

Global University Entrepreneurial Spirit Student's Survey: Report for Korea 2016

Entrepreneurial Intentions and Behavior of Students attending Korean Universities



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Introduction

1.1 Background of the study

General 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 starts from 2003 at the Swiss Research Institute of Small Business and Entrepreneurship at the University of St.Gallen.

This report is the first report of Korea and the objectives of this report are as follows.

- Observation of students'entrepreneurial intention and activities in a structural and longitudinal ways.
- Recognize events and conditions which affect the start of new ventures and entrepreneurs
- Examine and evaluate the supporting activities of universities

1.2 Theoretical framework

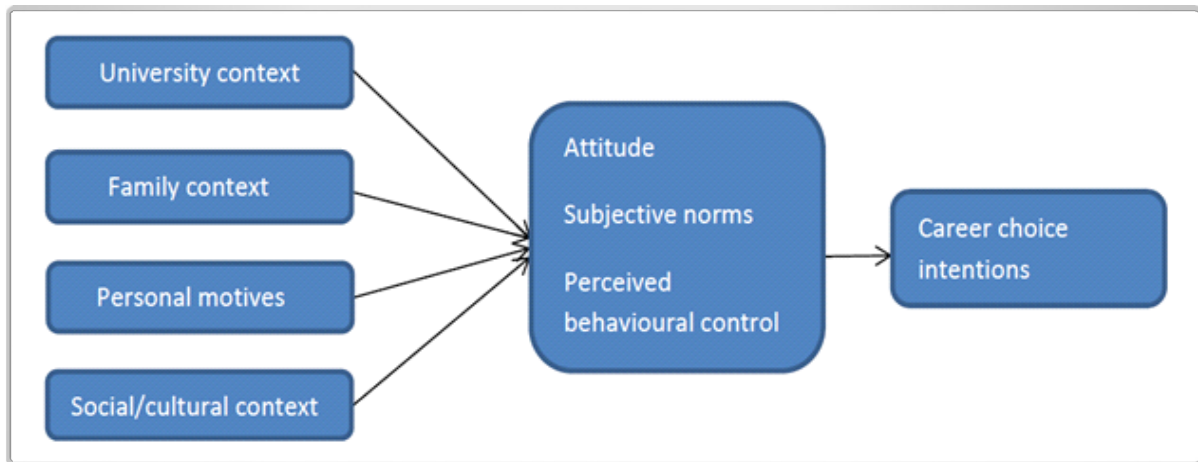
The theoretical foundation of GUESS is the Theory of Planned Behavior¹⁾

1) Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211

(TPB). TBP is the theory which asserts that the intention of a specific behavior is affected by three main factors: attitude toward the behavior, subjective norms, and perceived behavioral control.

In this report, we examine the impacts of those three factors on the job selection.

〈Figure 1〉 Theory of Planned Behavior Model



1.3 Project organization and data collection procedure

GUESS project is coordinated by KMU–HSG (The swiss Research Institute of Small Business and Entrepreneurship at the University of St.Gallen) and Professor Philipp Sieger directs the international report.

There is one representative per country and online survey is sent to the representative from KMU–HSG. For Korea, Korea Entrepreneurship Foundation (KoEF) is the representative and the survey form was distributed to 57 universities participating in ‘Leaders in INdustry–university Cooperation’ (LINC) program by Korean government.

Participants and Sample

2.1 Universities and response rate

The survey was executed in June–July 2016 and 2,603 subjects in 57 universities participating in LINC program responded to the survey. The distribution of respondents is as below in <Table 1>.

<Table 1> The Korean Sample

University	N	%
Catholic University	32	1.3
GangneungWonju National University	161	6.4
Kangwon National University	111	4.4
Konyang University	44	1.7
Kyunghnam University	139	5.5
Kyungpook National University	47	1.9
Gyeongsang National University	32	1.3
Kyungwoon University	41	1.6
Kyungil University	19	0.8
Keimyung University	129	5.1
Gwangju University	8	0.3
Kookmin University	12	0.5
Kunsan National University	4	0.2
Kumoh National Institute of Technology	16	0.6

University	N	%
Daegu University	27	1.1
Dongguk University	29	1.1
Tongmyong University	17	0.7
Dongseo University	70	2.8
Dongshin University	28	1.1
Mokpo National University	424	16.8
Pusan National University	20	0.8
Seoul National University of Science and Technology	25	1.0
Sunmoon University	85	3.4
Sungkyunkwan University	15	0.6
Ajou University	70	2.8
Yonsei University(wonju)	36	1.4
Yeungnam University	63	2.5
Youngsan University	9	0.4
Woosuk University	51	2.0
Ulsan University	16	0.6
Wonkwang University	12	0.5
Inje University	20	0.8
Jeonju University	41	1.6
Jeju National University	53	2.1
Chosun University	84	3.3
Joongbu University	42	1.7
Chungang University	28	1.1
Chonnam National University	29	1.1
Chonbuk National University	32	1.3
Korea University of Technology & Education	54	2.1
Korea Polytechnic University	81	3.2
Korea Maritime and Ocean University	48	1.9
Handong Global University	32	1.3
Hallym University	23	0.9
Hanbat National University	44	1.7

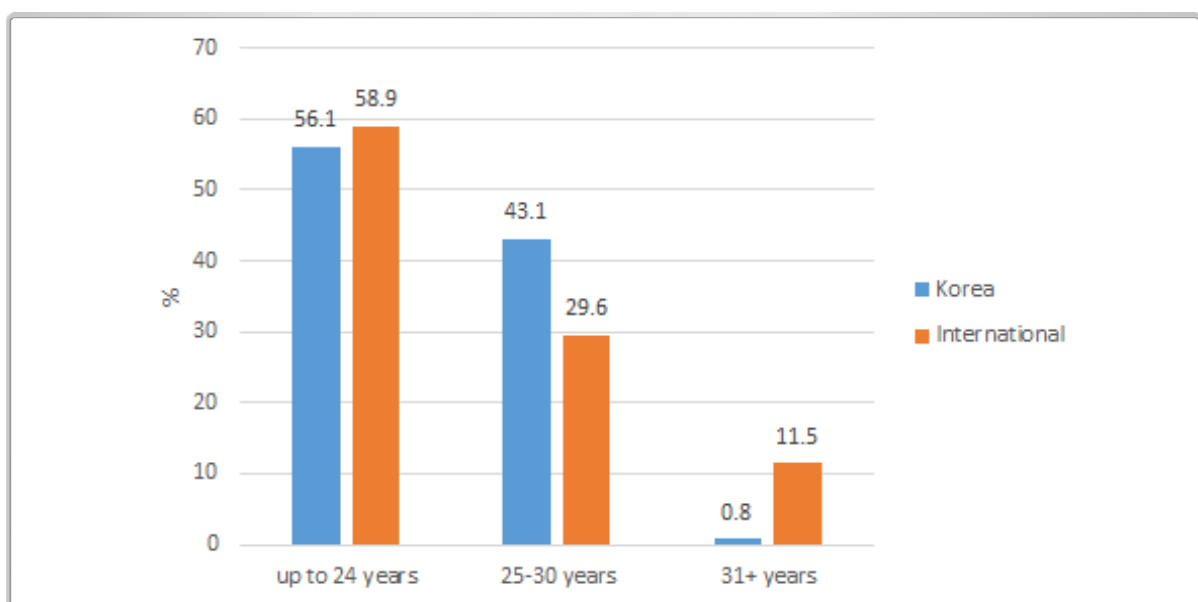
University	N	%
Hanyang University(SEOUL)	14	0.6
Hanyang University(ERICA)	36	1.4
Honam University	3	0.1
Hoseo University	54	2.1
Other	12	0.5
No answer	81	3.2
Total	2603	100.0

2.2 Student demographics

2.2.1 Age of respondents

The age profile of the Korean sample is as shown in Figure 2. Respondents were divided into three categories: up to 24 years, 25 – 30 years, and 31+ years. Majority of students (56.1%) can be found in the age category ‘up to 24 years’. The 43.1% are aged between 25 and 30 years old while only 0.8% of students are older than 31 years. Comparing with the international sample, the portion of the age category between 25 and 30 is very high.

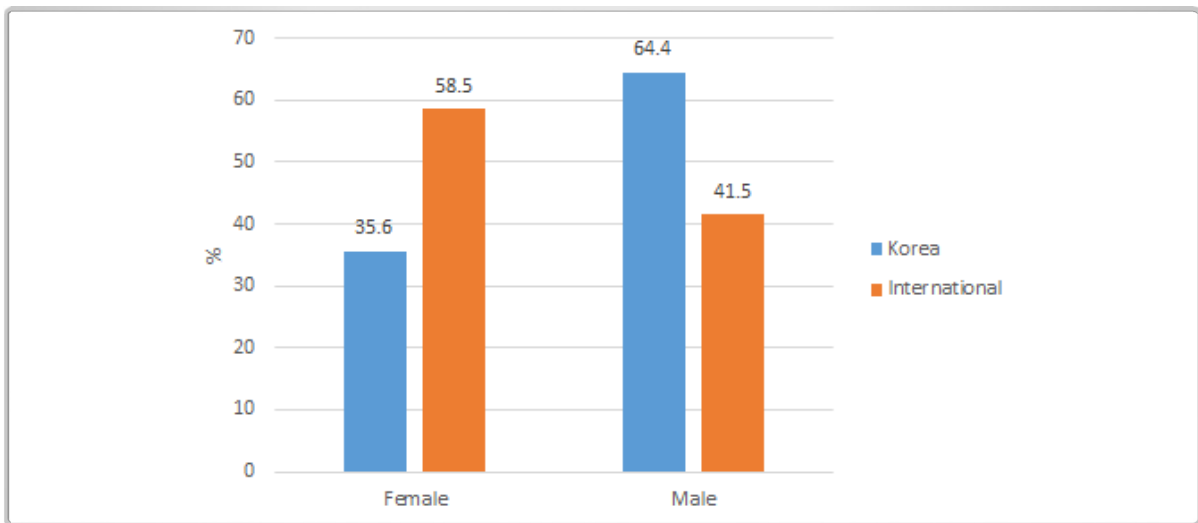
〈Figure 2〉 Age of respondents



2.2.2 Gender

More male than female students participated in the survey: 64.4% vs. 35.6% respectively. Compared to the international survey where more female than male students participated in, much more male students participated in the Korean survey.

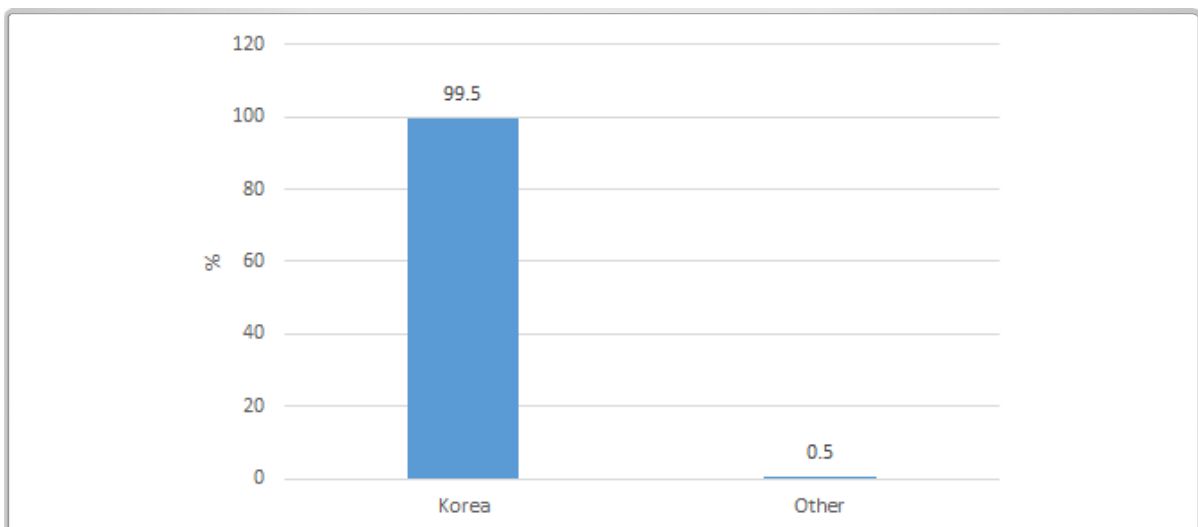
〈Figure 3〉 Respondents by gender



2.2.3 Nationality of respondents

Most (99.5%) of the subjects had Korea as a country of their nationality.

〈Figure 4〉 Nationality of respondents

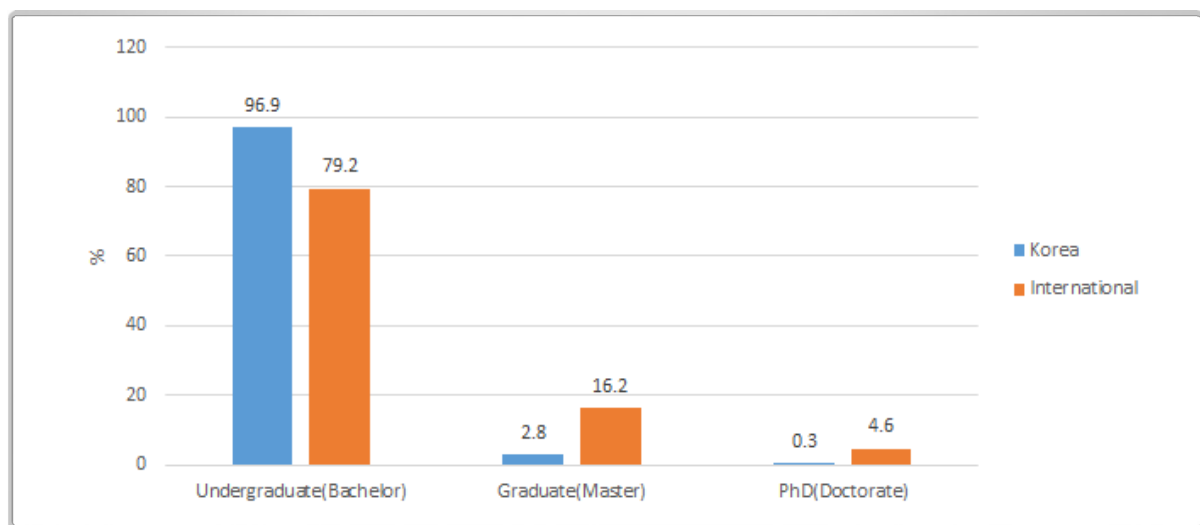


2.3 University studies

2.3.1 Current level of study

The majority of all students are undergraduate students (96.9%), with 3.1% graduate students which is lower than that in international sample (79.2% and 20.8% respectively).

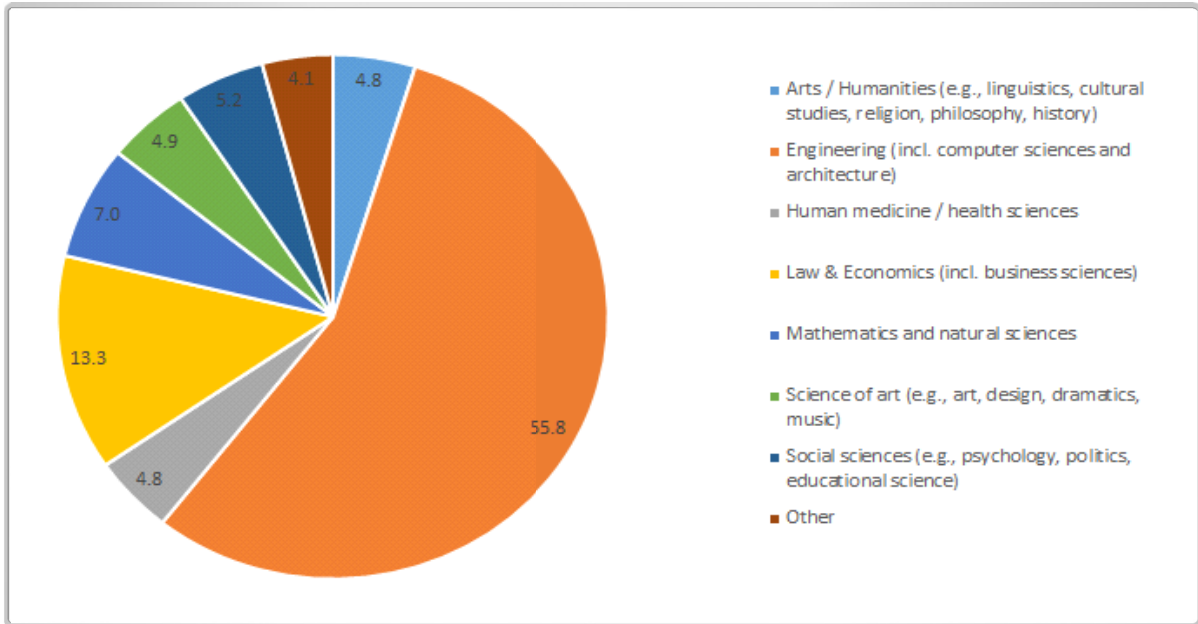
〈Figure 5〉 Current level of sample by sample



2.3.2 Study field

The field of study can be one of the key factors for entrepreneurial intentions. The portion of students studying engineering is 55.8% while Law / Management, Economics 13.3%, natural sciences 7.0%, other social sciences (psychology, politics, education) 5.2%, arts, science of art (art, design, music) 4.9%, medicine/pharmacy 4.8%, linguistics and cultural studies 4.8%, other 4.1% respectively. Compared to the international sample, the portion of engineering major is much higher than average (15.1% in 2013).

