Student Entrepreneurial Spirit Survey Report
Analysis of the Japan Sample in the GUESSS 2016 Survey Results

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(Abstract)

1,082 universities from 50 countries participated in the 2016 Global University Entrepreneurial Spirit Students' Survey (GUESSS). The global survey produced a total of 122,509 valid responses. In Japan, 24 universities and graduate schools participated, producing a total of 1,490 valid responses.

Comparing results from all other participating countries with those from Japan, we find that when asked about career preferences immediately after and five years after graduation, a higher proportion of students in Japan hope to be employed (80.4% just after graduation, 61.0% after five years). In the global sample, 38.2% of respondents hope to become entrepreneurs after five years; in Japan only 8.8% share this aspiration. Nascent entrepreneurs preparing to launch businesses account for 21.9% of the global sample. In Japan, this figure stands at only 12.8%. In the global sample, 8.8% have already started businesses; in Japan, only 1.3% have done so.

Whether the question is intention to start a business or personal skills related to starting a business, students in Japan score lower than their peers in other countries.

Correlation analysis of factors increasing students "entrepreneurial

intention" (desire to start a new business) reveals a strong positive correlation between "entrepreneurial intention" and a "university climate" that promotes entrepreneurship. And "Courses and offerings" correlates with "entrepreneurial intention" via "attitude toward entrepreneurship" and "perceived competence."

Keywords: entrepreneurial intention, university climate, entrepreneurial education, nascent entrepreneur, career preferences

1. Introduction

1.1 GUESSS Survey Overview

GUESSS (Global University Entrepreneurial Spirit Students' Survey) is a global survey of university students and graduate students' entrepreneurial intentions organized by the Institute for Small Business and Entrepreneurship and the Center for Family Business at the University of St. Gallen in Switzerland. Launched in 2003, the survey has now been conducted seven times. Japan has participated since 2011, making the 2016 survey the third in which Japan has been included.

Surveys for the 2016 report were conducted at 1,082 universities located in 50 countries. Valid responses totaled 122, 509. For an analysis of the global survey results, see Sieger et al. (2016) "Student Entrepreneurship 2016: Insights From 50 countries."[1]

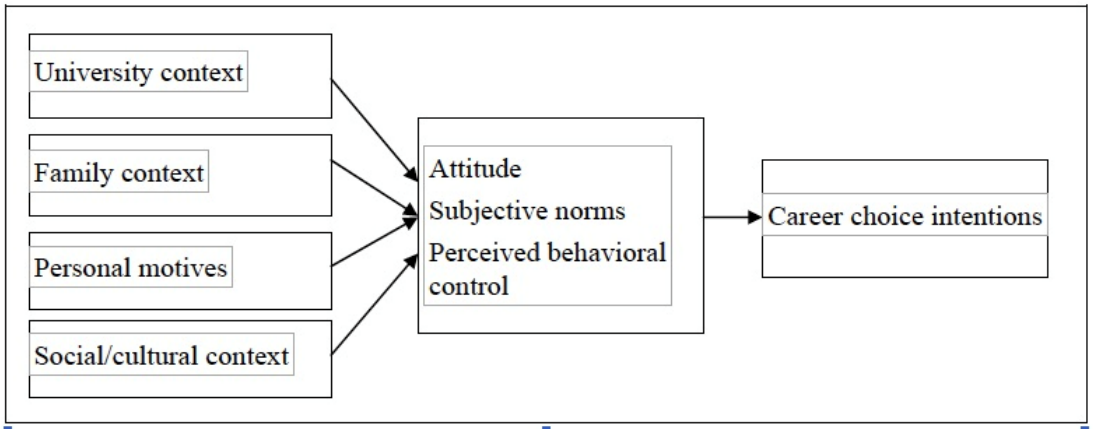
1.2 Survey Objectives and Framework

The survey's objectives are to gather an on-going stream of data concerning student career choices and entrepreneurial activities for use by universities, students, supporters, policymakers, and researchers.

[1] Can be downloaded from the GUESSS official website (http://guesssurvey.org/).

The survey's framework is based on the "Theory of Planned Behavior" (Ajzen 2002), in which planned behavior is seen as determined by attitude (preference for or avoidance of a behavior), subjective norms, and sense of control (perceived ability to self-regulate or control one's own actions). This basic framework is adapted to the domain of entrepreneurial activities and includes career preference (entrepreneur, employee, researcher, public servant, business successor), university climate and training as these affect entrepreneurship, personal motivations, family circumstances, and other institutional influences. The survey framework remains unchanged; the 2013 report contains an easy-to-understand diagram.

Figure 1. Theoretical Framework of GUESSS 2013/2014



Source: Sieger, P., Fueglistaller, U. & Zellweger, T. (2014). Student Entrepreneurship Across the Globe: A Look at Intentions and Activities. St. Gallen: Swiss Research Institute of Small Business and Entrepreneurship at the University of St. Gallen (KMU-HSG).

1.3 Participating Nations and Responses

Table 1 summarizes the numbers of valid responses from all of the countries that participated in GUESSS 2016. Because the office in charge of GUESSS is located at a Swiss university, the majority of participating countries are in Europe. Besides Japan, other Asian nations include China, Korea, Malaysia, India, and Pakistan.

Table 1. GUESSS 2016 Participating Nations and Valid Responses

Nation	No. of Universities	Valid Responses	% of Total
Germany (GER)	50	15,984	13
Ecuador (ECU)	5	8,211	6.7
Brazil (BRA)	83	7,417	6.1
Spain (ESP)	19	7,373	6
Poland (POL)	58	6,388	5.2
Chile (CHI)	32	6,077	5
Hungary (HUN)	23	5,182	4.2
Portugal (POR)	11	4,685	3.8
El Salvador (ESA)	14	4,653	3.8
Italy (ITA)	39	4,446	3.6
Russia (RUS)	34	4,152	3.4
Colombia (COL)	13	3,832	3.1
Austria (AUT)	51	3,755	3.1
China (CHN)	97	3,274	2.7
Panama (PAN)	5	3,273	2.7
Slovakia (SVK)	17	3,266	2.7
Switzerland (SUI)	40	2,943	2.4
Argentina (ARG)	45	2,625	2.1
Korea (KOR)	52	2,603	2.1
Australia (AUS)	18	2,359	1.9
Morocco (MAR)	11	2,044	1.7
Croatia (HRV)	26	1,555	1.3
Japan (JPN)	25	1,490	1.2
Uruguay (URY)	7	1,396	1.1
Peru (PER)	12	1,297	1.1

Nation	No. of Universities	Valid Resposnes	% of Total
Mexico (MEX)	4	1,207	1
Czech Republic (CZE)	10	1,135	0.9
England (ENG)	16	1,074	0.9
Estonia (EST)	25	811	0.7
Ireland (IRL)	17	807	0.7
Belgium (BEL)	6	771	0.6
Belarus (BLR)	16	716	0.6
France (FRA)	16	714	0.6
Greece (GRE)	12	649	0.5
Sweden (SWE)	10	606	0.5
Pakistan (PAK)	12	580	0.5
Slovenia (SLO)	5	575	0.5
Finland (FIN)	16	532	0.4
Lithuania (LTU)	36	426	0.3
USA (USA)	15	353	0.3
Canada (CAN)	2	297	0.2
Kazakhstan (KAZ)	22	253	0.2
Liechtenstein (LIE)	2	159	0.1
Malaysia (MYS)	20	137	0.1
Macedonia (MKD)	3	124	0.1
Luxembourg (LUX)	5	82	0.1
Ukraine (UKR)	4	73	0.1
Albania (ALB)	6	70	0.1
Norway (NOR)	4	41	0
India (IND)	11	37	0
Total	1082	122,509	100

1.4 GUESSS in Japan

Universities in each participating nation select a lead university to head the GUESSS project. Participating universities are recruited, and all use the same standard research instrument. The original questionnaire is in English, but the lead university in each nation may arrange for its translation into the local language. Local universities may agree to add nation-specific questions as they see fit.

