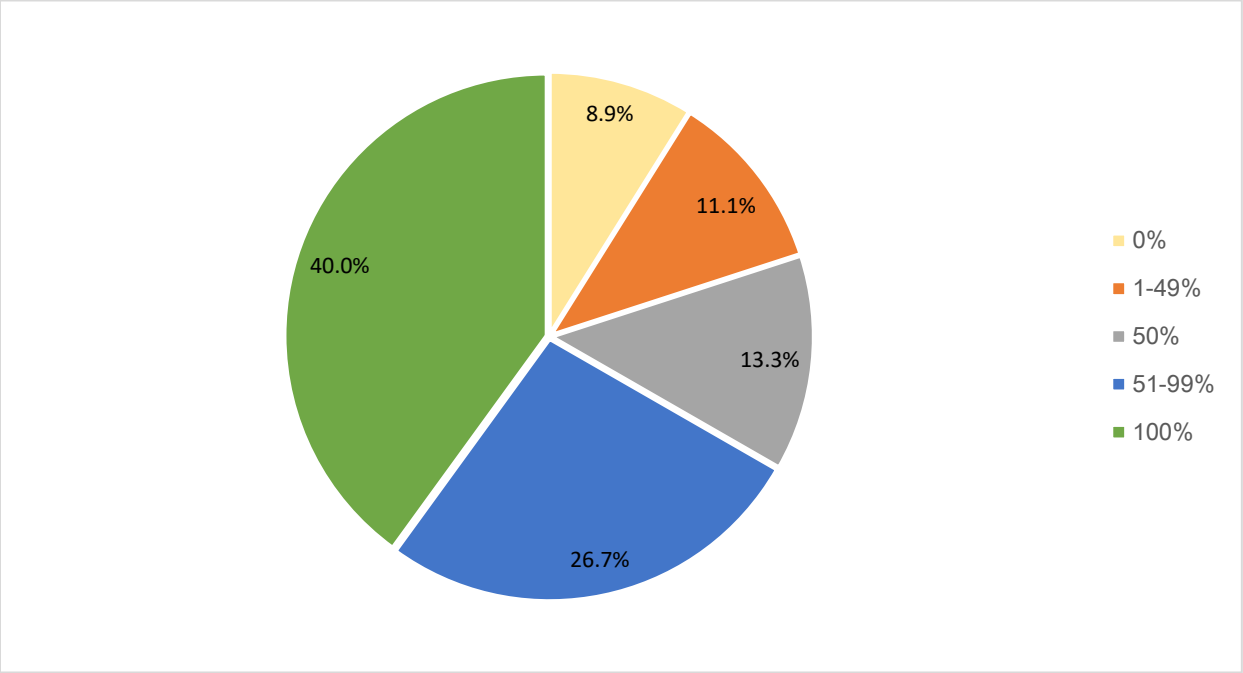
The number of employees of these firms excluding a founder or a founding team is shown at Table 7. 24.4 percent of firms had 3 employees, 22 percent were single employee firms while 19.5 percent of firms do not have any employee at all. Only 7.3 percent of firms had more than 6 employees.

<Table 7> The number of employees in the existing firms

The number of employees	N	%
0	8	19.5
1	9	22.0
2	7	17.1
3	10	24.4
4	2	4.9
5	2	4.9
6	3	7.3

The percentage of active entrepreneurs with thier equity between 51-99% amounted for 26.7%, and 40% of them owned 100% equity. Less than 35% of them reported that they owned less than 50% of the equity of their firm.

<Figure 29> Equity share of active entrepreneurs



6.2 Perosnal Characteristics

Our study examined active entrepreneurs' subjective vitality with the 6 questions. The result is shown in Figure 30. Interestingly, international students had higher subjective vitality compared to Korean students: I feel alive and vital (5.73 vs. 5.33), I have energy and spirit (5.69 vs. 5.48), I nealry always feel awake and alert (5.38 vs. 5.11), and I feel energized (5.48 vs. 5.22). This result implicitly shows the perceived stress level of Korean active entrepreneurs. However, this study was not able to track down the source of these discrepancies in the subjective vitality.