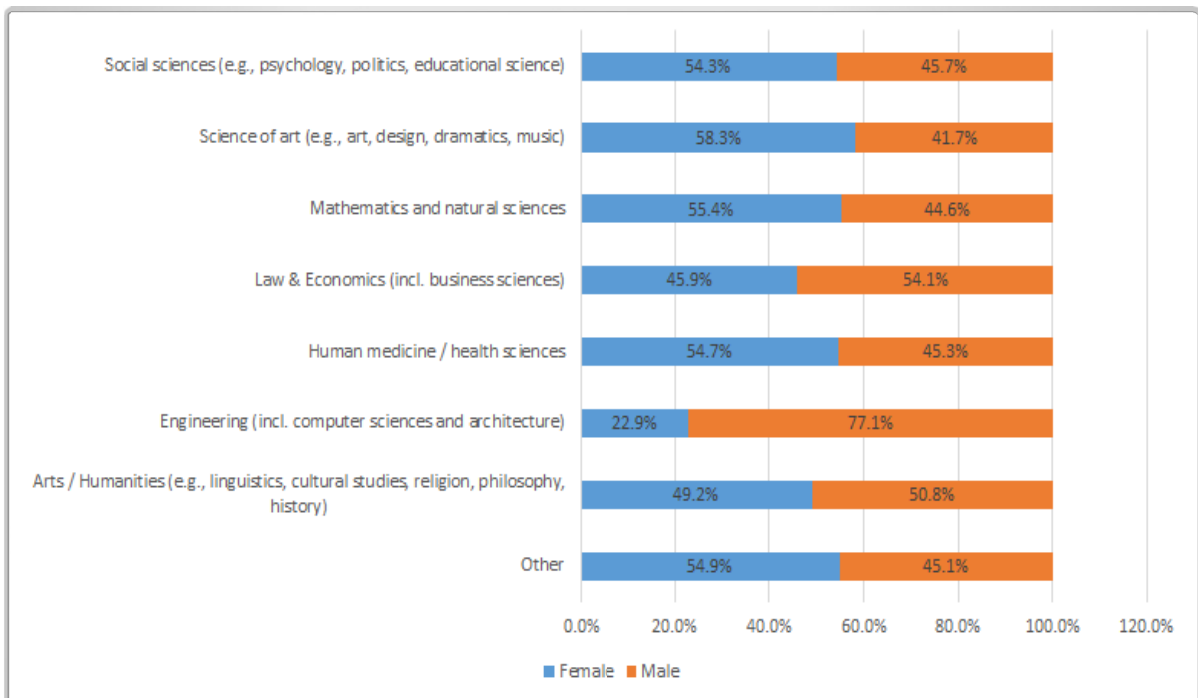
<Figure 6> Study field by sample



2.3.3 Study fields by gender

The portions of study fields by gender are very similar except the engineering field where the rate of female and male is 22.9% vs. 77.1%.

<Figure 7> Study fields by gender



Career Choice Intentions

3.1 General overview

The career choice intentions of students after graduation and after 5 years later are compared as in Table 2. While after graduation the portion of students who want to work in companies was 59.1% (small, medium and large-sized firms, 6.3%, 31.7% and 21.1% respectively), five years later the portion was reduced to 37.5%. Meanwhile, the portion of students who want to be a founder increased from 7.4% to 22.9% in five years.

〈Table 2〉 Career choice intentions right after studies and 5 years after studies

	Career path after studies	Career path 5 years later
An employee in a small firm (1–49 employees)	6.3%	1.7%
An employee in a medium-sized firm (50–249 employees)	31.7%	7.9%
An employee in a large firm (250 or more employees)	21.1%	27.9%
An employee in a non-profit organization	0.9%	2.4%
An employee in Academia (academic career path)	9.9%	5.6%
An employee in public service	14.3%	20.4%
A founder (entrepreneur) working in my own firm	7.4%	22.9%
A successor in my parents' / family's	0.8%	1.9%
A successor in a firm currently not controlled by my family	0.2%	0.8%
Other / do not know yet	7.5%	8.6%
Total	100.0%	100.0%

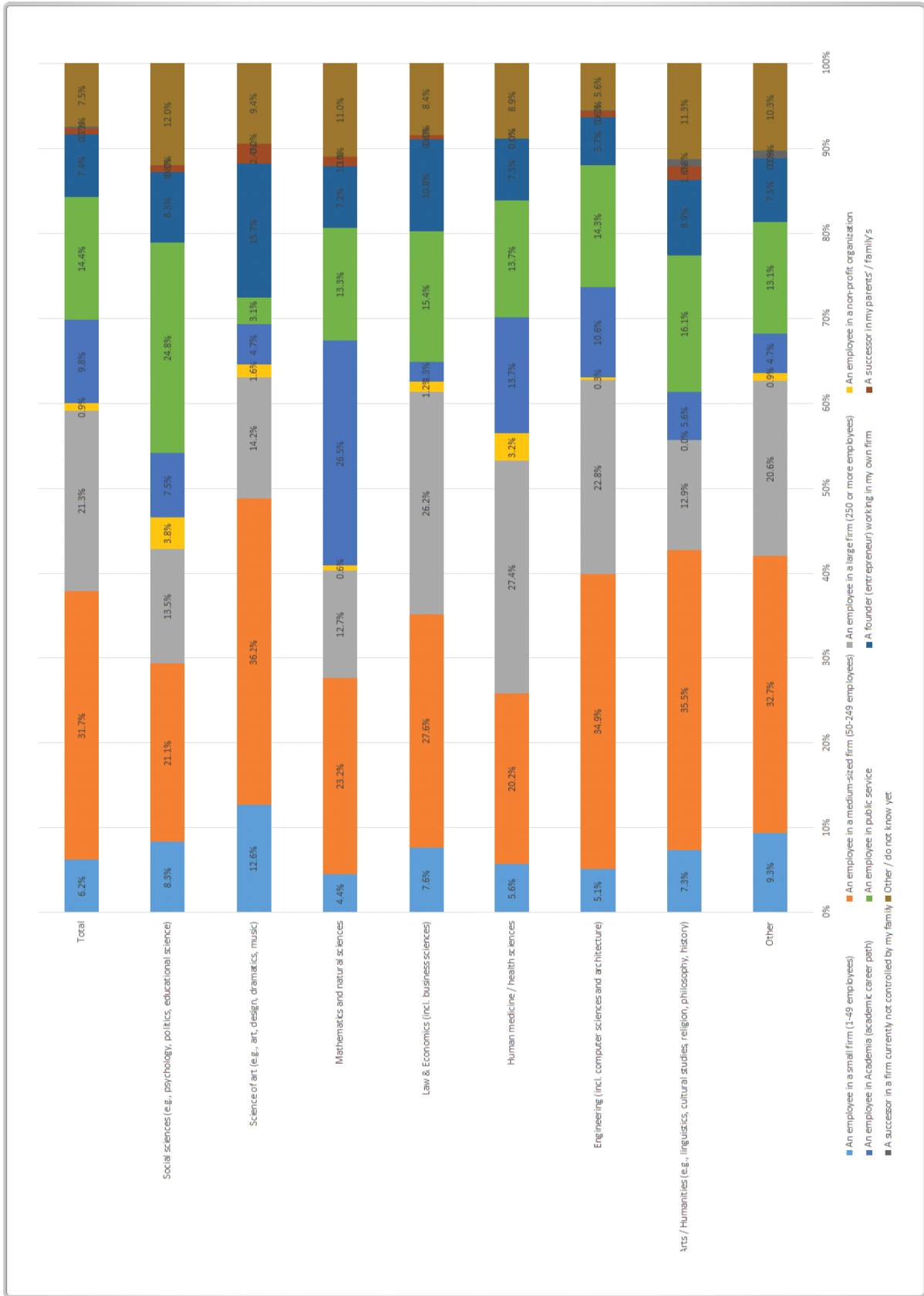
3.2 Career choice across fields of study

〈Figure 8〉 shows that after graduation, students majoring in engineering (computer engineering, architecture etc.) 88.0%, medicine/pharmacy/public health 83.9%, natural science (mathematics etc.) 80.7%, law/management (economics) 80.2%, social sciences (psychology, politics, education) 78.9%, humanity (linguistics, science of religion, philosophy, historical studies etc.) 77.4%, art and science of art (art, design, play, music) 72.4% respectively said that they want to work as employees. Meanwhile, the portions of students who want to be a entrepreneur are science of art (art, design, play, music) 15.7%, law/management(economics) 10.8%, humanities (linguistics, science of religion, philosophy, historical studies etc.) 8.9%, social sciences (psychology, politics, education) 8.3%, medicine/pharmacy/public health 7.3%, natural science (mathematics etc.) 7.2%, engineering (computer engineering, architecture etc.) 5.7%.

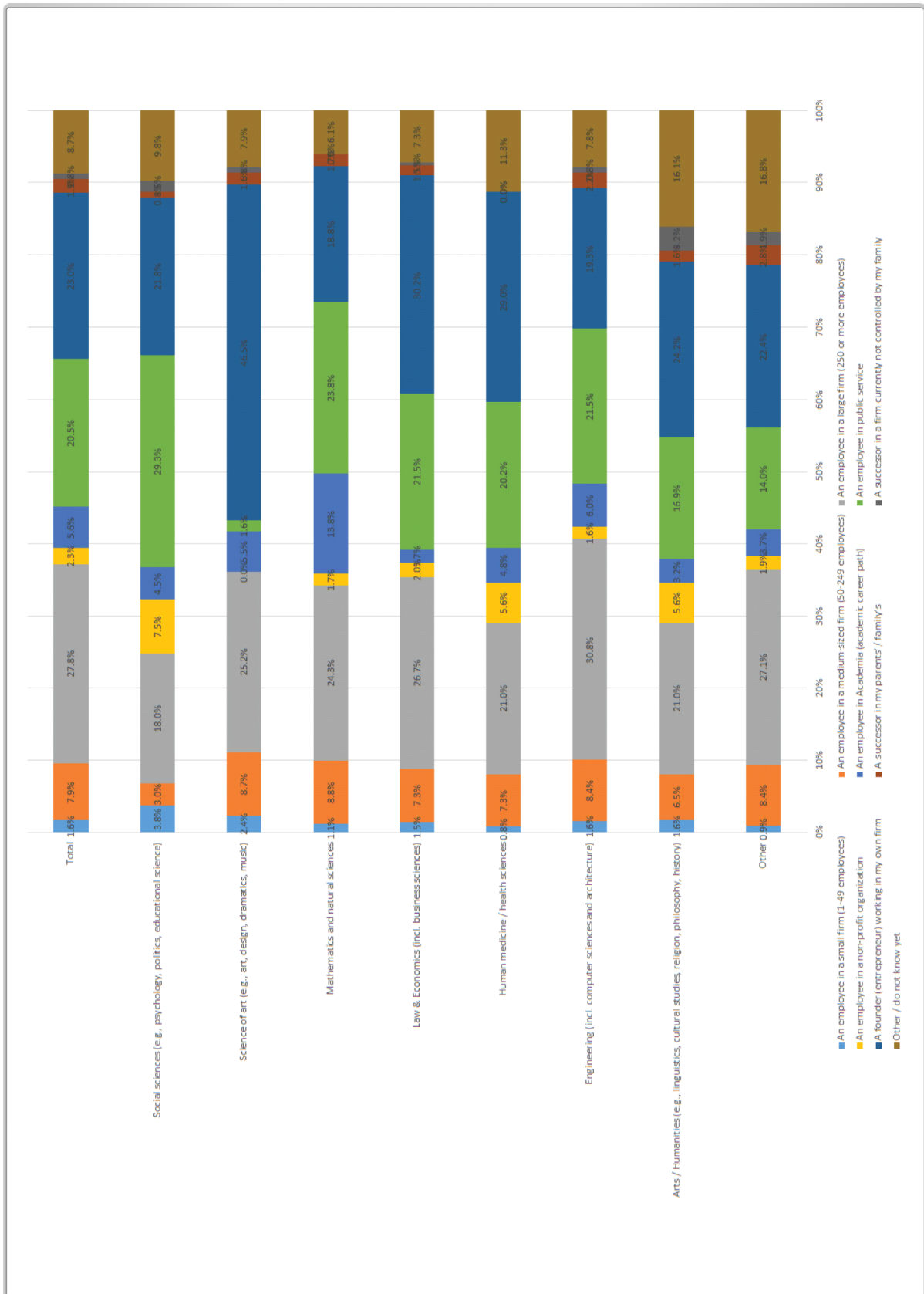
And 〈Figure 9〉 shows that 5 years after graduation the portions of students who want to be a employee are natural sciences (mathematics etc.) 73.5%, engineering (computer engineering, architecture etc.) 69.9%, social sciences (psychology, politics, education) 66.2%, medicine/pharmacy/public health 59.7%, humanities (linguistics, science of religion, philosophy, historical studies etc.) 54.8%, science of art (art, design, play, music) 43.3% respectively. Compared to those, the portions of students who want to do their own businesses are science of art (art, design, play, music) 46.5%, law/management (economics) 30.2%, medicine/pharmacy/public health 29.0%, humanities (linguistics, science of religion, philosophy, historical studies etc.) 24.2%, social sciences (psychology, politics, education) 21.8%, engineering (computer engineering, architecture etc.) 19.3%, natural sciences (mathematics etc.) 18.8%.

When the portions after graduation and 5 years after graduation are compared, the portions of students who want to be a founder are increased for all across fields. Among those fields, the greatest increase is that of medicine/pharmacy/public health field (7.3%→29.0%) and the second greatest is that of law/management (economics) (10.8%→30.2%) while the smallest increase is that of natural sciences (mathematics etc.) (7.2%→18.8%).

<Figure 8> Career choice after graduation by study field



<Figure 9> Career choice 5years after graduation by study field



3.3 Gender comparisons

When comparing the portion by gender, the portions of students who want to be a employee after graduation are female 84.9%, male 83.9% respectively while those of students who want to be a founder are 3.9% and 9.4%. The portions of students who want to be a employee 5 years after graduation are female 68.4%, male 63.6%. Meanwhile, the portions of students who want to be a founder 5 years after graduation are female 18.5% and male 25.6%. The increase of male students who want to be a founder (9.4%→25.6%) in five years is greater than that of female students (3.9%→18.5%).

〈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)	7.5%	5.5%	6.2%	1.5%	1.8%	1.7%
An employee in a medium-sized firm (50–249 employees)	33.0%	30.9%	31.6%	8.6%	7.3%	7.8%
An employee in a large firm (250 or more employees)	16.9%	24.1%	21.6%	25.7%	29.3%	28.0%
An employee in a non-profit organization	1.7%	0.4%	0.8%	2.7%	2.1%	2.3%
An employee in Academia (academic career path)	10.3%	9.5%	9.8%	5.7%	5.3%	5.5%
An employee in public service	15.5%	13.6%	14.2%	24.2%	17.8%	20.1%
A founder (entrepreneur) working in my own firm	3.9%	9.4%	7.4%	18.5%	25.6%	23.1%
A successor in my parents' / family's	0.6%	0.8%	0.7%	0.8%	2.6%	2.0%
A successor in a firm currently not controlled by my family	0.1%	0.2%	0.2%	0.7%	0.9%	0.8%
Other / do not know yet	10.6%	5.7%	7.4%	11.6%	7.2%	8.8%

Determinants of Entrepreneurial Intention

4.1 Indicators and Index of Entrepreneurial Intentions

Six items were used to measure entrepreneurial intentions. (Table 4) 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 Table 4.