The questionnaire is managed on a server, whose URL is included in the invitation sent to students. In Japan, the survey was conducted from April through the end of July 2016. However, since it proved difficult to elicit sufficient valid responses using only university PR and Facebook, direct approaches were also used to generate responses. Flyers requesting the students' cooperation were given to teachers at participating universities and distributed directly by professors to students. The most effective approach proved to be having students complete the survey in class using smartphones.

For this round of the survey 1,490 valid responses were collected in Japan. The names of participating universities and the number of valid responses from each are summarized in Table 2. We offer heartfelt thanks to everyone who participated. The names of universities with zero responses have been removed from the table.

Table 2. Valid Responses by University

Universities	n	%	Universities	n	%
Senshu	446	29.9%	Kansai Gakuin	19	1.3%
Hosei	219	14.7%	Hitotsubashi	19	1.3%
Musashi	207	13.9%	Aichi Gakuin	15	1.0%
Ryukoku	95	6.4%	Sojo	11	0.7%
Gakushuin	64	4.3%	Kyoto Women's	7	0.5%
Kyushu	57	3.8%	Seinan Gakuin	7	0.5%
Takachiho	50	3.4%	Chuo	7	0.5%
Bunkyo	45	3.0%	Nanzandai	7	0.5%
Osaka University of Commerce	41	2.8%	Kobe	6	0.4%
Osaka City	38	2.6%	Kokugakuin	2	0.1%
Fukuoka	36	2.4%	Osaka	1	0.1%
Keio	23	1.5%	Other	45	3.0%
Tohoku	23	1.5%	Total	1490	100.0%

1.5 Respondent Attributes

As in the global sample, the majority of respondents in Japan were university students; the proportion of graduate students was small, only 8 out of a total of 1,490 valid responses came from graduate students. In Japan, 40.5% of respondents were women, 59.0% men. Japanese citizens accounted for 97.3%. While there were some exchange students from other parts of Asia, national diversity was low (Table 3).

Table 3. Nationality of Respondents in Japan

Nationality	N	%
Japan	1450	97.3%
China	20	1.3%
Korea	7	0.5%
Taiwan	3	0.2%
Other Asia	2	0.1%
Other Non-Asia	3	0.2%

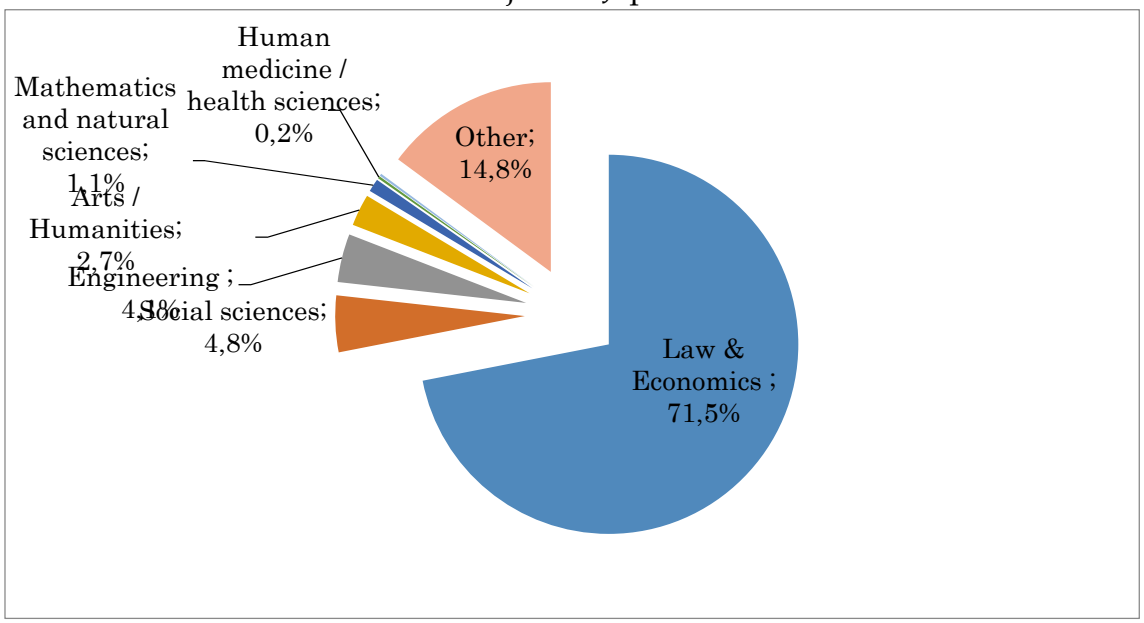
2. Factors Influencing Responses

2.1 Undergraduate Major

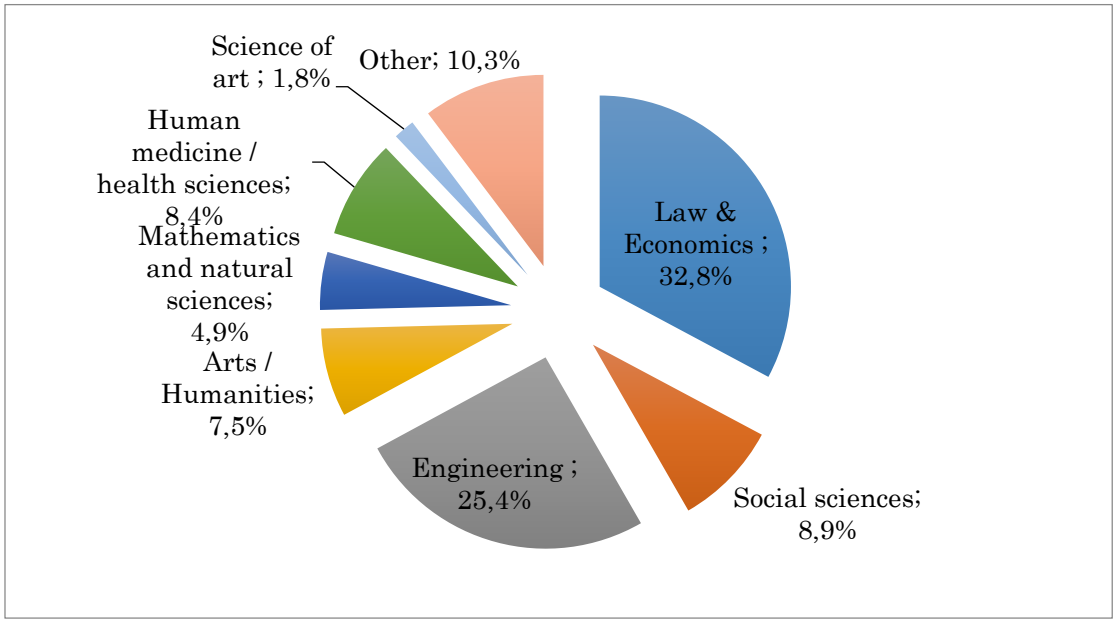
Figure 2 illustrates the breakdown of respondents by major. In Japan, the results reflect the large number of requests made to management and business faculty members. Students majoring in Law & Economics account for nearly three-quarters of the responses. This distribution of responses differs significantly from that in the global sample.