<Figure 30> Active entrepreneurs' subjective vitality

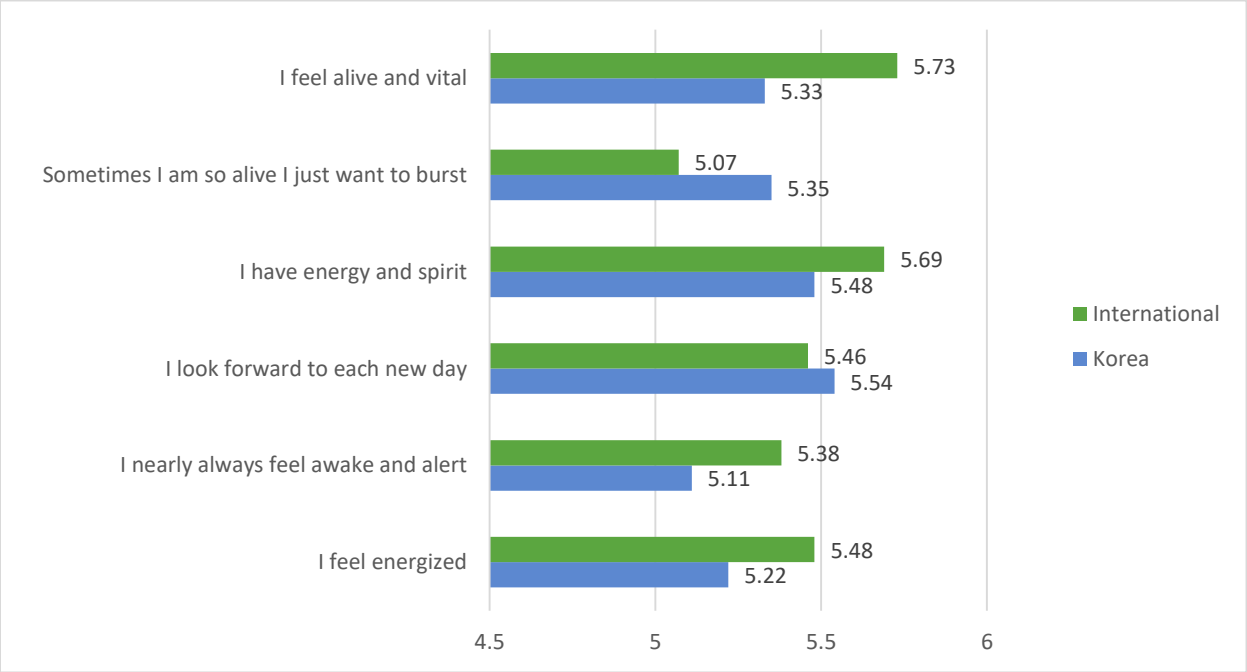
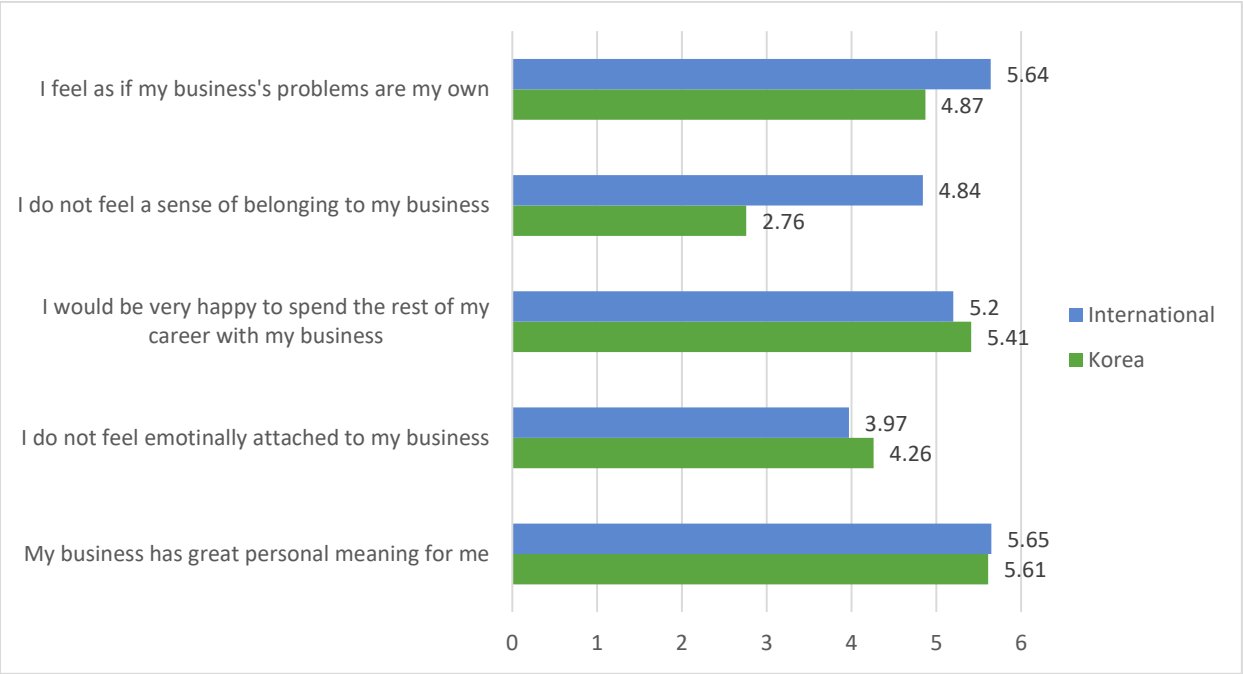