〈Table 4〉 Indicators of Entrepreneurial Intention

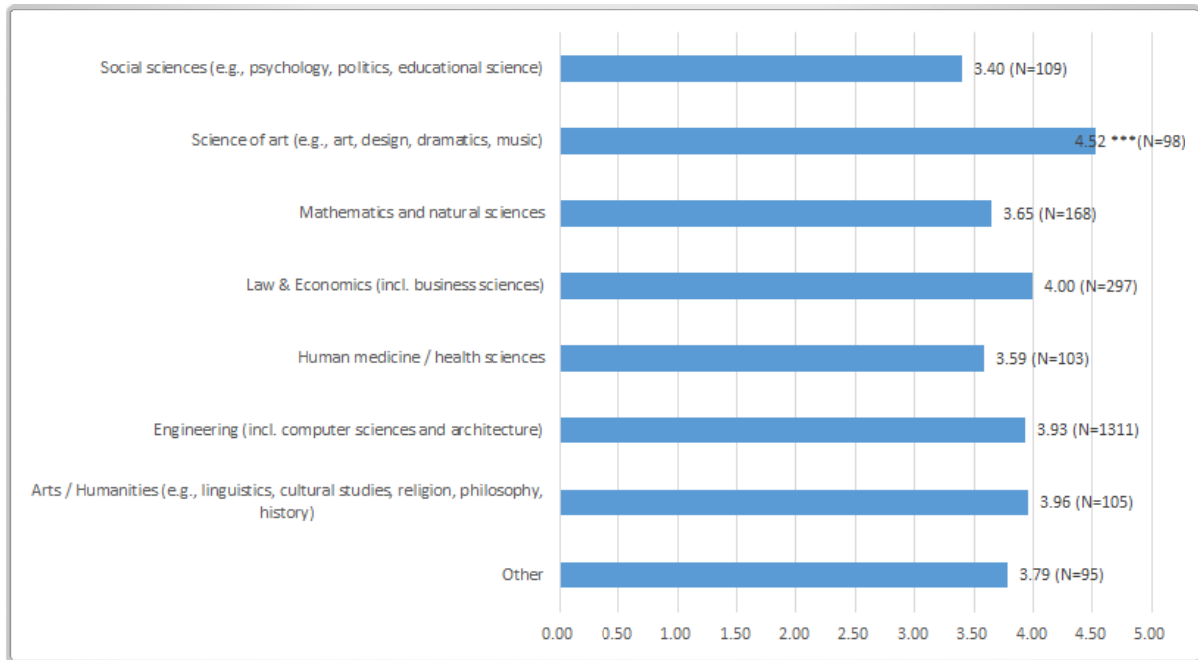
	N	Mean	SD
I am ready to do anything to be an entrepreneur	2,328	3.75	1.710
My professional goal is to become an entrepreneur	2,324	3.69	1.867
I will make every effort to start and run my own firm	2,321	4.03	1.889
I am determined to create a firm in the future	2,327	3.87	1.902
I have very seriously thought of starting a firm	2,326	3.88	1.910
I have the strong intention to start a firm someday	2,321	4.18	1.936

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 10 and Figure 11.

Figure 10 shows the students studying science of art had stronger intention toward entrepreneurship than those in any other field of study.

〈Figure 10〉 Strength of entrepreneurial intentions across fields of study

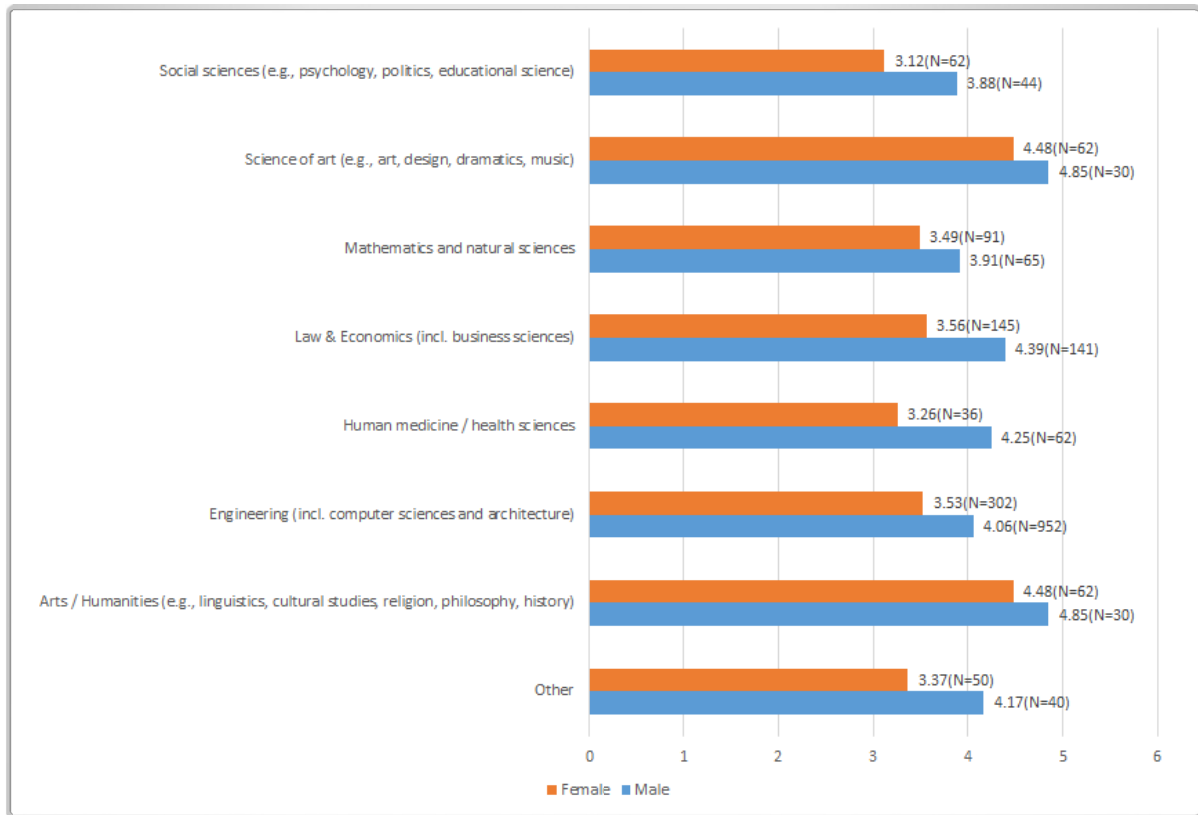


Note: An ANOVA test produces a significant value ($F=4.597$ $p<0.001$). A post hoc test shows that students

in science of art had significantly higher entrepreneurial intentions than those in other discipline.

Entrepreneurial intentions had gender difference. Male students had significantly ($p < 0.01$) stronger entrepreneurial intentions (average 4.26) than female students had (average=3.53). The difference was the largest for the students in arts/humanities while the smallest difference was observed for students in science of arts.

<Figure 11> Entrepreneurial intentions across gender



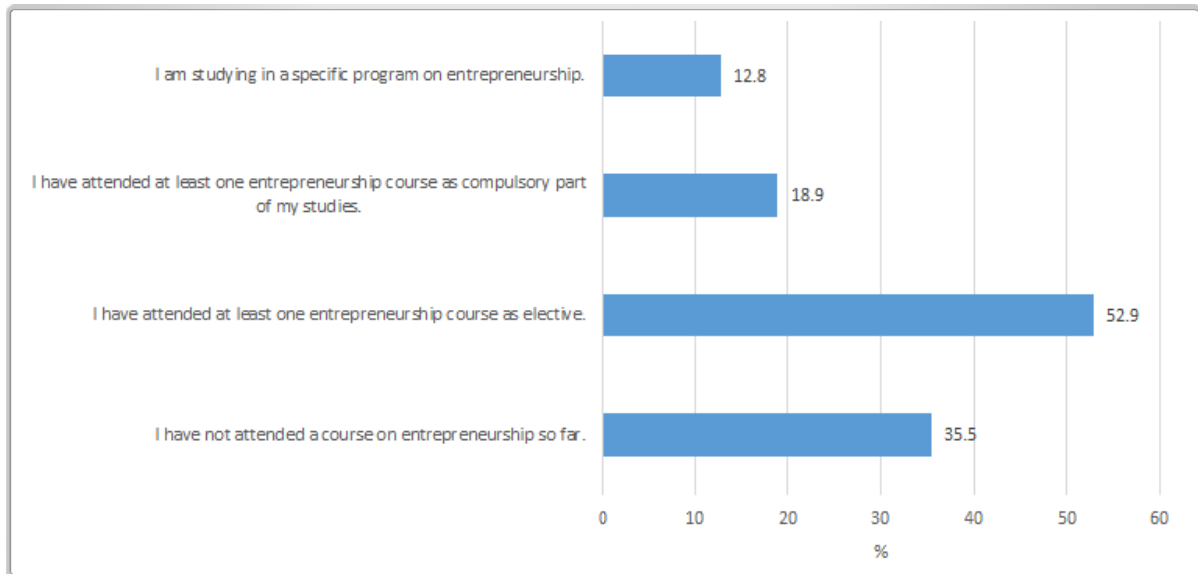
4.2 The University Context

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

4.2.1 Attendance of entrepreneurship courses

The survey asked to what extent they have attended university level courses. More than 66% of the respondents have attended more than one entrepreneurship courses in their universities - which is relatively high compared to other countries. The results also indicate that the respondents actively participated in the education since most of the courses taken are elective ones. (52.9%)

〈Figure 12〉 Attendance of entrepreneurship courses



4.2.2 Assessment of entrepreneurial learning

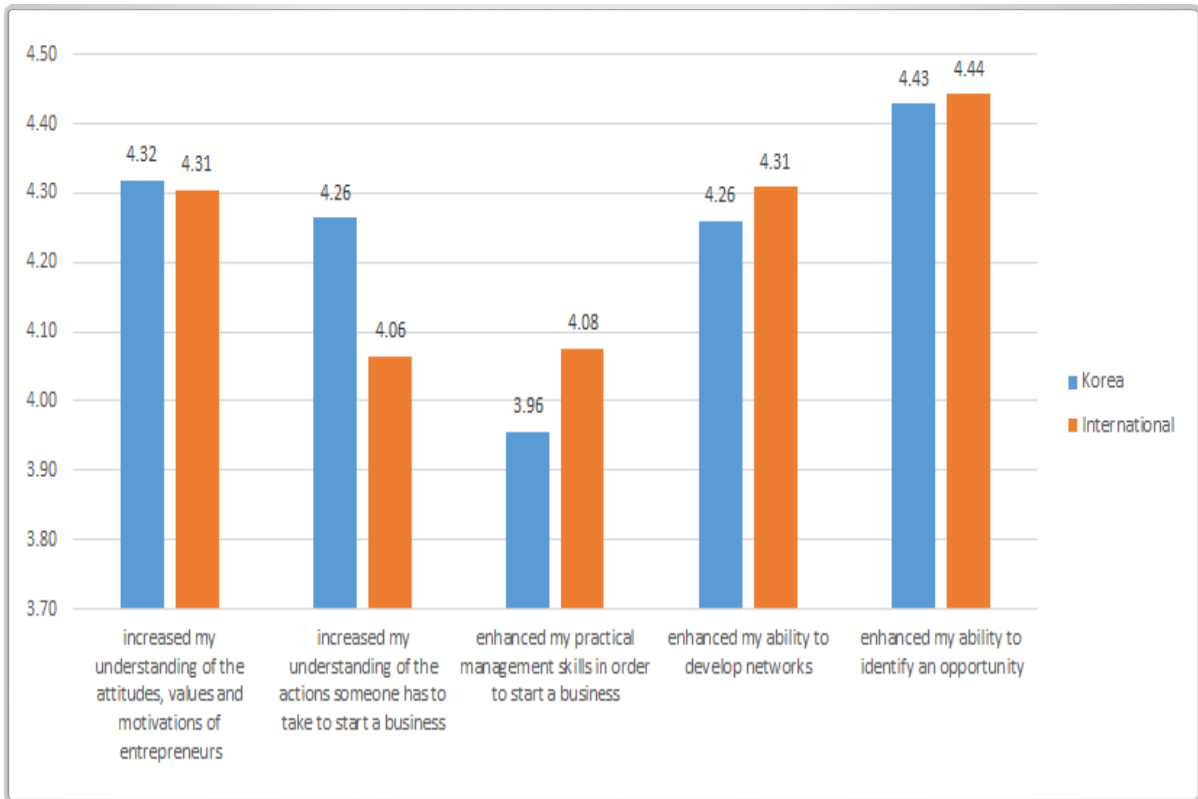
The students who had attended entrepreneurial education were asked what they learned by attending those classes. They were asked to indicate the extent to which they agree to the statements about their learning progress during their studies (1=not at all, 7=very much). The items used are as in Table X

〈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

It seems that Korean students felt their experience of entrepreneurship education were valuable. Overall score is similar with those of other countries. However, a slight yet interesting difference is found if we look into items 3 and 4. Korean students believed their educational experience enhanced their understanding, rather than their skills (4.26 > 3.96). International respondents believed the opposite (4.06 < 4.08).

<Figure 13> Learning process during studies (Attendance of the courses and offerings:...)

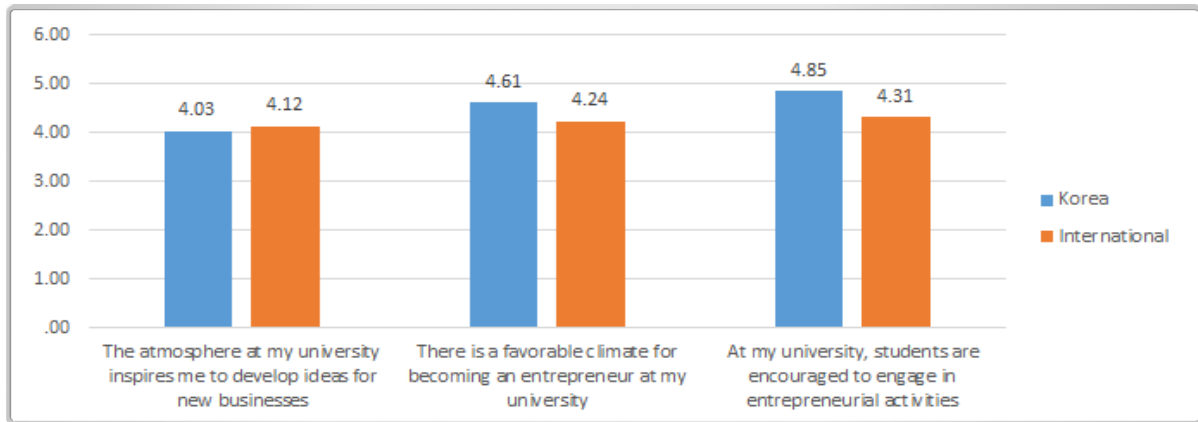


1 (strongly disagree) ~ 7(strongly agree)

4.2.3 Entrepreneurial climate

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, with a set of statements regarding their learning experience. The results are depicted in Figure 13.

〈Figure 14〉 The University Environment



1 (strongly disagree) ~ 7 (strongly agree)

The results show Korean students believed their universities stimulated and supported entrepreneurial career/activities. The entrepreneurial climates of Korean universities were warmer than those of other countries.

4.3 The family context

Numerous studies suggest that family contribute much to entrepreneurial intentions. Especially, the occupational background of parents is believed to play an important role. To find how much it actually influences, students were asked if any of their parents are self-employed.