Figure 2. Respondents' Majors

Majors in Japan



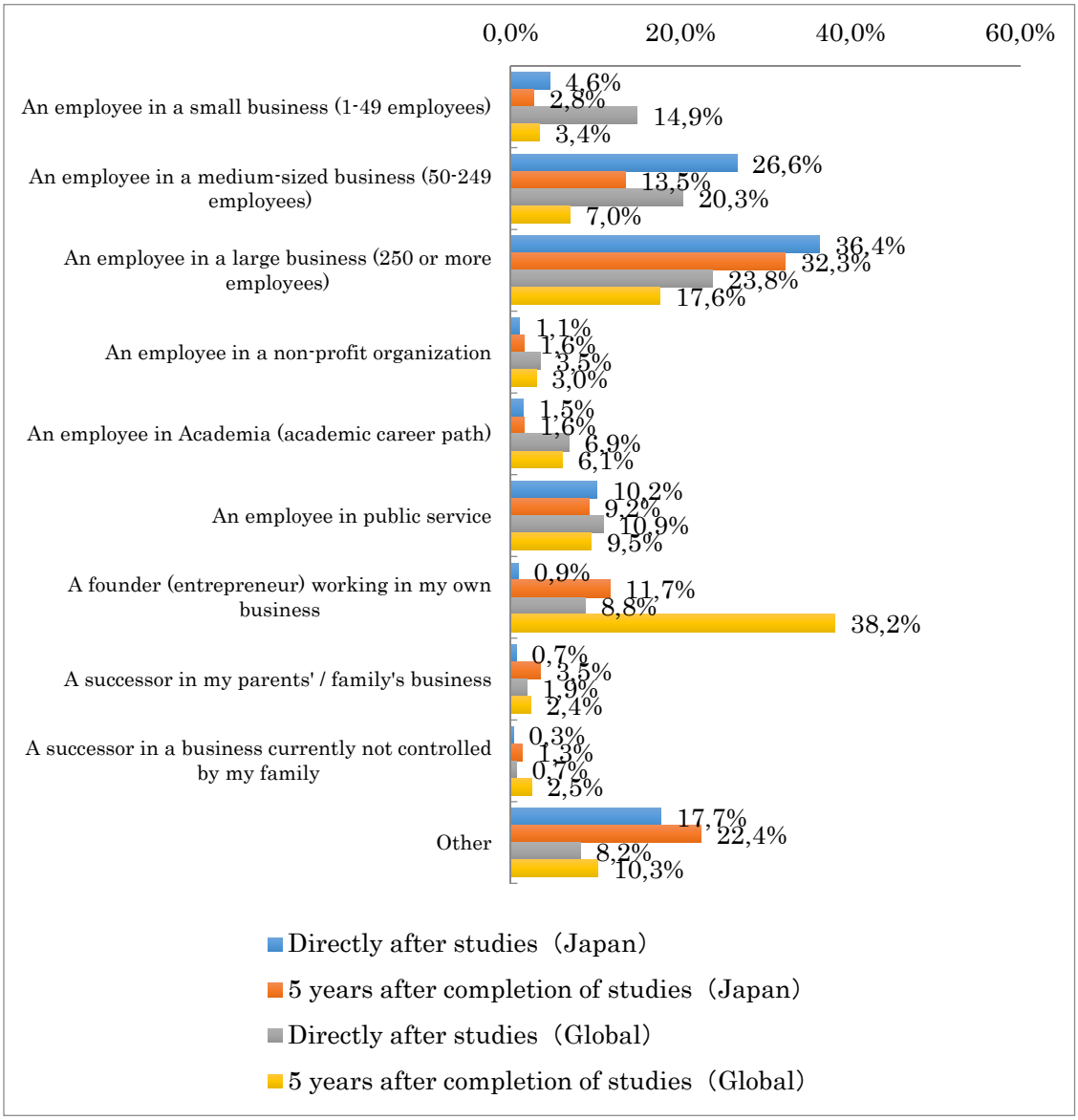
Majors in Global Sample



2.2 Career Preferences

Respondents were asked about career preferences immediately after graduation and five years later. In the global sample, the breakdown by desired company size for hoping to be employed was as follows: small businesses 14.9%, medium-sized businesses 20.3% and large businesses 23.8%. The proportion of those hoping to be employed five years later is smaller, while the number of those hoping to be founders working in their own businesses rises to 38.2%. In Japan, the majority of respondents hoped to be employed immediately after graduation. The breakdown of preferred company size was as follows: small businesses 4.6%, medium-sized businesses 26.6%, and large businesses 36.4%. Intention to seek employment in large businesses was strong. In contrast those who wish to be founders working in their own businesses immediately after graduation account for only 0.9% of respondents, and the number hoping to have started their own businesses five years after graduation stalls at 11.7%. Compared to the average scores for the global sample, 8.8% immediately after graduation and 38.2% five years later, the scores in Japan are low (Figure 3). A similar tendency can be seen in the following bar chart.

Figure 3. Comparison of Career Preferences

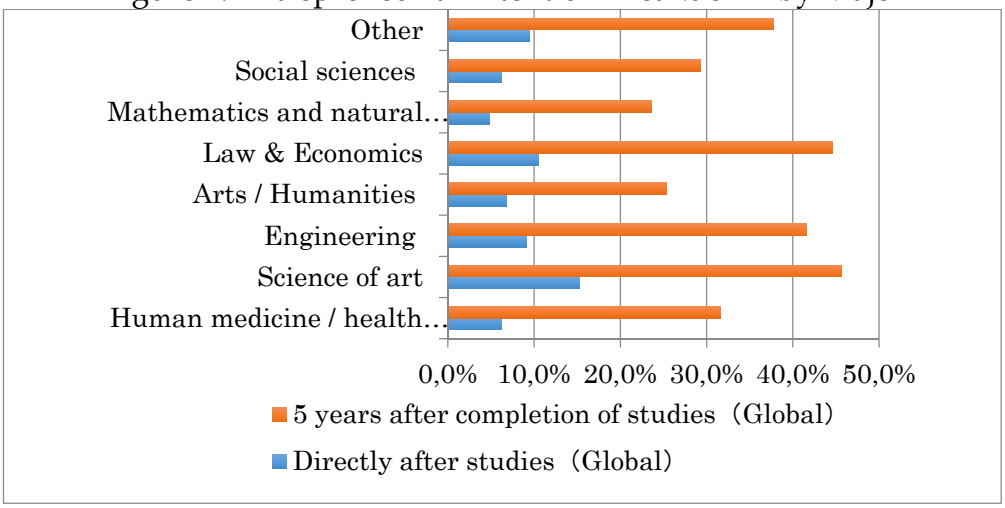


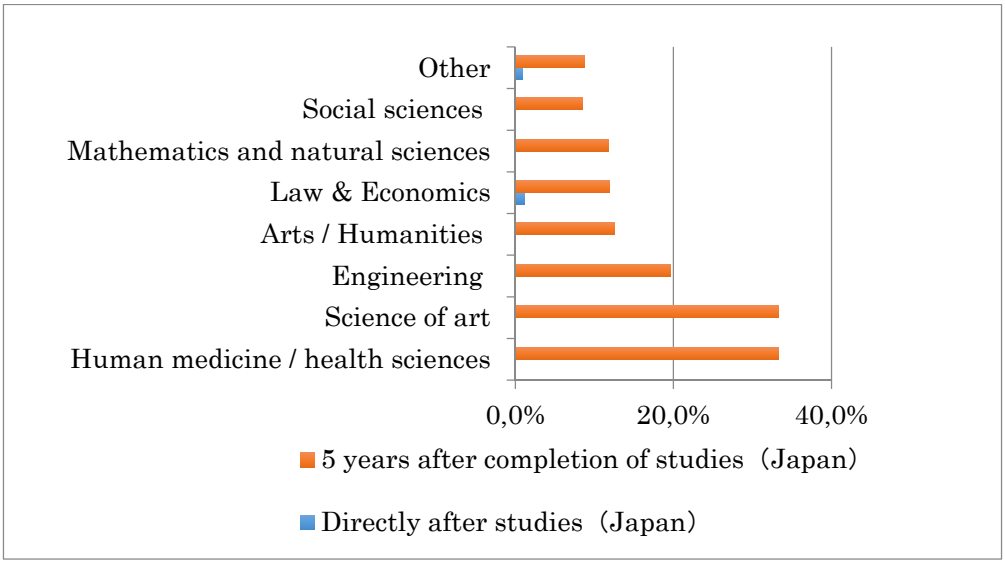
2.3 Entrepreneurial Intention by Major

When we turn to the breakdown of those aiming to become entrepreneurs by major, we again find large differences between the global sample averages and the results from Japan, as well as large differences between after graduation and five years later. In Japan, almost all of those who intend to become entrepreneurs were majoring in Law and Economics; other majors are all but absent (Figure 4). The number of would-be entrepreneurs five years after graduation, however, increased for all majors. Those hoping to