Figure 31 shows active entrepreneurs' affective commitment towards their firms. We examined it with the five questions. Although there was no significant difference between international and Korean active entrepreneurs for the four questions, the item 'I do not feel a sense of belonging to my business' showed a great level of difference (international: 4.84 vs. Korean: 2.76). This is an interesting point in that previous studies shows there is a general tendency of entrepreneurs to feel they belong to their firms.

<Figure 31> Active entrepreneurs' affective commitment



We also examined the cultural factor in active entrepreneurs' firms. Although our sample said Korean society has stonger power distance, these active entrepreneurs reported that they were trying to lower the power distance in their firms.

<Table 8> Active entrepreneurs' power distance

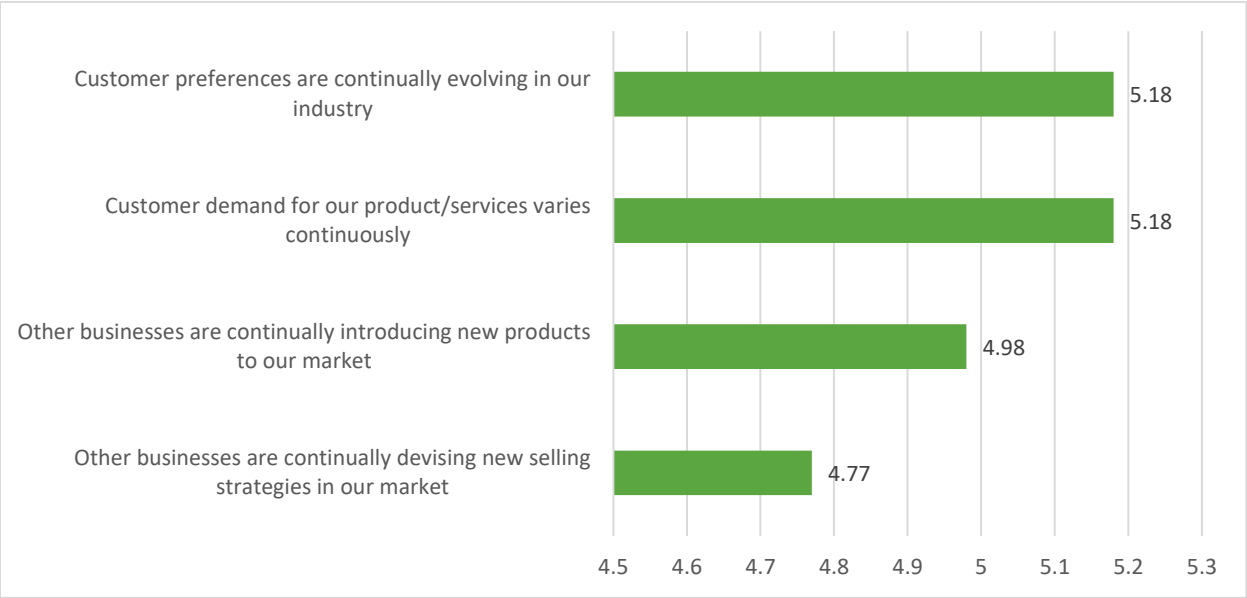
item	N	Mean	SD
In my business, employees are expected to: 1 (Question leaders when in disagreement) ~ 7(Obey leaders without question)	46	2.83	1.58
In my business, power is: 1 (Shared throughout the business) ~ 7 (Concentrated at the top)	46	3.57	1.87