〈Figure 15〉 Self-employed parents

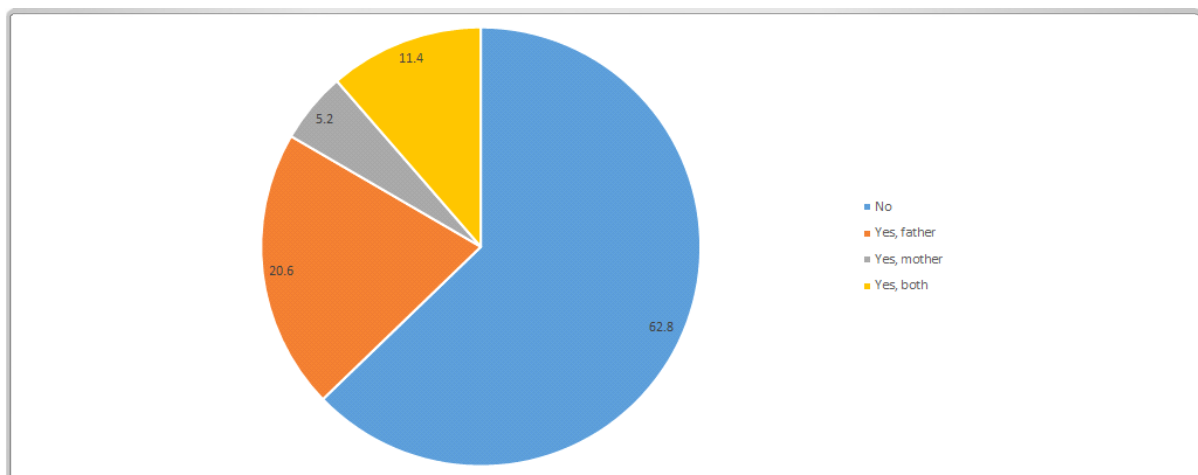
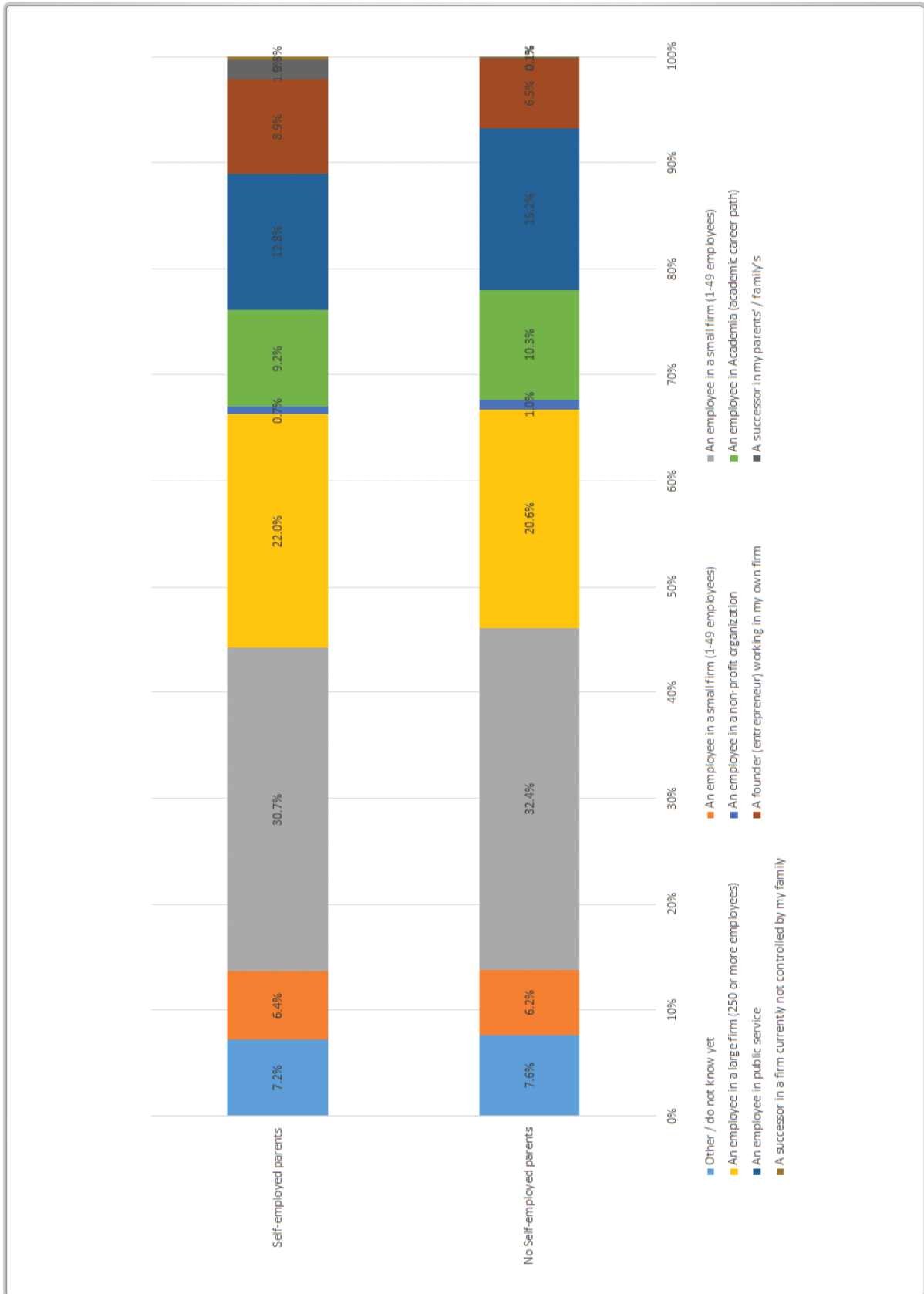


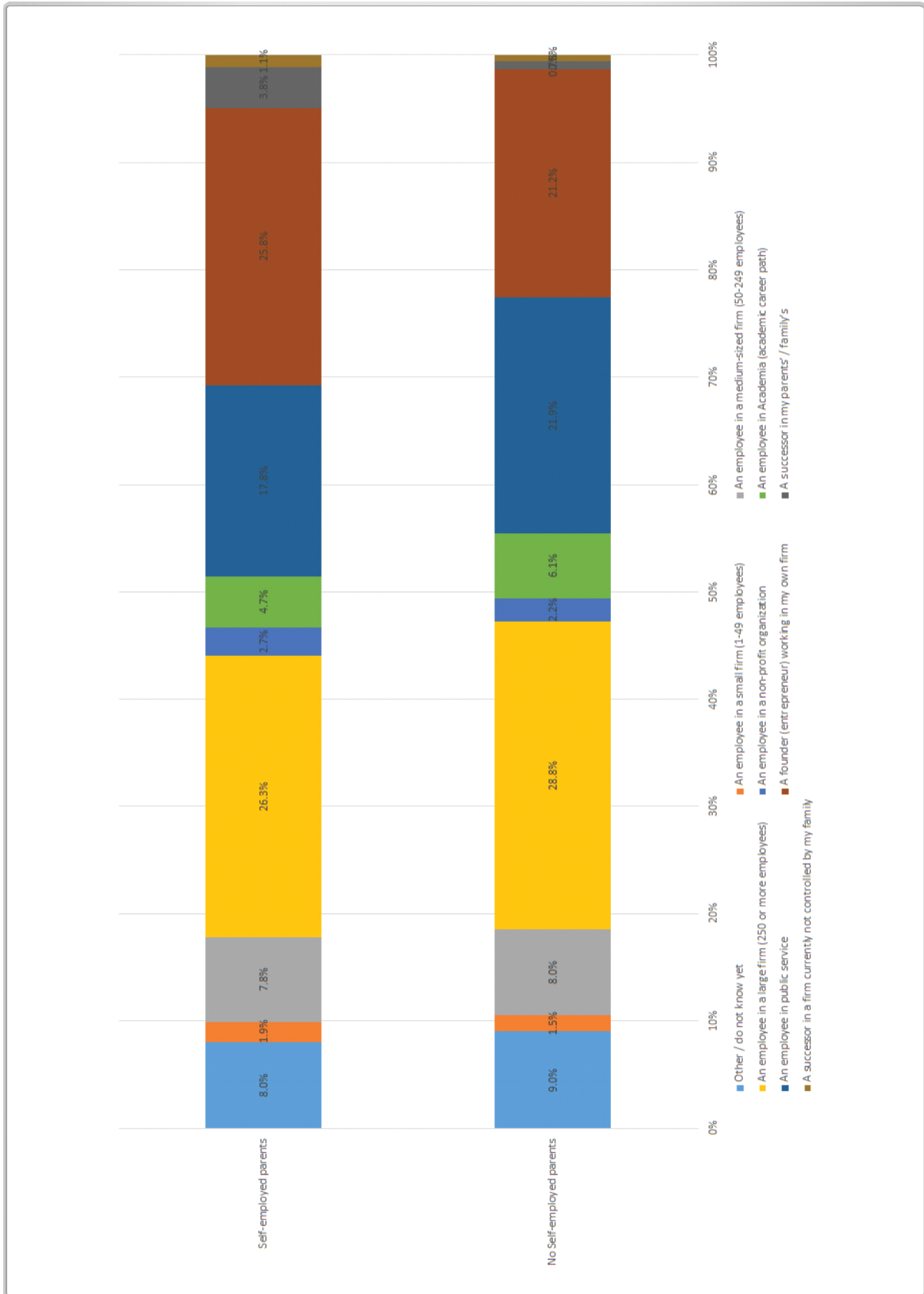
Figure 15 shows the results. Around 63% of respondents answered that neither of their parents were self-employed. 20.6 of them have self-employed father, while 5.2 % have self-employed mother. In addition, 11.4% of the students have reported both of the parents were self-employed.

Then it is interesting to examine whether entrepreneurial family background influence the students' career choice intentions. The answer seems to be yes. As illustrated in <Figure 16>, students with entrepreneurial family background tend to choose entrepreneurial career compared to those with non-entrepreneurial background (8.9% vs. 6.5%). It is slightly more apparent by looking at the career choice after 5 years of graduation as indicated in <Figure 17> (25.8% vs. 21.2 %) It is very natural that the percentage of respondents who intend to become a 'Successor' is much higher amongst those with entrepreneurial parents, for they have the opportunity to take over family business.

<Figure 16> Career choice intentions by family background



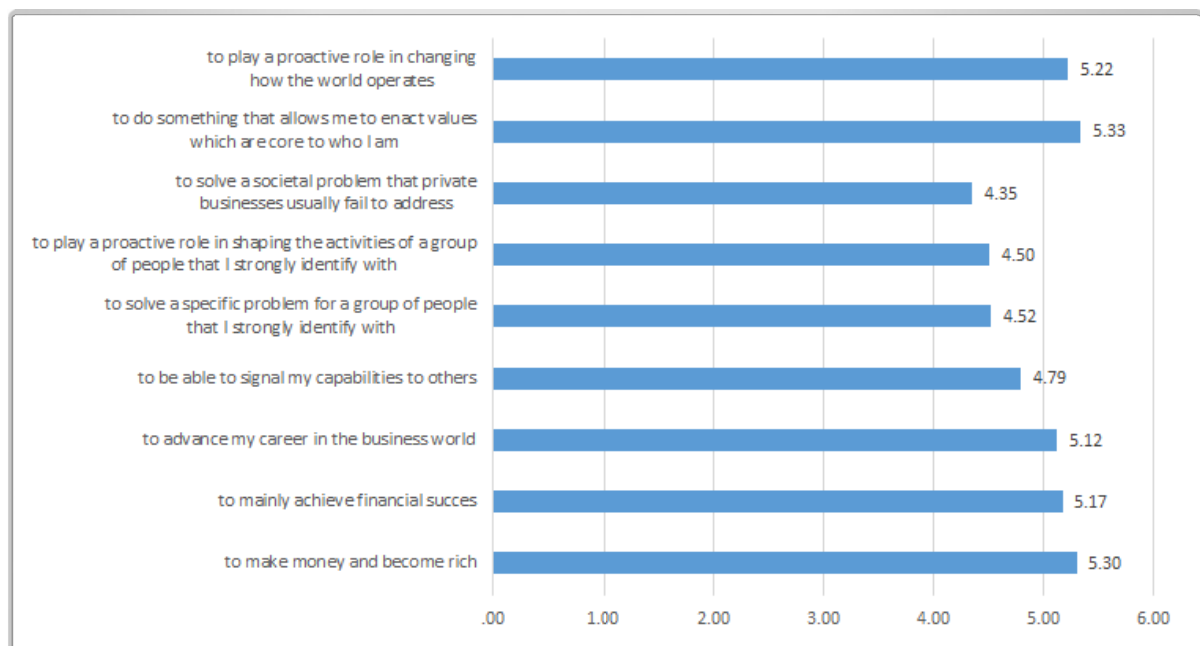
<Figure 17> Career choice intentions by family background after 5 years of graduation



4.4 The role of personal motivation

We then examined what career motives brought students' career choice as entrepreneurs. The importance of different motives for their future career path were measured, using a range from 1 (not important at all) to 7 (very important). The results in Figure 18 shows the motives for students who are trying to start their business or to become self-employed. Their entrepreneurial activities were driven by value and money: They wanted to enact core values (5.33) and change the world (5.22) while financial success (5.17) and becoming rich (5.30) were important motives.

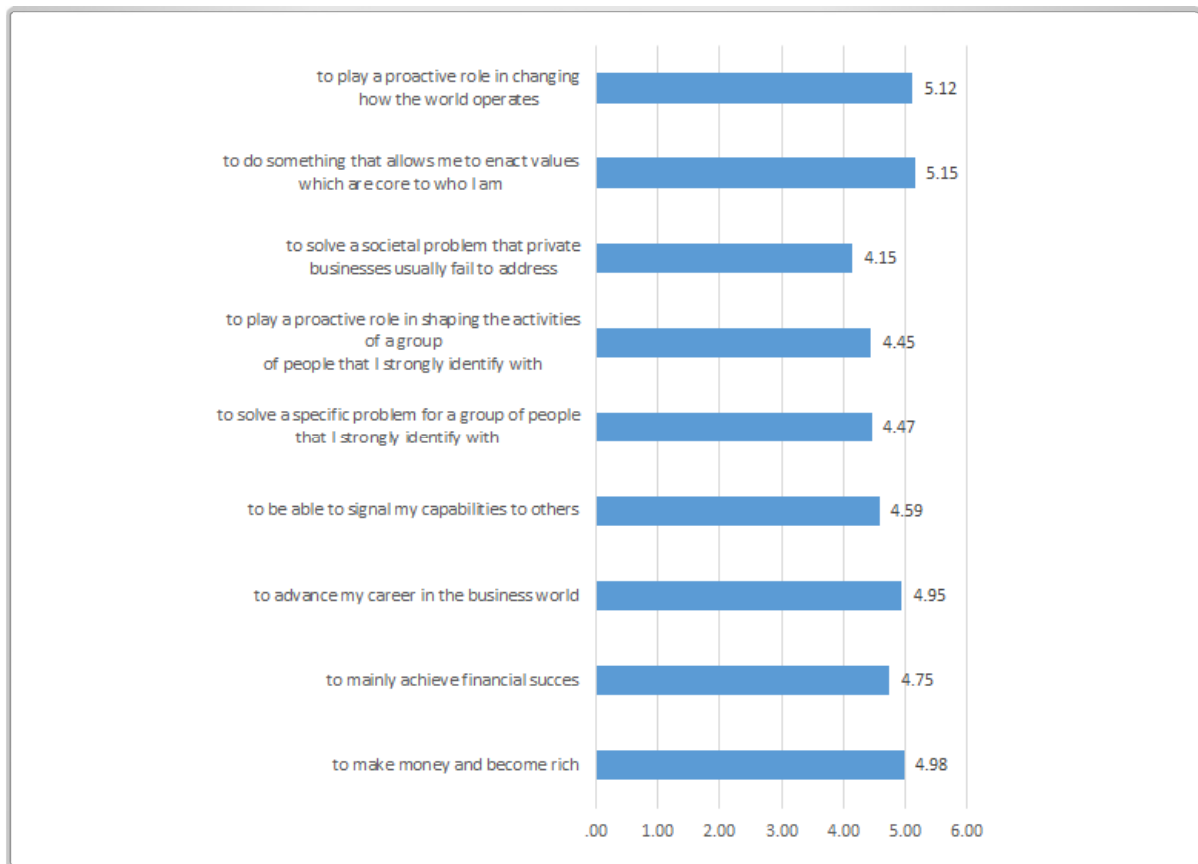
〈Figure 18〉 Importance of different career motives (Nascent entrepreneur)



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

The same question were also asked to students who already run their own business. The results in Figure 19 shows their major motives were more value-oriented compared to planners as illustrated in Figure 18. Most important motives were to do something for enacting the core value (5.15) and to play a proactive role in changing the world (5.12)

<Figure 19> Importance of different career motives (entrepreneurs)

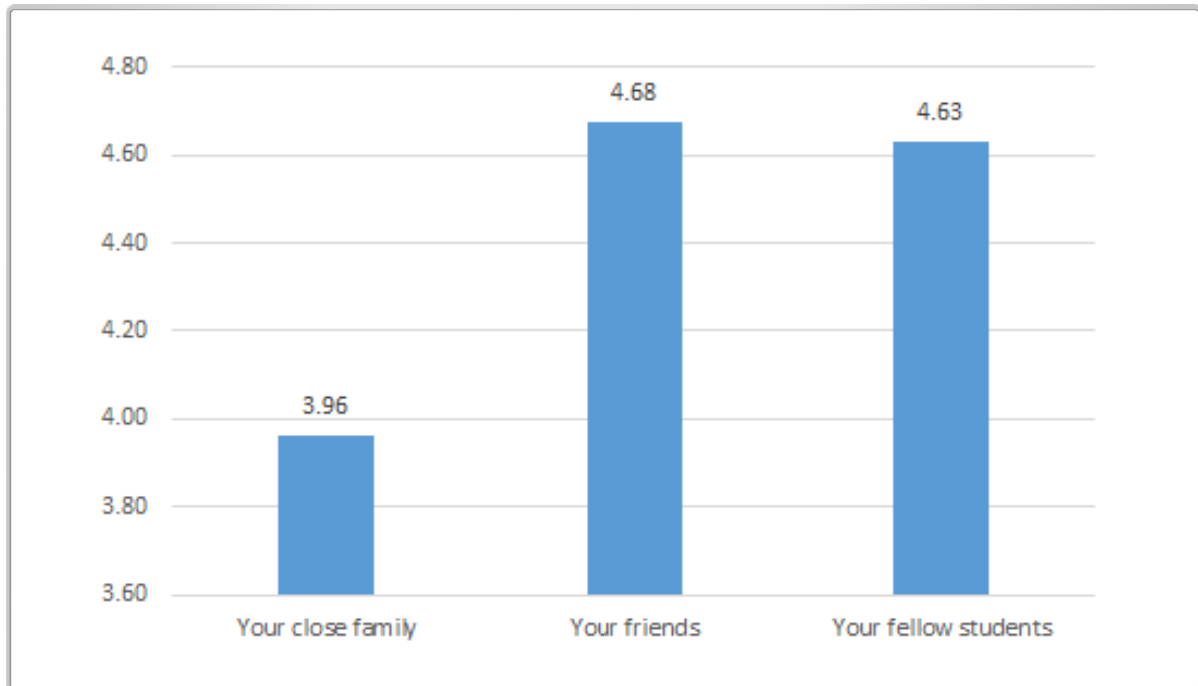


1 (not important at all) to 7 (very important)

4.5 The social and cultural context

Career choice and entrepreneurial intentions are inevitably influenced by social and cultural context, for students predict the responses of peers (friends, family et al) to their own choices according to the social and cultural norms. Students were asked how people in their environment (family members, friends, fellow students) would react if they would pursue a career as an entrepreneur, using the scale from 1 (very negatively) to 7 (very positively). While they expected relatively positive reaction from their friends (4.68) and fellow students (4.63), they thought the family members would react rather negatively to their career choice as an entrepreneur. It may reflect the belief of older generation in Korea, who have thought working in large, established organizations is desirable for its stability.