become entrepreneurs after five years account for at least 10-20% of respondents from all majors. It is particularly interesting that the desire to become entrepreneurs after five years is stronger among students in the Arts/ Humanities or Engineering than it is among those who major in Law and Economics. It is not surprising that those majoring in Human medicine/Health intend to start their own businesses (clinics or drugstores). Those pursuing careers in Science of arts may have a similarly strong desire for independence.

Figure 4. Entrepreneurial Intention Breakdown by Major

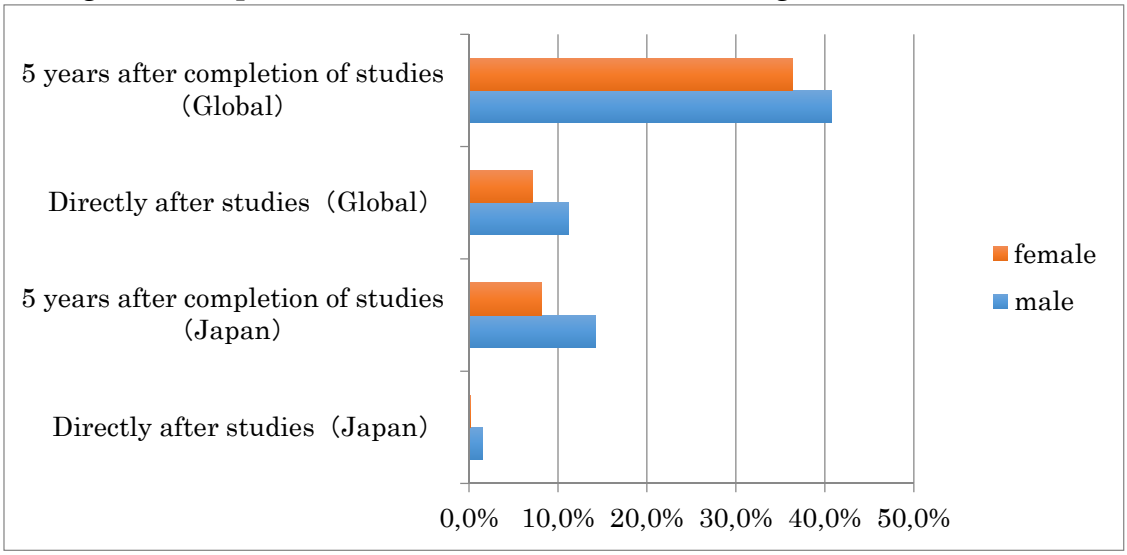




2.4 Entrepreneurial Intention Breakdown by Gender

How do Japan and the global sample compare in terms of gender? In both, the proportion of men who want to become entrepreneurs is higher than the proportion of women (Figure 5). The proportion of both men and women wanting to become entrepreneurs immediately after graduation in the global sample is almost identical to the proportion in Japan five years after graduation. Members of both sexes seem cautious about starting businesses.

Figure 5. Proportions of Men and Women Intending to Create Businesses

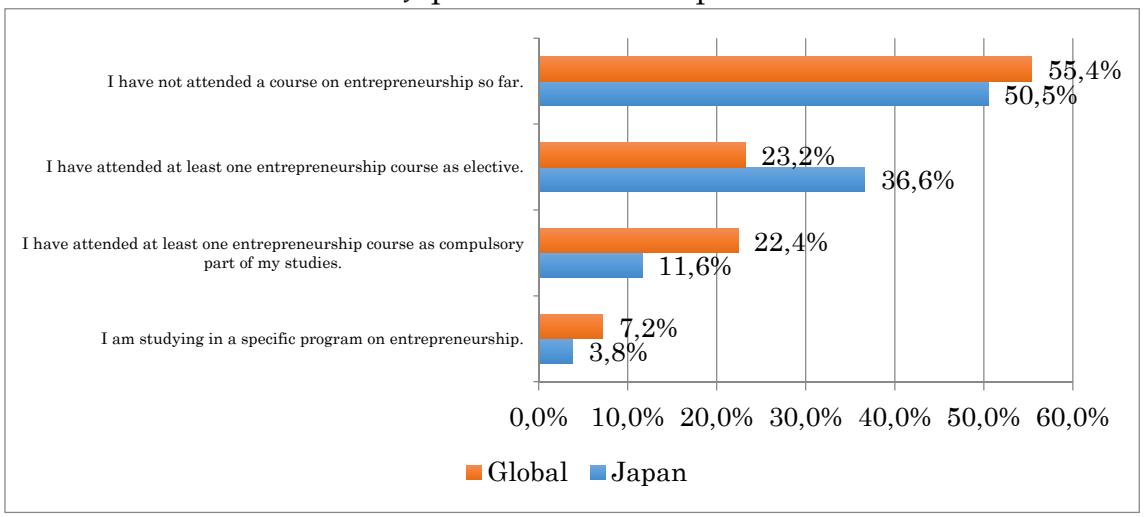


2.5 Entrepreneurial Education

Turning to the question of whether students take either compulsory or elective courses related to entrepreneurship, there is no significant difference between the global sample (55.4%) and Japan (50.5%) in the proportion of students taking no courses on entrepreneurship. If, however, we compare compulsory and elective courses, we see that in Japan the proportion taking compulsory courses is low compared to the global sample. Conversely, the proportion taking elective courses is higher than in the global sample.

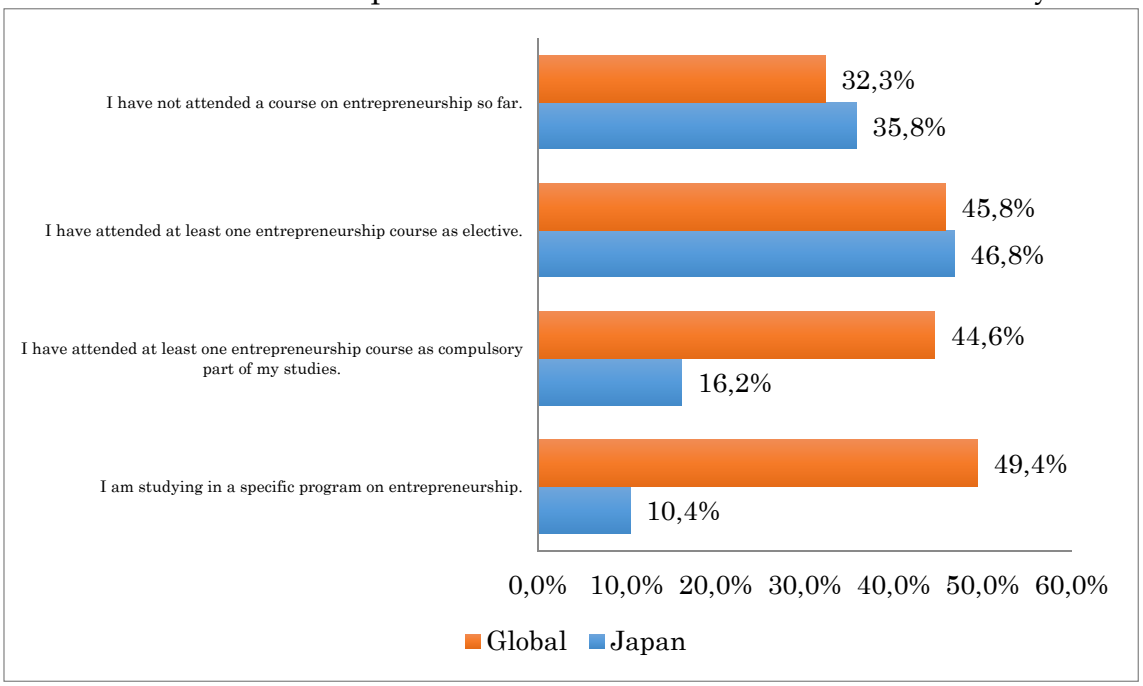
Figure 6. Proportion Taking Courses Related to Entrepreneurship