Figure 32 shows the detailed result of active entrepreneurs' general attitude. The result consistently shows that active entrepreneurs have a higher level of self-esteem in overall.

<Figure 32> Active entrepreneurs' general attitude (self-esteem)

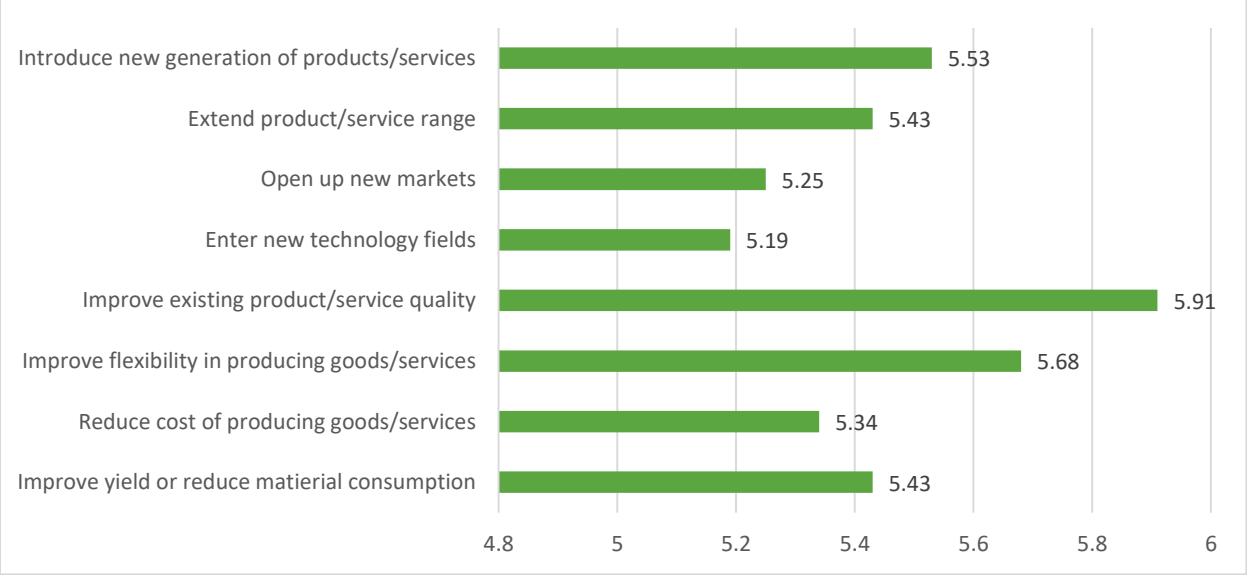
Four questions were asked to find the current status of firms owned by active entrepreneurs. The result is shown at figure 33. All the questions were asked by 7 point Likert scale where 1 means 'strongly disagree' while 7 means 'strongly agree'. The average scores for each question are as follow: 'customer preferences are continually evolving in our industry' (5.18), 'customer demand for our product/services varies continuously' (5.18), 'other businesses are continually introducing new products to our market' (4.98), and 'other businesses are continually devising new selling strategies in our market' (4.77).