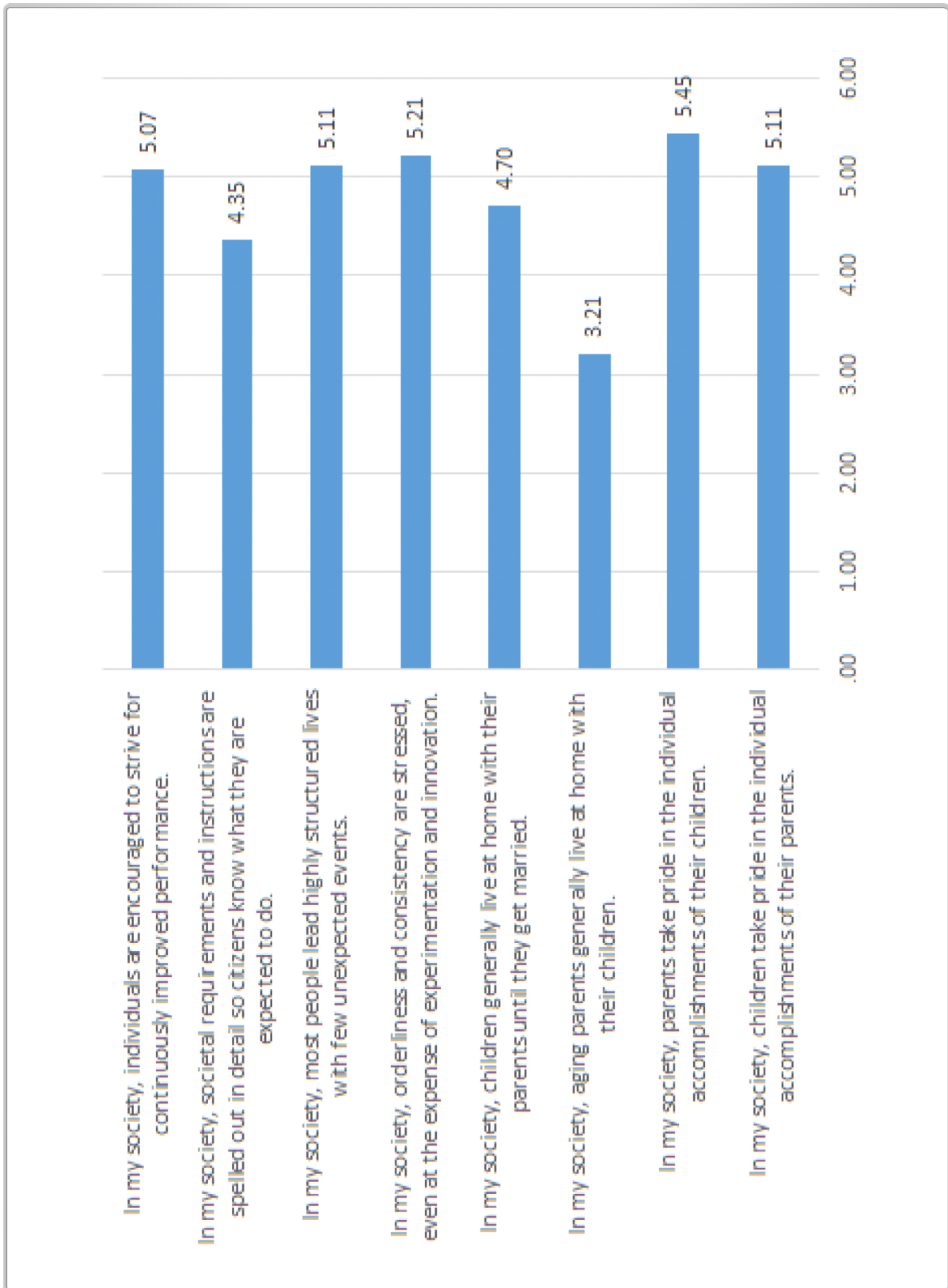
〈Figure 20〉 Subjective norms (expected reaction)



1(very negative) ~ 7(very positive)

In addition, we asked how the students perceived Korean society, especially in career choice perspectives. The results in 〈Figure 21 shows students' perception of Korean society is multifaceted. While students perceived personal achievement and improvement are encouraged – either their own (5.07) and parents ones (5.11), the achievement should be within structured (5.11) and orderly pattern, not experimental (5.21). It may imply the achievement in Korean society is rather narrowly and traditionally understood such as high position in established organizations.

<Figure 21> Students' Perception of Korean Society



1(strongly disagree) ~ 7(strongly agree)

For more in-depth analysis in this regards, further five questions were asked to students. The questions and results were given as Table 7. Unfortunately, respondents strongly felt that the power in Korean society was concentrated at the top (6.11) and obedience without question was regarded as virtue (5.38). In contrast, they felt Korean society was far from meritocracy (3.06) and innovation was not appropriately rewarded (3.72).

〈Table 6〉 General perception toward Korean Society

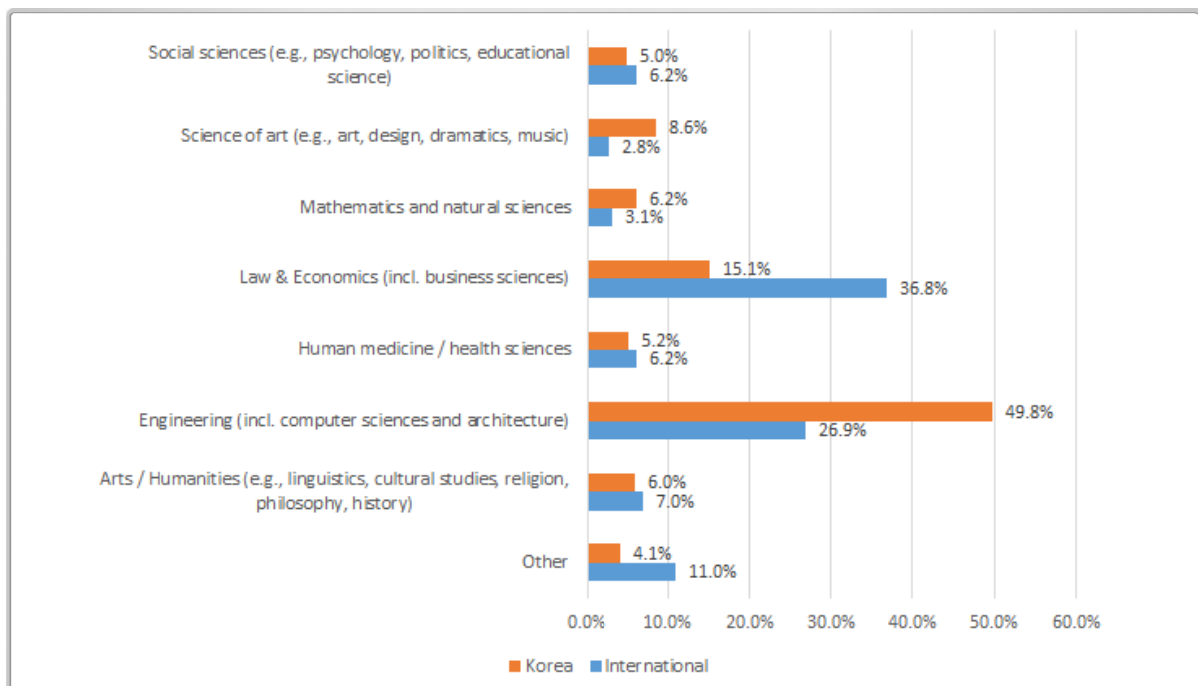
item	N	mean	SD
In my society, a person's influence is based primarily on 〈1 (Ability and contribution to society)~7(Authority of one's position)〉	2594	5.23	1.53
In my society, followers are expected to: 〈 1(Question leaders when in disagreement)~7(Obey leaders without question)〉	2595	5.38	1.37
In my society, power is 1(Shared throughout society)~7(Concentrated at the top)	2593	6.11	1.15
In my society, major rewards are based on: 1(Only factors other than performance effectiveness (e.g., seniority)) ~7(Only performance effectiveness)	2599	3.06	1.71
In my society, being innovative to improve performance is generally: 1(Not rewarded)~ 7(Substantially rewarded)	2596	3.72	1.51

Nascent Entrepreneurs

5.1 Personal characteristics

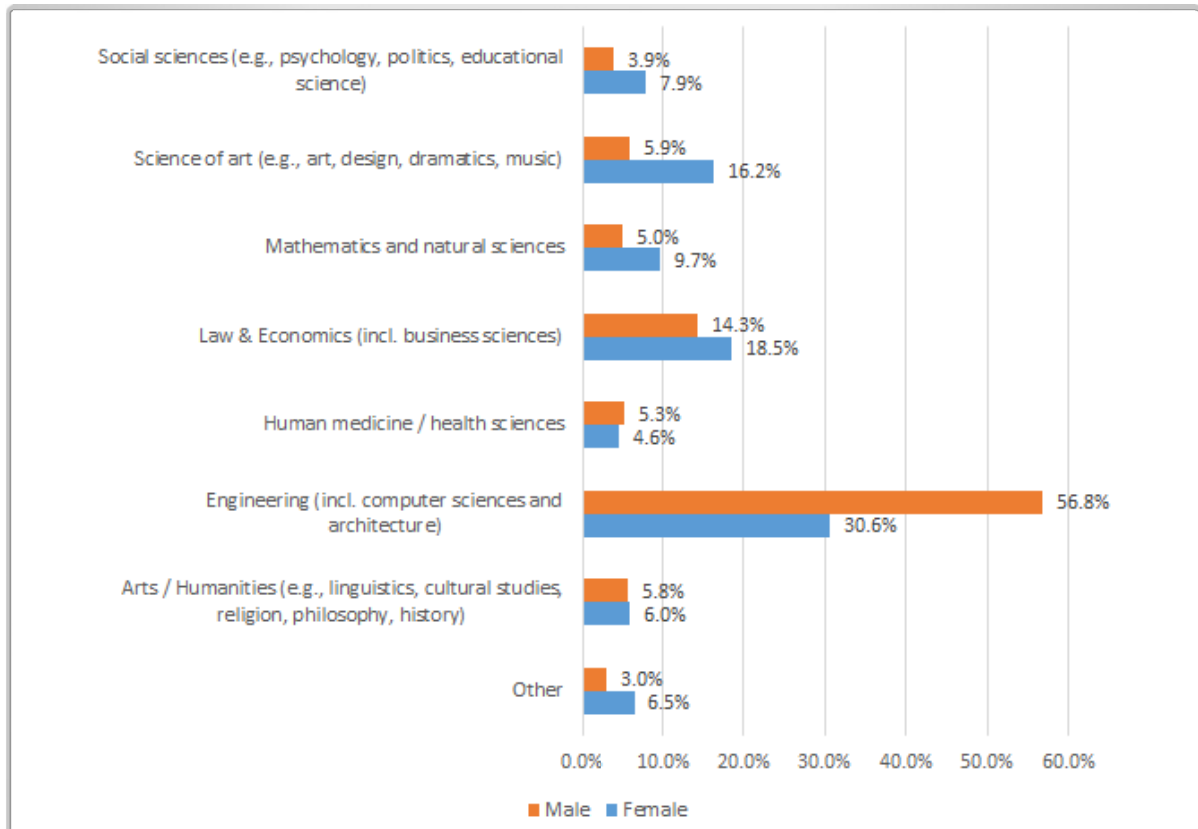
The portions in the study fields of nascent entrepreneurs are as in <Figure 22>. Compared to the international report, the portion of engineering major is the highest (49.8%) and law/management (economics) is the second highest (15.1%) while, in the international report, the portion of law/management (economics) is the highest (36.8%) and engineering is the second highest (26.9%).

<Figure 22> Study fields of nascent entrepreneurs



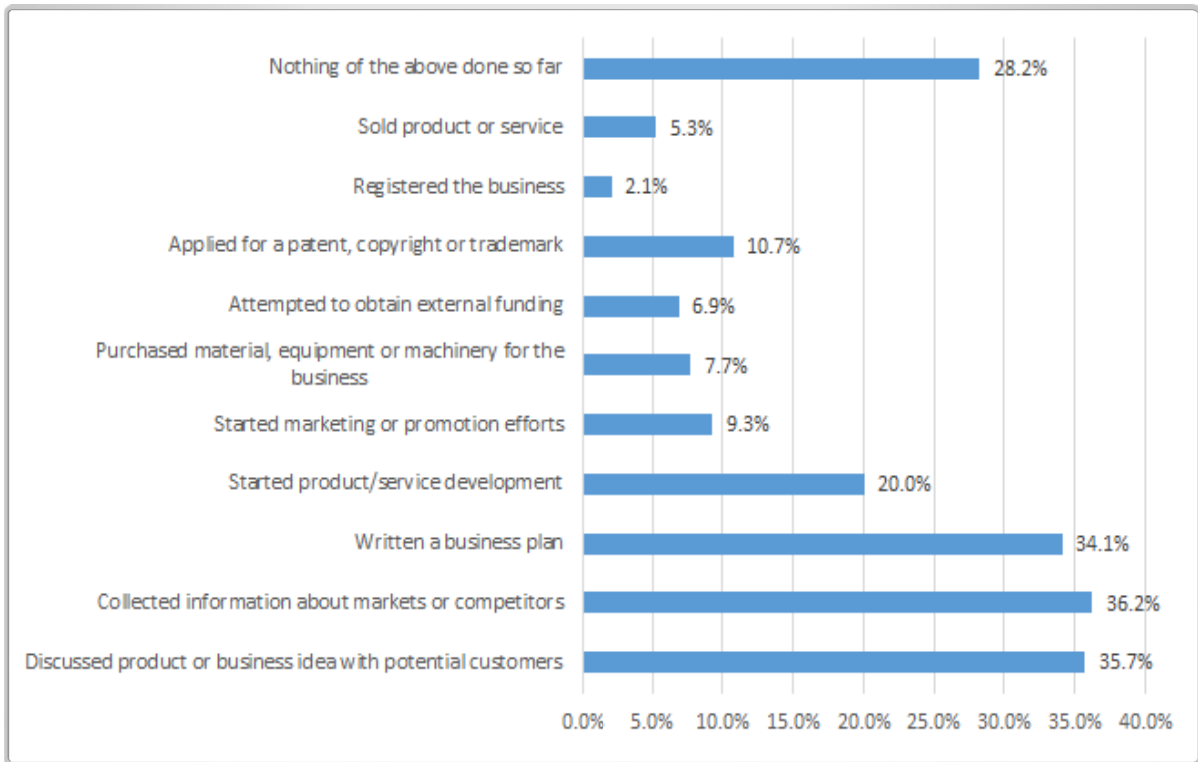
The portions in the study fields of nascent entrepreneurs by gender are as in <Figure 23>, and the portions of engineering major (computer engineering, architecture etc.) are the highest for both.