(Japan vs Global Sample)



Next, let us look only at those who intend to start businesses five years after graduation (Figure 7). There is no significant difference between Japan (35.8%) and the global sample (32.8%) in the proportion who attended no courses on entrepreneurship. There is also no significant difference among those who attended elective courses in Japan (45.8%) and in the global sample (46.8%). It appears that in both Japan and the global sample, those somewhat interested in pursuing entrepreneurial careers five years after graduation take some related courses. The biggest difference is in the proportion of those who take compulsory courses. At 16.2%, the proportion of students in Japan who attended compulsory courses is low compared to the global sample; that result appears to reflect the fact that in Japan few universities require courses related to entrepreneurship. In the global sample, 44.6% of students with entrepreneurial intentions had attended compulsory courses. It would seem undeniable that if more such courses were required in Japan the number of students with entrepreneurial intentions would increase.

Figure 7. Percentage of Students Taking Courses Related to Entrepreneurship
（Intend to Start Companies within Five Years After Graduation Only）



One of the questions added to the 2016 survey in Japan asked if students had taken one or more courses or seminars related to team-building. We wanted to see if studying team-building would affect entrepreneurial intention.

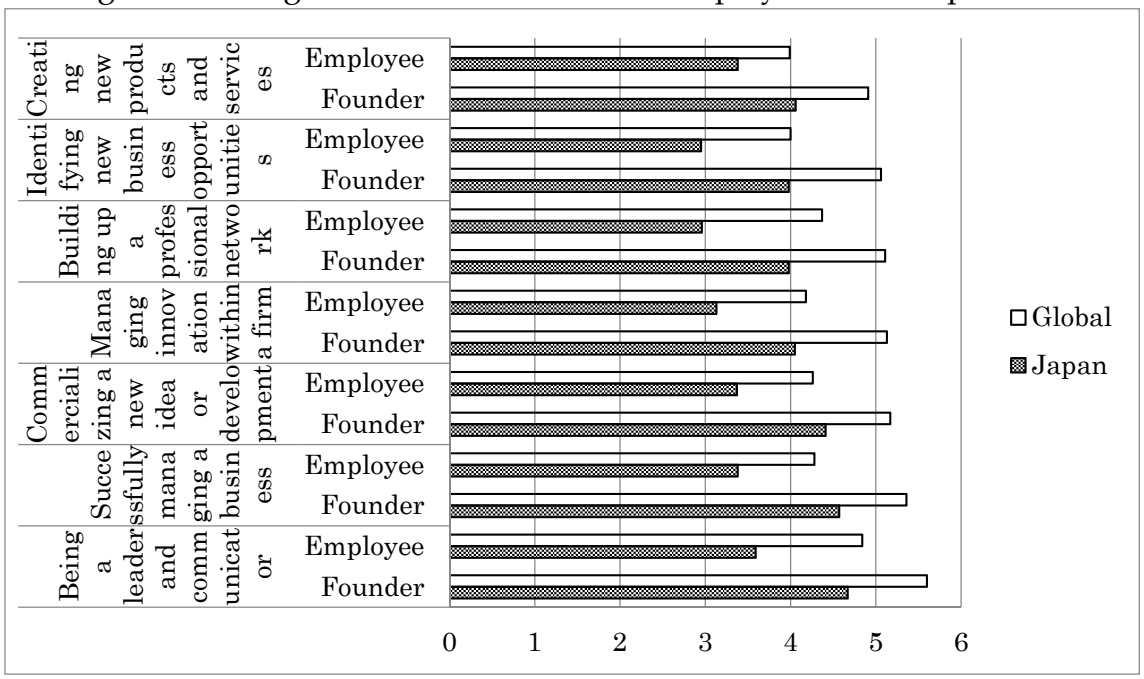
Students who took courses related to team-building accounted for 37.1% of our sample (553 individuals). Those who had not accounted for 61.9% of the respondents (923 individuals). When we compare the percentage in each category who intended to start companies five years after graduation, we find 14.5% (80 individuals) among those who had taken courses and 9.9% (91 individuals) among those who had not. It is likely, then, that taking courses related to team building affects entrepreneurial intention.

2.6 Management Skills

Students were asked to rank themselves on seven types of management skills using a six-point scale. When we compare the results for Japan with those

from the global sample, we find that skill levels are low in Japan (Figure 8). Moreover, those who wished to become entrepreneurs consistently rated themselves higher and those who wished to become employees rated themselves lower on all seven skills. It is easy to see that those who rate their skill levels higher will be more likely to want to become entrepreneurs. These results from Japan are consistent with those from other participating nations, which also suggest that improving skills would strengthen motivation to become entrepreneurs.

Figure 8. Management Skills of Would-be Employees vs Entrepreneurs



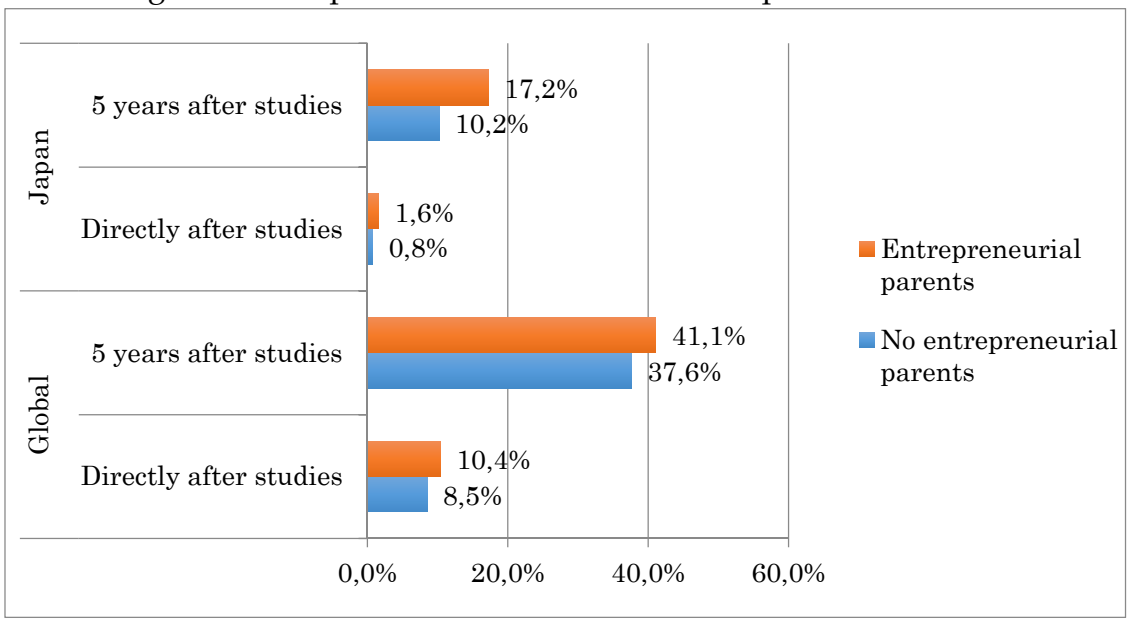
2.7 Family Circumstances

In the global sample, 17.5% of respondents replied that either their father or mother ran their own businesses. In Japan, this figure was 20.8%.