<Figure 33> Current status of firm (environmental dynamism)



We examined important starting points of an innovative project ~~is~~ with the 7-points Likert scale. Exploration means a radical innovation which needs new means and solutions, whereas exploitation means an incremental innovation that utilizes the existing means and/or solutions. Active entrepreneurs reported they put higher importance on the exploitation by responding that they 'improve existing products/service quality' (5.91), and 'improve flexibility in producing goods/services' (5.68).

<Figure 34> Important starting points of innovative project (exploration/exploitation)



1(not important at all) ~ 7(very important)

VII. Summary and Conclusion

Continued from 2017, the GUESSS survey was conducted in Korea with 832 students from 18 universities. Compared to the sameple of 2017 Korea GUESSS survey, the sample size of 2018 Korea GUESSS survey was decreased from 2,603 to 832 participants and from 57 to 18 universities.

Comparing with 2017 Korea GUESSS survey, there are a few interesting findings. First, engaging in entrepreneurship has been less popular as a career path when asked 5 years after graduation (22.9% -> 15.38%) while similar portions of students were interested in entrepreneurship as a career path right after graduation in both 2017 and 2018 (7.4%-> 7.57%). Second, when we looked at indicators of entrepreneurial intention more specifically, all six statements shows a lower score compared to 2017; 1. I am ready to do anything to be an entrepreneur (3.69 → 2.68), 3. I will make every effort to start and run my own firm (4.03 → 3.33), 4. I am determined to create a firm in the future (3.87 → 2.68), 5. I have very seriously thought of starting a firm (3.88 → 2.65), 6. I have the strong intention to start a firm someday (4.18 → 2.72).

We believe these changes are caused by the following reasons. First, in terms of demographics, there are younger studetns in 2018 sample (56.1% of the sample in 2017 belongs to an age group up to 24 years old & 88.37% in 2018), more female students (35.6% in 2017 & 54.09% in 2018), and undergraduate students (96.9% in 2017 & 89.79%). Several previous studies showed that entrepreneurial intentions are negatively associated with young age, female, and the investment in their human capital. Thus, lower entrepreneurial intention in 2018 compared to the one in 2017 is not surprising. Second, in terms of the attendance in entrepreneurship classes at university, 58% of the respondents in 2018 have not taken any entrepreneurship class while only 35.5% of the respondents in 2017 have not. This implies the importance of entrepreneurship classes for increasing entrepreneurial intentions of students.

As many students received entrepreneurship education, the portion of nascent entrepreneur is increasing – a total of 204 students were classified as such. Among them, about 40 percent of nascent entrepreneurs were majoring in Business/management and engineering. The interesting thing is that 70.8 percent of nascent entrepreneurs have tried to start their business with more than one co-founder, while 55.56 percent of active entrepreneurs have. It is mostly believed that there are pros and cons of starting business with co-founders. Therefore, in addition to entrepreneurship education, most nascent entrepreneurs need to get a proper education about the criteria for choosing which co-founder they should pick.

At last, when we compared the result of Korean sample with other 53 countries in the GUESSS 2018 study, the entrepreneurial intention of Korean students 5 years after graduation was the

second from the bottom where Japan showed the lowest score (Peru No.1: 66.9 after 5 years of graduation, U.S.A.: 26.1, China: 17.3, Korea, 15.4, & Japan: 12.0).

Enterpreneurship is known as an important vehicle to lead economic growth of a society. Since entrepreneurial intention is the first step for young generation to engage in the entrepreneurial process, the survey result from the 2018 Korea GUESSS study would suggest gloomy outlook for the Korean economy. However, fostering entrepreneurship is a long process and requires diverse stakeholders such as government, academia, media, and so on. One of good news we identified from our study is that self-efficacy of nascent and active entrepreneurs and entrepreneruial education environment are not as bad as entreprenerial intentions comparing with other countries. However, clearly, more supports from different stakeholders can enhance the entrepreneurial intentions of the student group in Korea.

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