<Figure 23> Study Fields of Nascent Entrepreneurs by Gender



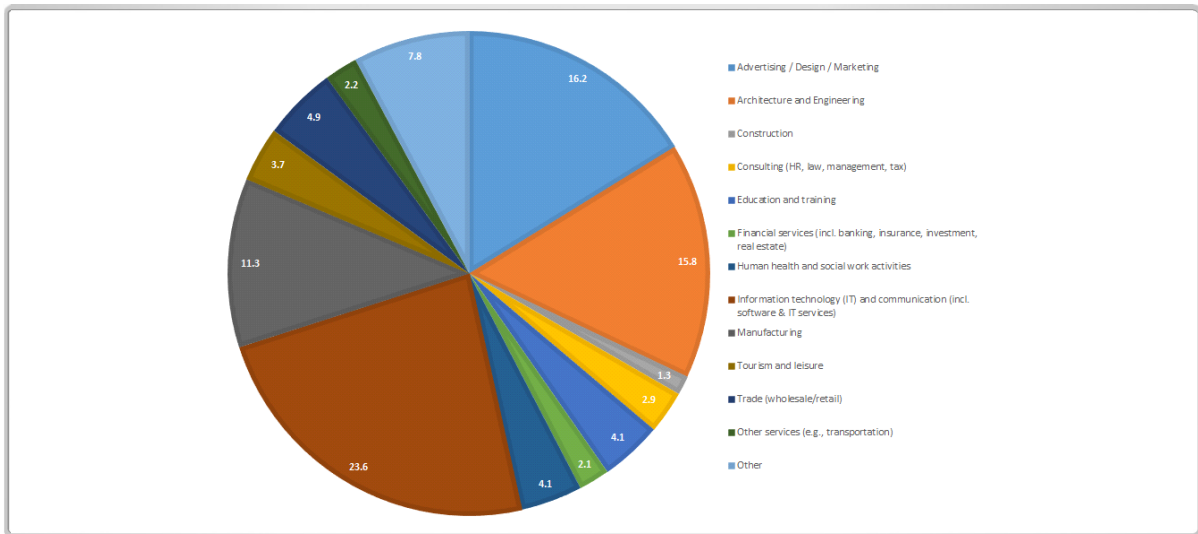
<Figure 24> shows how far nascent entrepreneurs have proceeded in founding their business. By the 11 questions on activities, the progresses are measured. Out of 624 Korean nascent entrepreneurs, 5.3% of them have experiences in ‘Sold product or service’, 10.7% have applied for ‘patents, copyright or trademark’ while 36.2% have ‘Collected information about markets or competitors’ and 20.0% ‘Started product/service development’. Only 2.1% have ‘Registered the company’ and 28.2% have not done anything yet.

〈Figure 24〉 Gestation activities conducted by nascent entrepreneurs



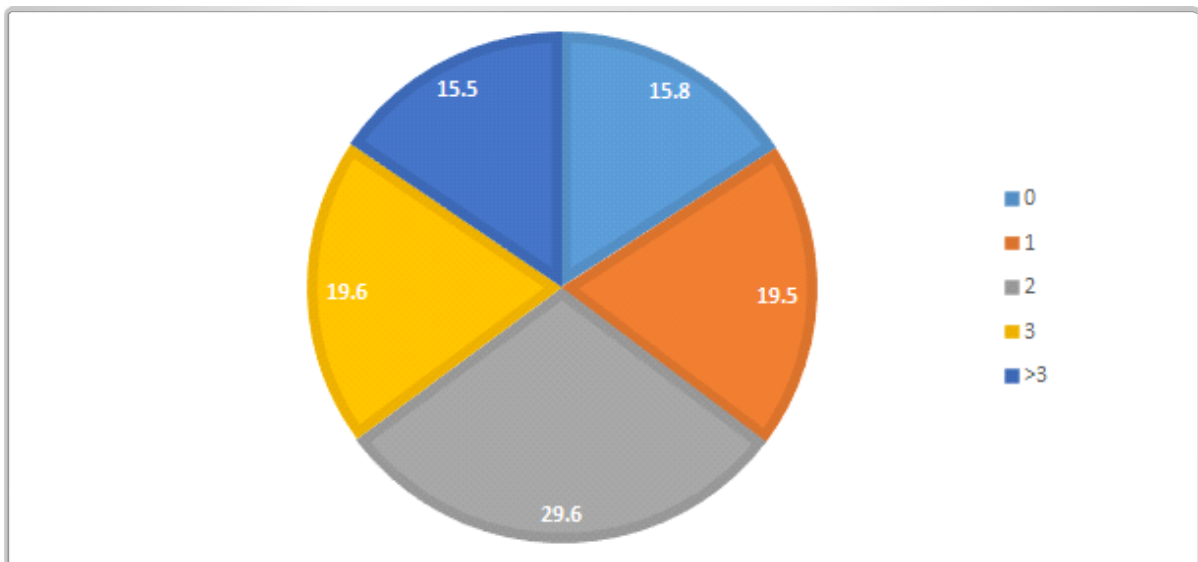
〈Figure 25〉 shows the industry sectors of the planned firms. The most popular sector for Korean students is 'IT and communication'(23.6%), and the other sectors are as follows: 'Advertising/Marketing/Design'16.2%, 'Architecture and engineering'15.8%, 'Manufacturing' 11.3%, 'Trade (wholesale/retail)' 4.9%, 'Education and training' 4.1%, 'Health services and social networking'4.1%, 'Tourism and leisure' 3.7%, 'Consulting (law, tax, management, HR)' 2.9%, 'Financial services (banking, insurance, investment, real estate)' 2.1%, 'Other services (logistics etc.)' 2.2%, 'Construction' 1.3% respectively.

<Figure 25> Industry sectors of planned firms



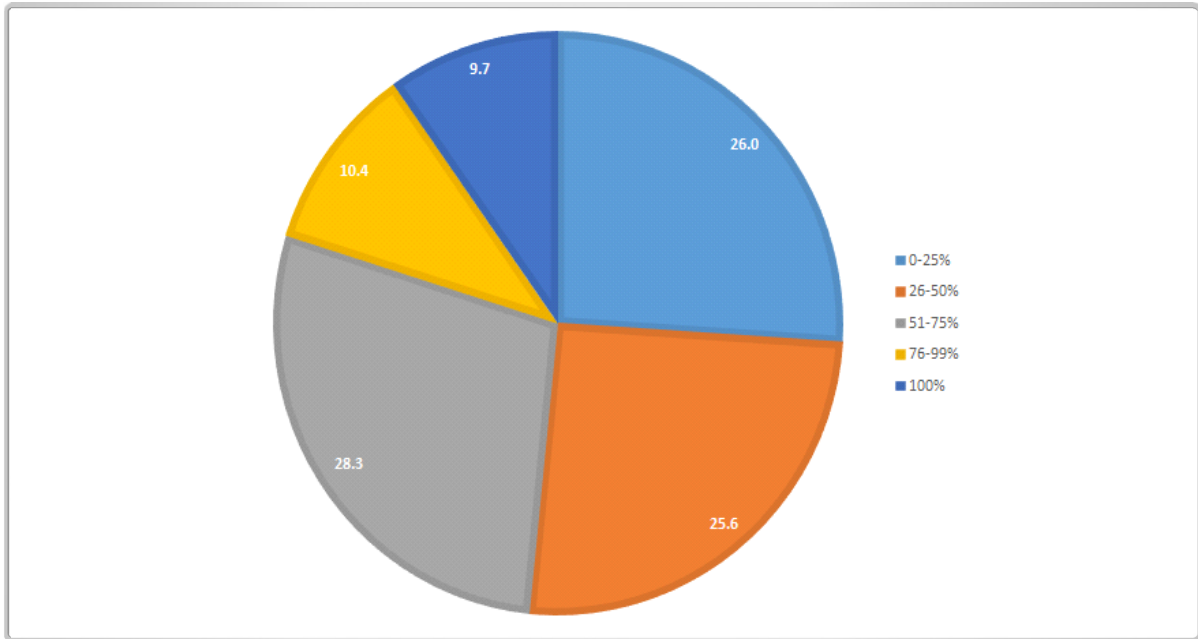
The nascent entrepreneurs answer that the portions of the number of co-founders range are 2 persons 29.6%, 3 persons 19.6%, 1 person 19.5%, ‘go it alone’ 15.8%, and more than 3 persons 15.5%.

<Figure 26> Number of co-founders



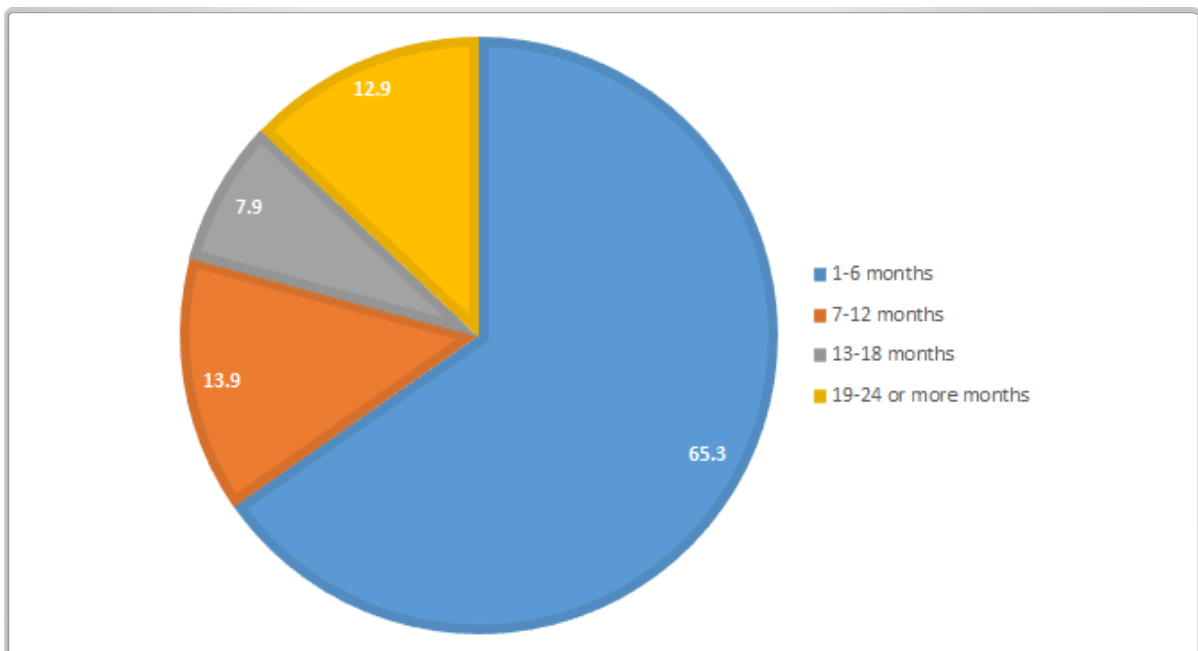
About the question regarding the own equity portion owned by the nascent entrepreneurs, 28.3% of respondents said they will own between 51% and 75% and 20.1% between 76~100%. While 48.4% of respondents will own more than half of equity, 26% said they will own between 0 and 25% and 25.6% between 26% and 50%.

<Figure 27> Nascent entrepreneurs' equity share in the planned firms



About the question asking the length of time to plan for a new businesses, 65.3% of respondents said the length is between 1 and 6 months while 13.9% between 7 and 12 months, 12.9% between 19 and 24 months, 7.9% between 13 and 18 months respectively.

<Figure 28> Length of time to plan nascent entrepreneurs' businesses

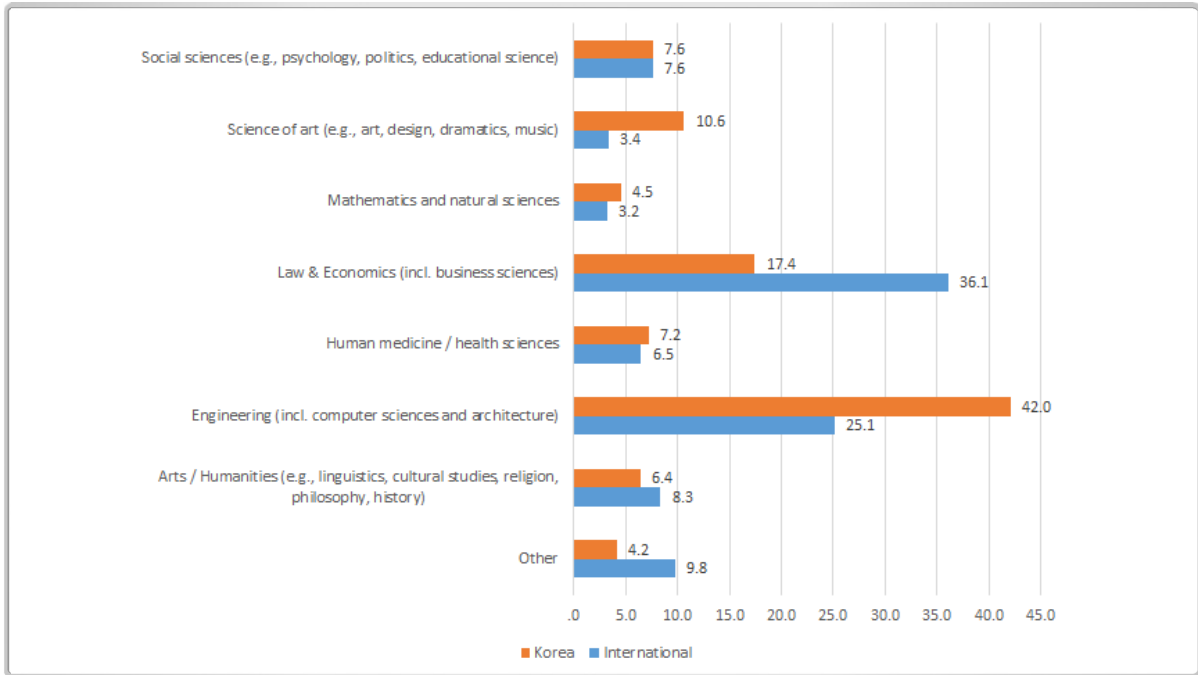


Active Entrepreneurs

6.1 General overview

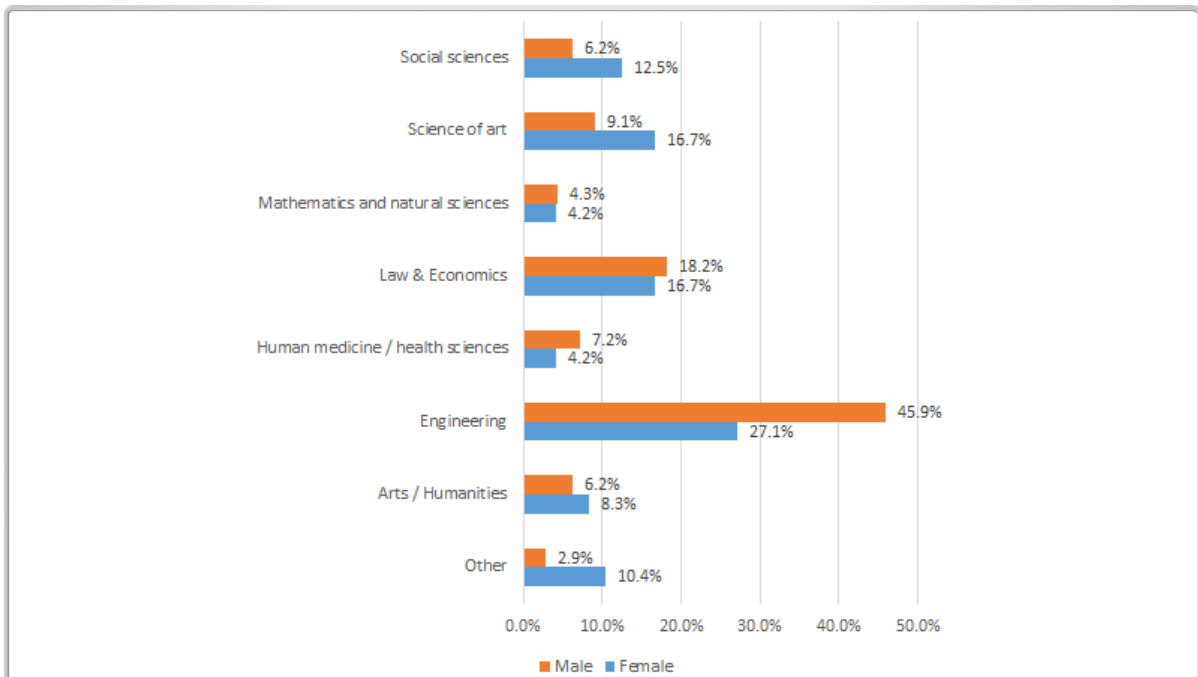
In GUESS survey, the portion of active entrepreneurs of Korean sample is very high (32.2%) because our sample is from participants in a entrepreneurship supporting program. The shares of study fields of active entrepreneurs who responded to our survey are as in <Figure 29>. Compared to international report, the portion of engineering (computer engineering, architecture etc.) students in the Korean sample is the highest (42.0%), and that of law/management(economics) is the second highest (17.4%) while, in international report, law/management (economics) is the highest (36.1%) and engineering (computer engineering, architecture etc.) is the second highest (25.1%).