Does having an entrepreneur as parent increase entrepreneurial intention? The effects of parental influence are displayed in Figure 9. Respondents with at least one parent running their own business score higher on entrepreneurial

intention. This tendency is found in Japan as well as in the global sample. Because, however, entrepreneurial intention is weak in Japan, the direct influence of entrepreneurial parents is difficult to measure. We turn instead to consider the influence of the business performance of the parent's company.

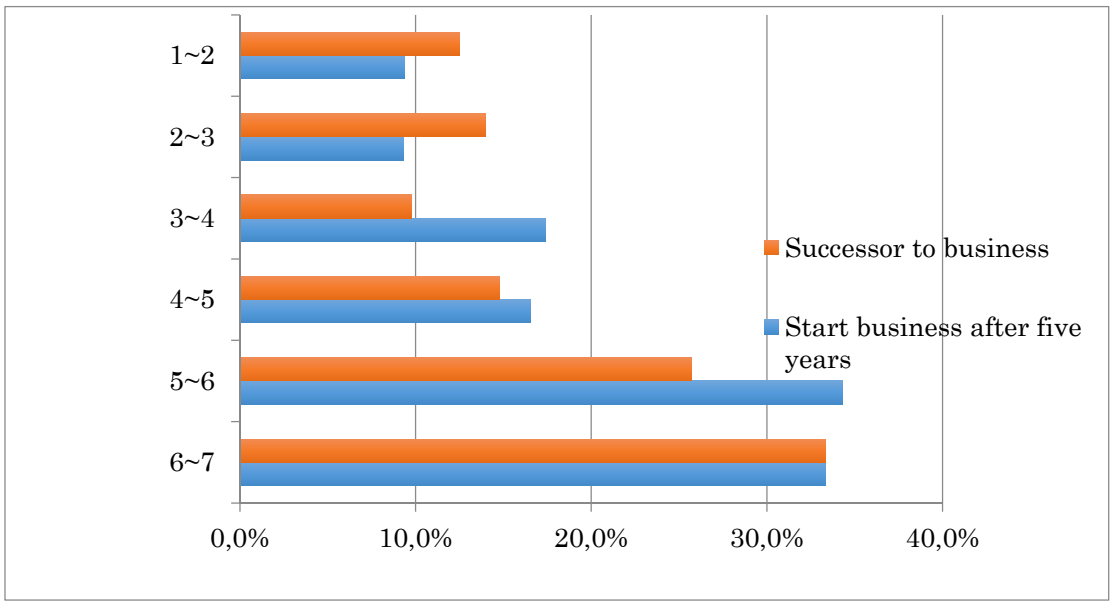
Figure 9. Entrepreneurial Intention and Entrepreneurial Parents



Let us turn, then, to Figure 10 and the relationship between the business performance of parents' companies and students' entrepreneurial intentions. To evaluate business performance, we asked about growth in sales, growth in profits, market share, employment generated, and innovation, all during the last three years. Students were asked to rank their parents' companies on these items, using a six-point scale. We wanted to compare the answers of those expecting to carry on their parents' businesses with those intending to start their own companies five years after graduation. There was a positive correlation between strong business performance and intention to carry on the family business or start one's own company. For these students, running their own businesses is apparently a more attractive career path than becoming an

employee. Of particular interest is that among those whose parents' companies are performing poorly (scoring 1 or 2), the proportion of those who want to carry on the business is higher than the proportion of those who want to start their own companies. In contrast, among those with mid-range scores (3-5), the proportion of those who want to start their own companies is higher. It is among those whose parents' companies score highest (6-7), that we find that carrying on the business or starting their own are competing options. Our interpretation is that when the parental company's performance is poor, students may want to come to the aid of their parents and rebuild the business. It is when company performance is middling that the desire to start their own business and succeed on their own is strongest. When the parents' company performance is high, the incentive to carry it on instead of starting a business becomes stronger.

Figure 10. Effect of Parent's Company Performance on Entrepreneurial Intention



3. Nascent Entrepreneurs

3.1 Nascent and Active Entrepreneurs

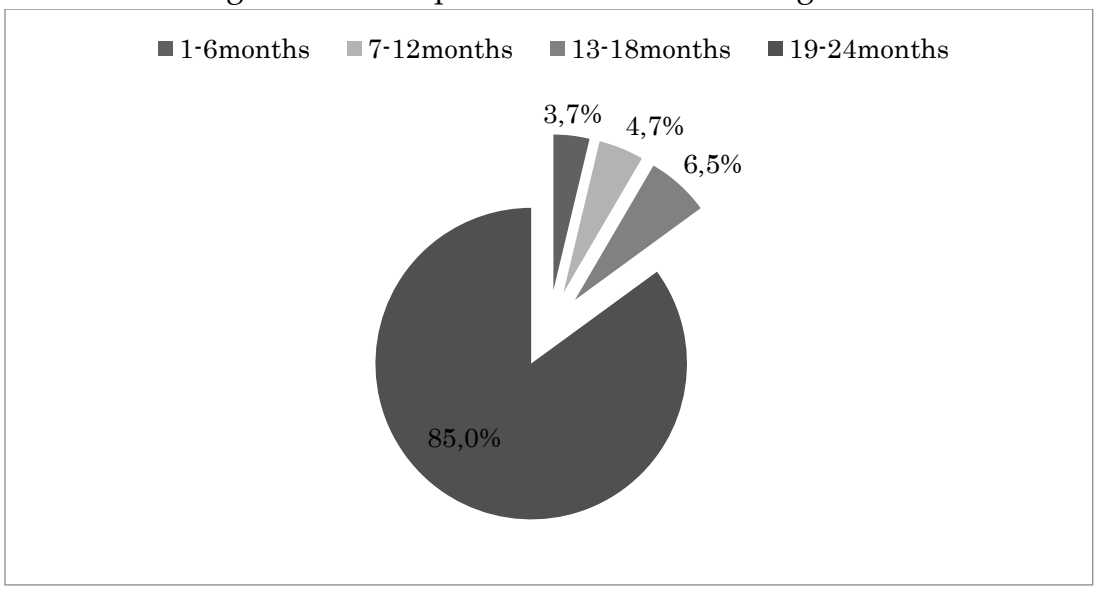
When asked about preparations for starting a company, 21.9% of the global sample identify themselves as nascent entrepreneurs. They plan to found a company or become self-employed. In Japan, however, only 12.8% (190 respondents) belong to this group. On this measure, of the 49 nations in the global sample, Japan ranks 38th.

Active entrepreneurs, those who have already set up their own companies or are self-employed, account for 8.8% of the global sample, but only 1.3% of the respondents (19 individuals) in Japan.

3.2 Businesses in Planning

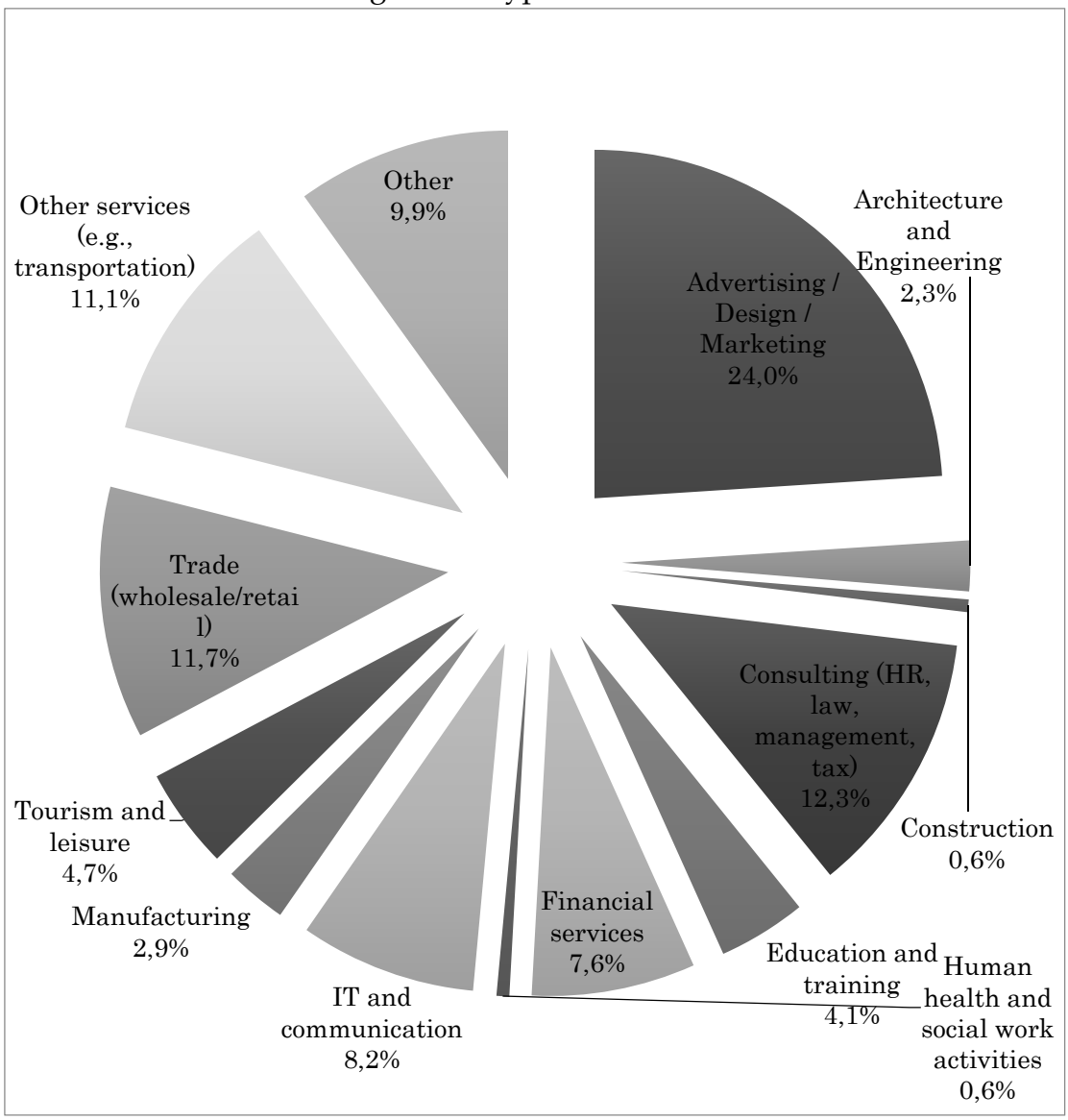
When we asked the 190 nascent entrepreneurs in the Japan sample when they want to start their businesses, 85% replied within 19 to 24 months. The figure for the global sample is 46.4%, suggesting that Japanese students think they need more time before starting their own businesses (Figure 11).

Figure 11. Anticipated Time Before Starting Business



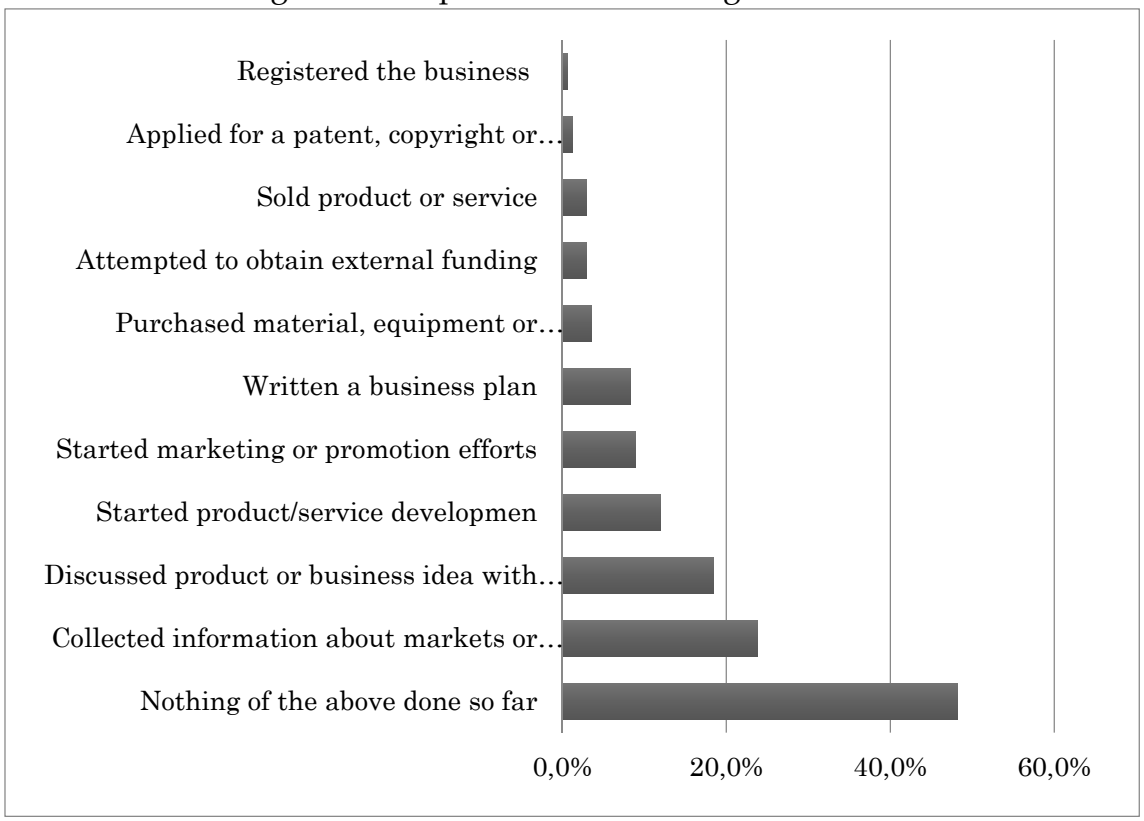
Next, we asked what type of business they intended to start (Figure 12). The majority chose advertising, design, or marketing. Next came HR, law, management, and tax-related professions. These were followed by smaller numbers interested in Trade (wholesale/retail), other services (e.g., transportation), and IT or telecommunications. Globally, the rankings were commerce (wholesale, retail), advertising, design, or marketing, and IT and communications.

Figure 12. Types of Business



Those who had not yet done nothing so far accounted for around 50% of the nascent entrepreneurs in Japan, much higher than the 20% in the global sample (Figure 13). The absence of concrete preparations, among those intending to start businesses, is in line with plans to start businesses two or more years in the future. In Japan, 23.8% were collecting information about markets or competitors, less than half the 51.3% figure in the global sample. Only 18.5% were discussing product or business idea with potential customers, compared to 35.4% in the global sample.