〈Figure 29〉 Share of active entrepreneurs across study fields



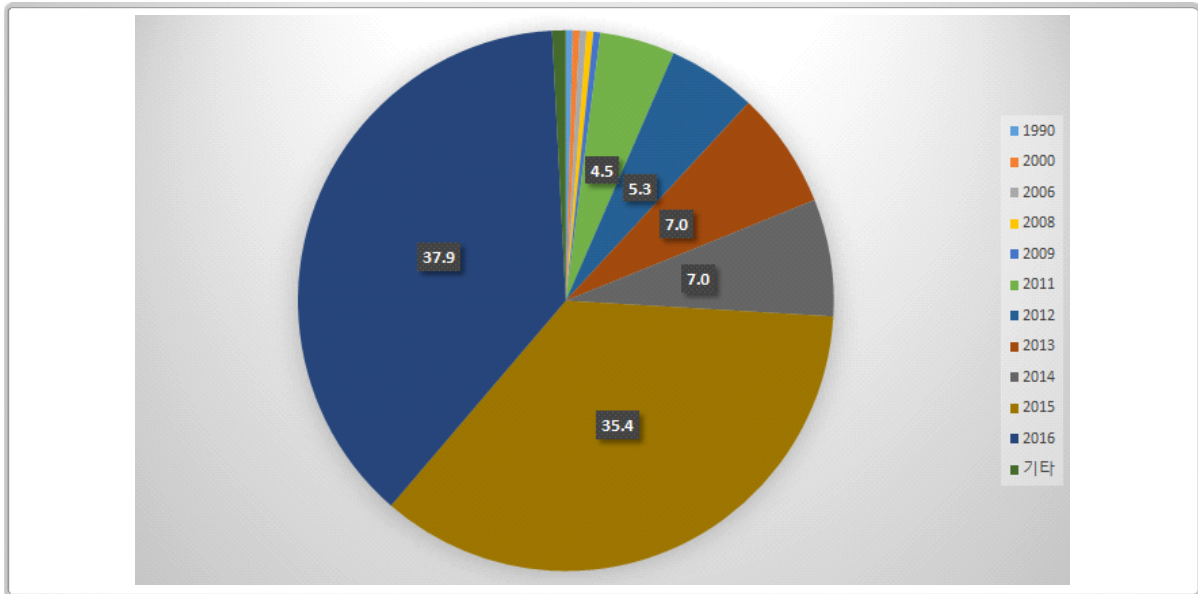
The shares of study fields by gender of active entrepreneurs are as in 〈Figure 30〉, and that of engineering (computer engineering, architecture etc.) field is the highest.

〈Figure 30〉 Share of active entrepreneurs across gender and study fields



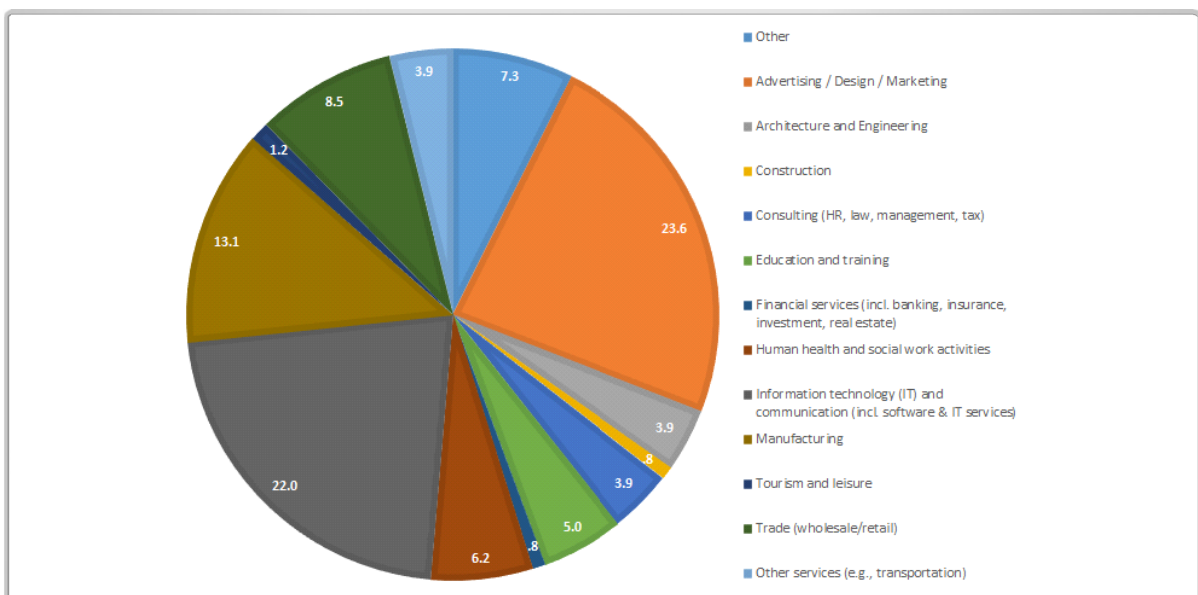
Most of the existing firms in the Korean sample were created in 2015 (37.9%), then in 2016 (35.4%), 2014 (7.0%), and 2013 (7.0%). More than 2/3 of firms are created in less than 2 years (73.3%).

〈Figure 31〉 Founding year of the existing firms



The most popular sectors are ‘Advertising/design/marketing’ (23.6%), ‘IT and communication’(22.0%), ‘Manufacturing’ (13.1%), ‘Trade (wholesale/retail)’ 8.5%.

〈Figure 32〉 Industry sector of existing firms



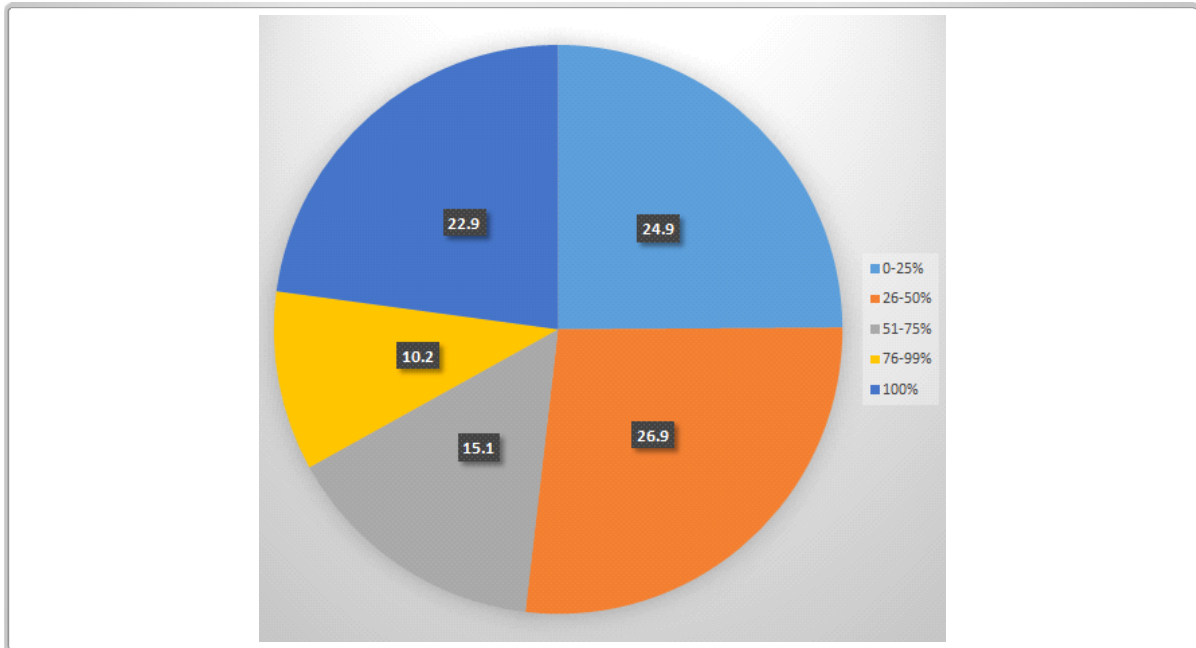
The number of employees excluding oneself is in the descending order of the portion, 3 employees (20.5%), 2 employees (18.4%), 1 employee (18.4%), 5 employees (11.5%) and so on while 6.8% of entrepreneurs do not have any employee at all, 75.2% of entrepreneurs have less than 5 employees.

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

The number of employees	N	%
0	16	6.8
1	43	18.4
2	43	18.4
3	48	20.5
4	26	11.1
5	27	11.5
6	8	3.4
7	8	3.4
8	5	2.1
10	2	.9
12	2	.9
23	1	.4
30	3	1.3
34	1	.4
38	1	.4

The 26.9% of active entrepreneurs own the equity between 26% and 50%, 24.9% between 0 and 25%, 15.1% between 51% and 75%, and 10.2% between 76% and 99% while 22.9% owns 100%.

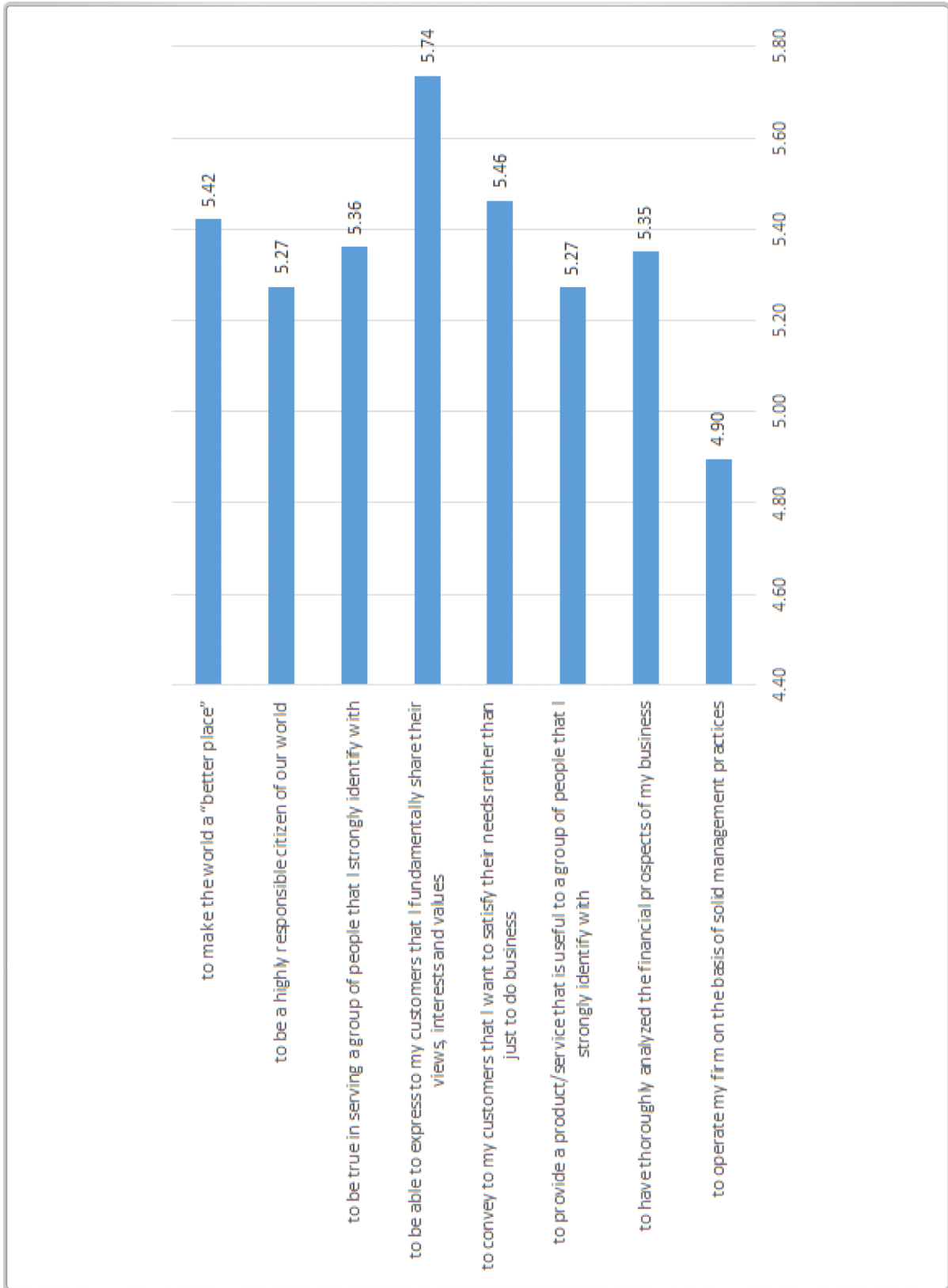
〈Figure 33〉 Equity share of active entrepreneurs



6.2 Personal characteristics

To examine what active entrepreneurs think most important, 8 questions as in 〈Figure 34〉 were asked in 7 point Likert scale from 1 (strongly disagree) to 7 (strongly agree). The average scores for each question are as follow: 「To express to consumers that I want to share my interests, own value」 5.74, 「To fill the need of consumers and disseminate」 5.46, 「Make the world a better place」 5.42, 「To analyze the financial prospect of my business thoroughly」 5.36, 「Provide products and services sincerely to my acquaintances」 5.35, 「To be a responsible citizen」 5.27, 「Provide useful products and services to my acquaintances」 5.27, 「Run the business with reliable and stable business customs」 4.90.

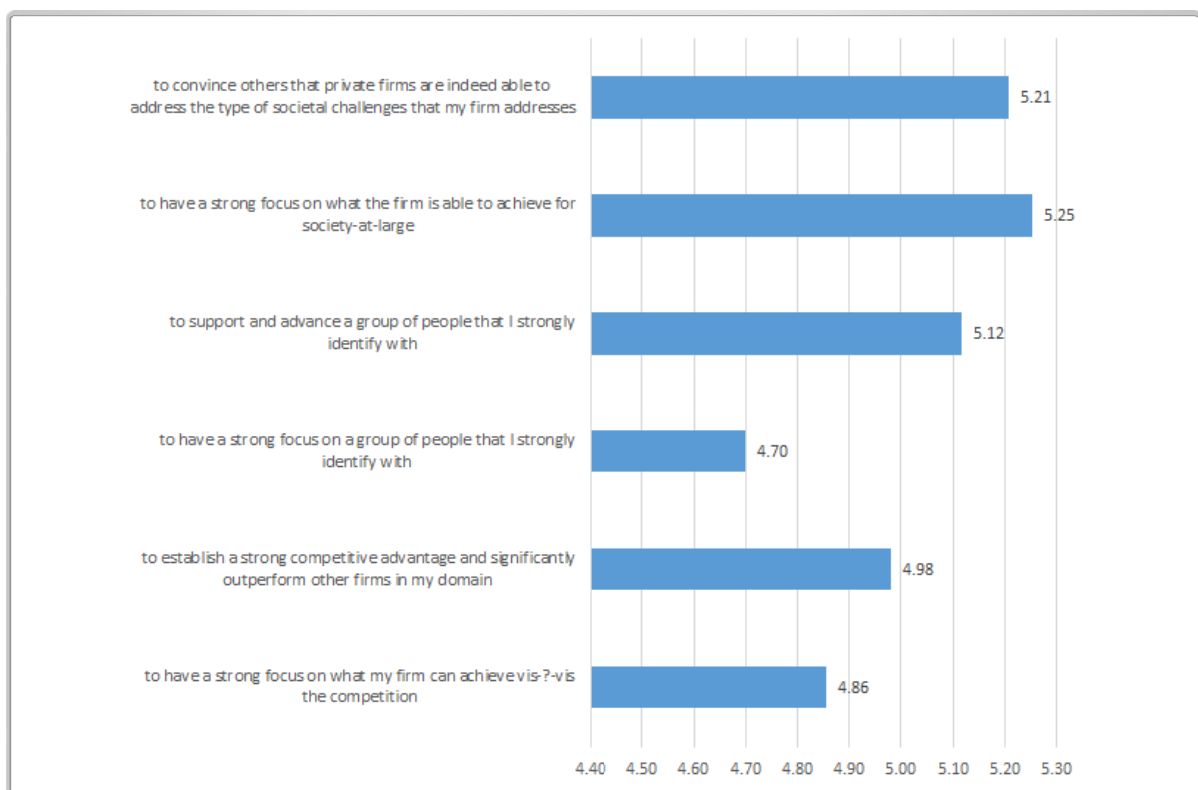
<Figure 34> Important value for business as a founder



1(strongly disagree) ~ 7(strongly agree)

To ask about important things when entrepreneurs run their firms, 6 questions as in <Figure 35> were asked. The average scores for each question are as follow: 「Disseminate the belief that private firms can solve social problems such as social justice and the protection of environment」5.25, 「Focus on companies which help society」5.21, 「Support group with people close to my firm and help them to succeed」5.12, 「Establish strong competitive advantage and produce greater outputs than other firms」4.98, 「Focus on competition where my firm can win by face-to-face challenge」4.86, 「Focus on group with people who are close to my firm (e.g. friends, colleagues, clubs, communities)」4.70.

<Figure 35> Important things in running a firm

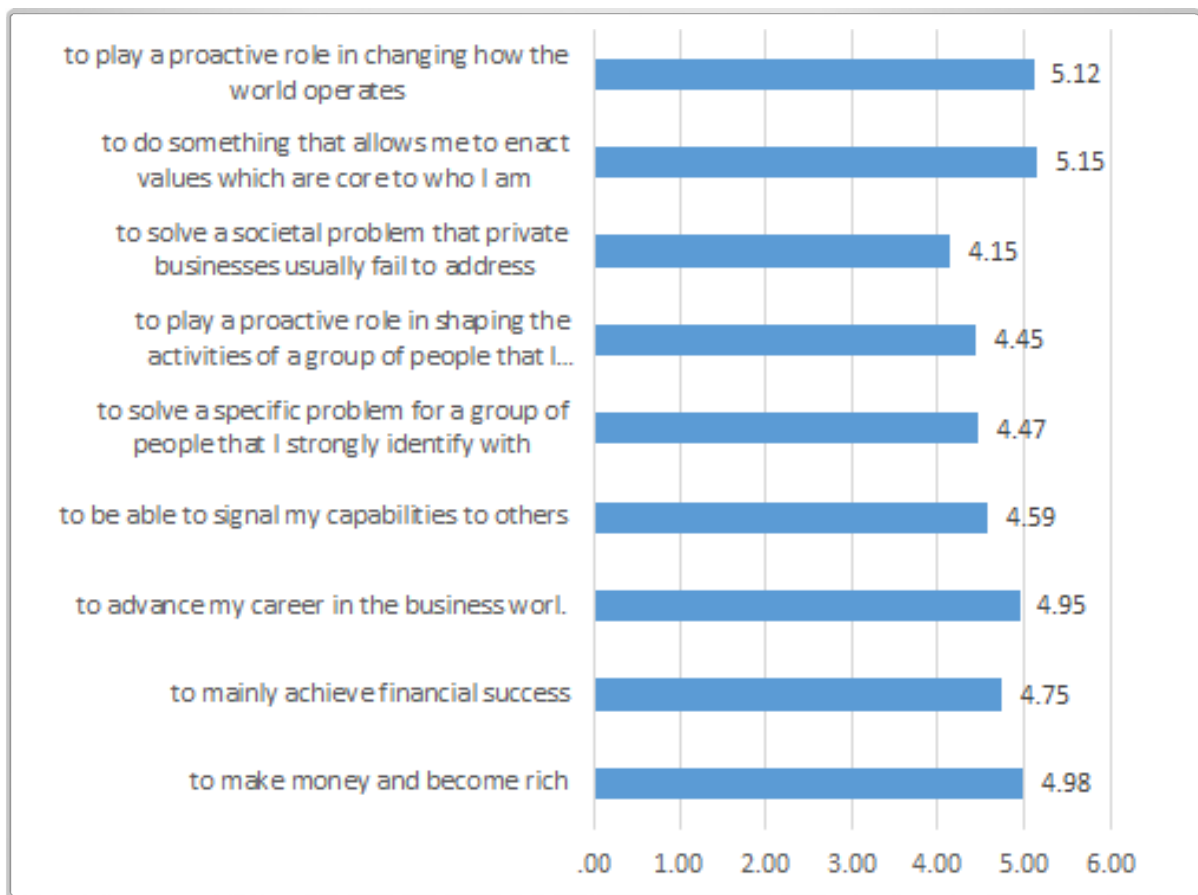


1(strongly disagree) ~ 7(strongly agree)

The 9 questions were asked as in <Figure 36> to find motives to start firms. 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: 「To do something to realize my value to show who I am」5.15,

「To be a leader in the changes of the way the world is being run」5.12, 「To be rich by earning money」4.98, 「To improve the experience in business world」4.95, 「To achieve financial success」4.75, 「To show my ability to others(e.g. workers in the future, colleagues」4.59, 「To solve the problem of groups of people who are close to my firm (e.g. friends, colleagues, clubs, communities」4.47, 「To be active in forming group activities of group of people who are close to me」4.45, 「To solve social problems which private firms usually fail to solve (e.g. social justice, protection of environment」4.15.

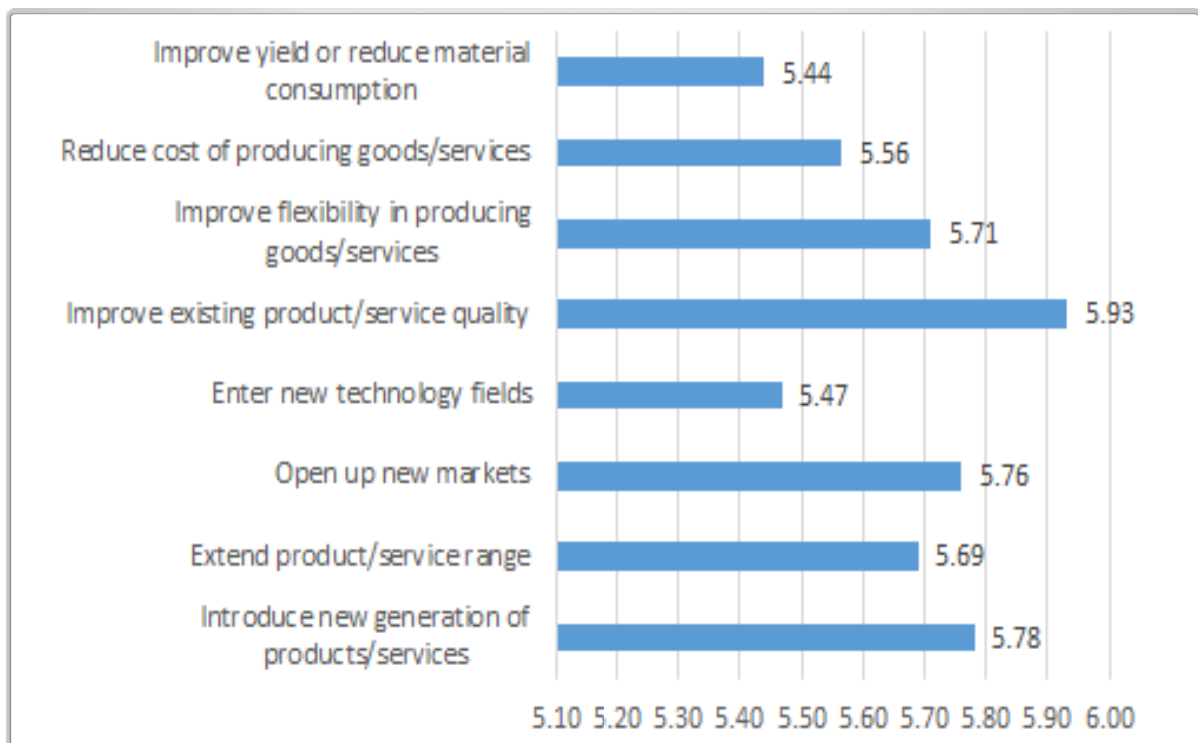
〈Figure 36〉 Motive to start firm



1(strongly disagree) ~ 7(strongly agree)

The 8 questions were asked as in <Figure 37> to find important points to start innovative project. All the questions were asked by 7 point Likert scale where 1 means 'not important at all' while 7 means 'very important'. The average scores for each question are as follow: 'Improve existing product/service' 5.93, 'new introduction of product/service' 5.78, 'Advance to new market' 5.76, 'Improve flexibility in making product/service' 5.71, 'Expand scope of product/service' 5.69, 'Cost reducing in providing product/service' 5.56, 'Enter into new technology area' 5.47, 'Improve productivity or reduction of material consumption' 5.44.

<Figure 37> Important point to start innovative project



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

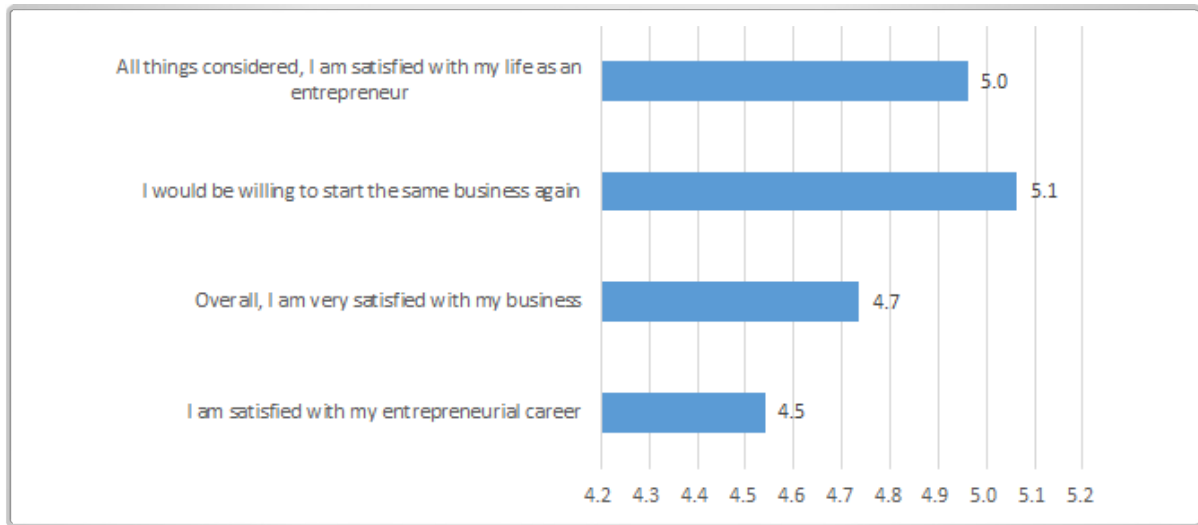
The 9 questions were asked as in <Table 8> to assess the preference of entrepreneurial tendency of active entrepreneurs. All the questions were measured by 7 point Likert scale'. From the survey, it is found that entrepreneurs prefer 'more aggressive attitude' to explore business opportunity to 'step back and wait' to reduce risk while stress more about 'marketing and product use' than 'technological leadership and innovation'.

〈Table 8〉 Preference of entrepreneurial tendency

The 9 Questions	N	Mean	SD
1(Attitude of 'Step back and wait' to reduce probability to have big damage) ~ 7점(Attitude of being aggressive to maximize probability to explore opportunity)	259	5.04	1.492
1(Tendency to do project which is very low risk and low return) ~ 7(Tendency to do project with very high risk and high return)	259	4.40	1.452
1 (Gradual and careful exploration of law environment) ~ 7 (Aggressive and bold exploration of law environment)	260	4.17	1.624
1 (Stress on marketing and product consumption) ~ 7 (Stress on technological leadership and innovation)	260	3.96	1.838
1 (passive changes on product and service) ~ 7 (aggressive changes on product and service)	259	5.27	1.399
1 (rarely introduce new product and service) ~ 7 (introduce new product and service very frequently)	260	5.29	1.320
1 (rarely introduce product and service for the first time) ~ 7 (very frequently introduce new product and service for the first time)	261	4.68	1.570
1 (Behave by responding to competitors initiation) ~ 7 (Behave when competitors respond to my behavior)	260	4.39	1.625
1 (Follow first mover who introduce new product and service) ~ 7 (Adopt new product and service before competitors)	259	5.08	1.466

The 4 questions were asked as in 〈Figure 38〉 to assess how much entrepreneurs are satisfied about their start for businesses. All the questions were asked by 7 point Likert scale where 1 means 'very much dissatisfied' while 7 means 'very much satisfied'. The average scores for each question are as follows: 「I am eager to start the same business again if chance is given」5.06, 「In general, I am satisfied with my life as an entrepreneur」5.0, 「In general, I am satisfied with my business」4.7, 「I am satisfied with my career as entrepreneur」4.5.

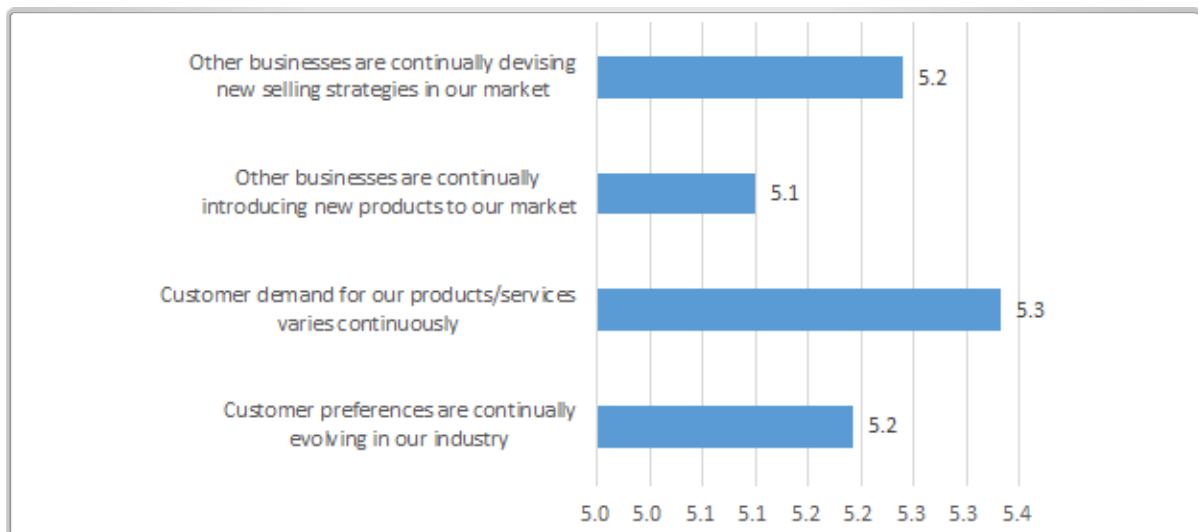
〈Figure 38〉 Level of Satisfaction for new business



1(very much dissatisfied) ~ 7점(very much satisfied)

The 4 questions were asked as in 〈Figure 39〉 to find the current status of firms. 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: 「Demand for our product and services is continuously being diversified」5.3, 「Other businesses are developing marketing strategies in our market」5.2, 「Customers’ loyalty is being advanced in our business」 5.2, 「Other businesses are introducing their new products to our market」5.1.

〈Figure 39〉 Current status of firm



1(strongly disagree) ~ 7(strongly agree)

Summary and Conclusion

In Korea, the GUESSS Survey was based on a relatively large-scale questionnaire consisting of The 2,603 samples from 57 universities. Compared to samples from other countries, it is characterized by relatively younger age (only 0,8% of those aged 31 or older) and a relatively high proportion of males (male ratio 64,4%).

The results show that students' entrepreneurial intentions were relatively high because the students were participating a program called LINCLeaders in INdustry-university Cooperation that enhances the linkage between college and business and most of them(66%) had experience in entrepreneurship education Also, it should be noted that the ratio of engineering students was very high. In this sample, the rate of engineering students was 55.8%, which is far higher than in other countries. In general, engineering students are known to have the highest degree of entrepreneurial intention (law/management students are similar)

According to the analysis, 7.4% of the students would like to start a business right after graduation and 22,9% of them would be entrepreneur after five years of graduation – many potential entrepreneurs believed that it is better to start a new business with a certain work experience.

Closer look at the entrepreneurial intention reveals that male students' entrepreneurial intention was significantly higher than that of female students (male 4.26, female 3.53). Difference across the study fields are not much apparent,

while students studying science of art had a high degree of entrepreneurial intention

Students who experienced entrepreneurship education (66%) thought the education was useful. It is interesting to note, however, the courses might be more focused on the understanding of entrepreneurship than skill required for entrepreneurs.

Regarding to entrepreneurial climate, students felt that their college had a good environment to support start-ups while believing friends and fellow students would positively react to their entrepreneurial activities. However, they expected their family members' reactions would be negative. This negative family atmosphere seems to be eased if students' parents do business. In the case of parents doing business, the percentage of students who would start business immediately after graduation was definitely higher, as well as entrepreneurial choice after five years of graduation

The most worrisome result of the survey was about how students looked at Korean society. They believed that the Korean society was highly concentrated at the top and obedience was regarded as virtue. Unfortunately, they felt Korean society was far from meritocracy and innovation was not appropriately rewarded.

As many students had entrepreneurship education, the percentage of nascent entrepreneurs was high – a total of 624 students were classified as such. Among them, there were a lot of engineering students and law/management major, and they were mainly trying to establish IT and communication startups. The interesting thing is that although they were doing various entrepreneurial activities (sales, business planning, marketing), the actual rate of business registration was very low, only 2.1%. It might imply that the proportion that leads from entrepreneurial preparations to actual venture is not so high.

Despite various difficulties, there is a very positive aspect to the Korean entrepreneurship – entrepreneurial motivation. When asked about the most important thing in the business for the students who started the business, the students answered "Disseminate the belief that the private firms can solve the social problems such as social justice and the protection of environment", "Focus

on companies which help society” or “Support group with people close to my firm and help them to succeed”. These responses are also in line with the nascent entrepreneurs’ responses. Their motivations of career choice are “enacting their core values” and “changing the world”