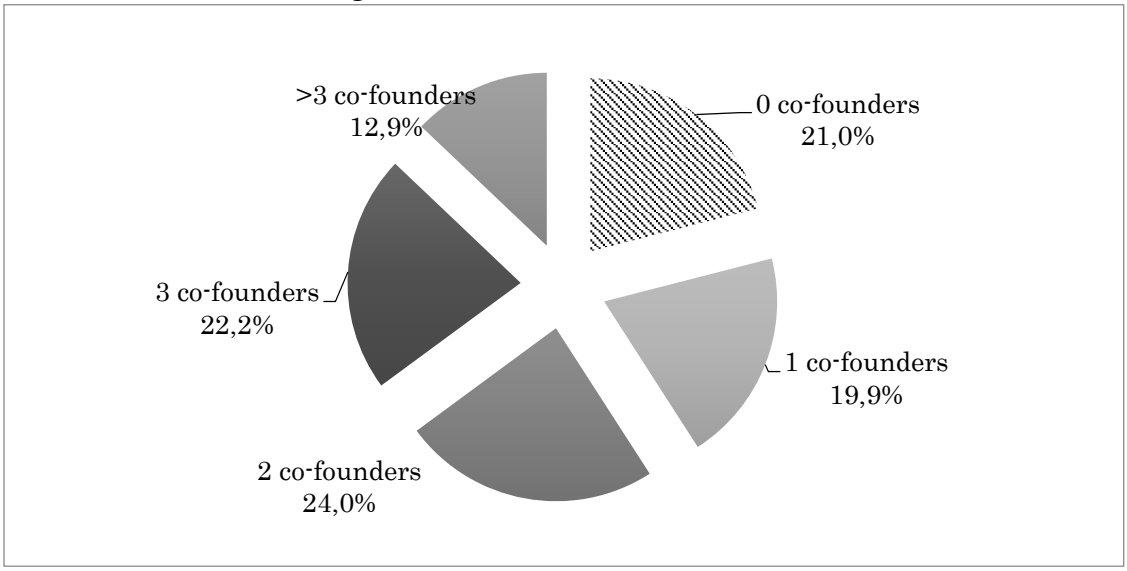
Figure 13. Preparations for Starting Businesses



As indicated in Figure 14, when asked how many members are required for a start-up team, answers were quite diverse. In Japan, 21% expect to go into business by themselves, a figure not all that different from the 18.6% in the global sample. Here we see a tendency to envision the need to form a team

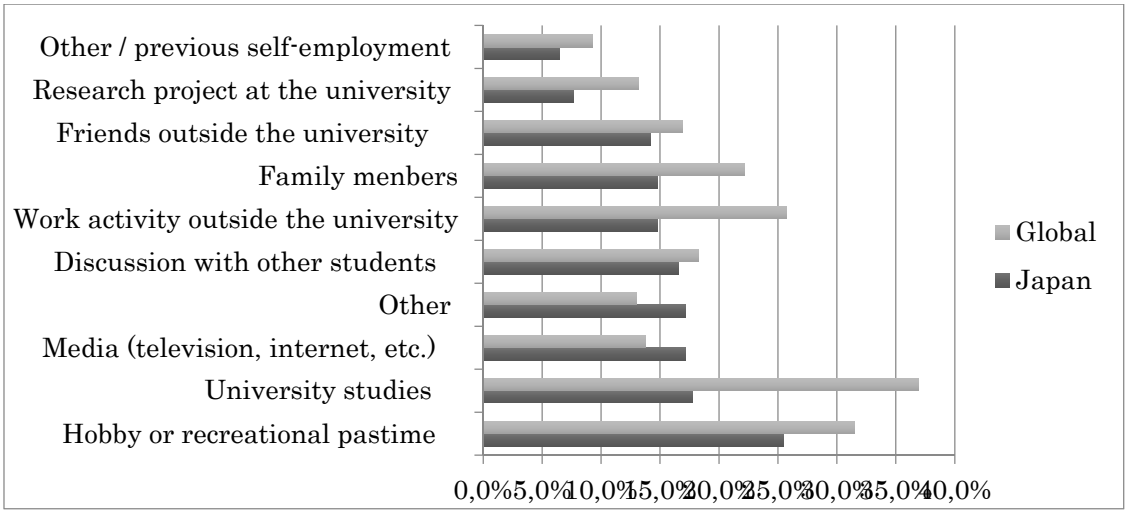
when starting a business.

Figure 14. Number of Co-Founders



Where do they find business ideas? Here we compare the results from Japan with those from the global sample. Compared to the global sample, Japanese respondents have fewer sources of ideas to draw upon. The Japanese score exceeds the global sample score for only one source, the media. For the global sample, research project at the university is by far the largest source, but this tendency is largely lacking in Japan. This may reflect the comparatively small number of Japanese respondents who study science and engineering.

Figure 15. Sources of Ideas



4. Active Entrepreneurs

What types of businesses have the 19 active entrepreneurs from Japan started?

4.1 Existing Businesses

The size of these businesses, in terms of number of employees, varies (Figure 16). Only 2 respondents (11%) have started businesses with fifty or more employees.

In terms of industry sector, the largest category is advertising, design, and marketing, followed by Trade (wholesale/retail) (Figure 17). As for numbers of co-founders, those in business by themselves account for 32%; most have one or more co-founders (Figure 18). Satisfaction on a seven-point scale varies widely (Figure 19).

Figure 16. Number of Employees

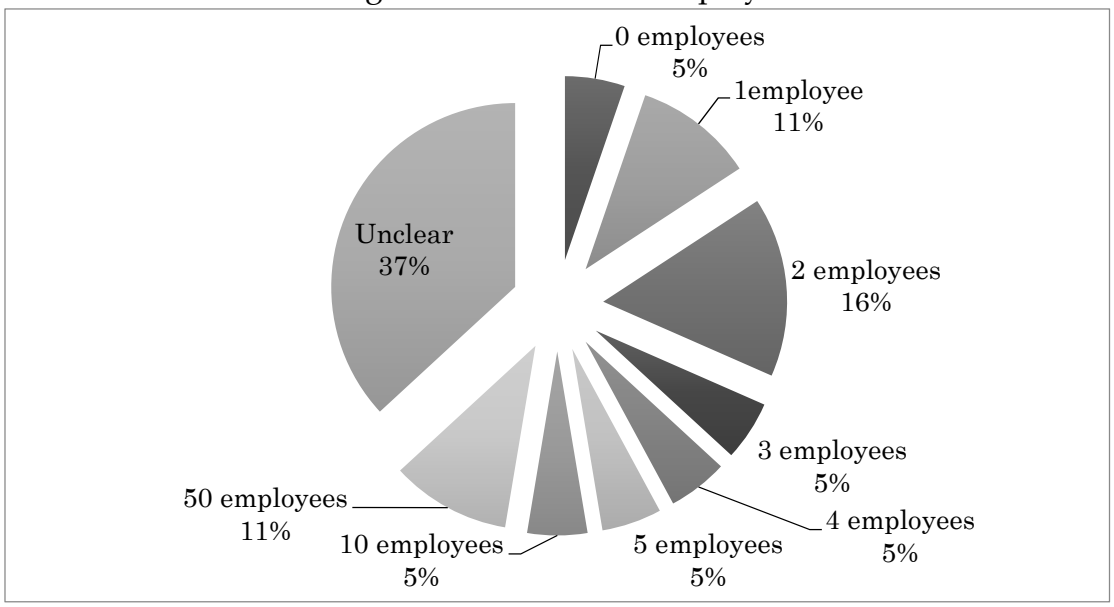


Figure 17. Industry Sector

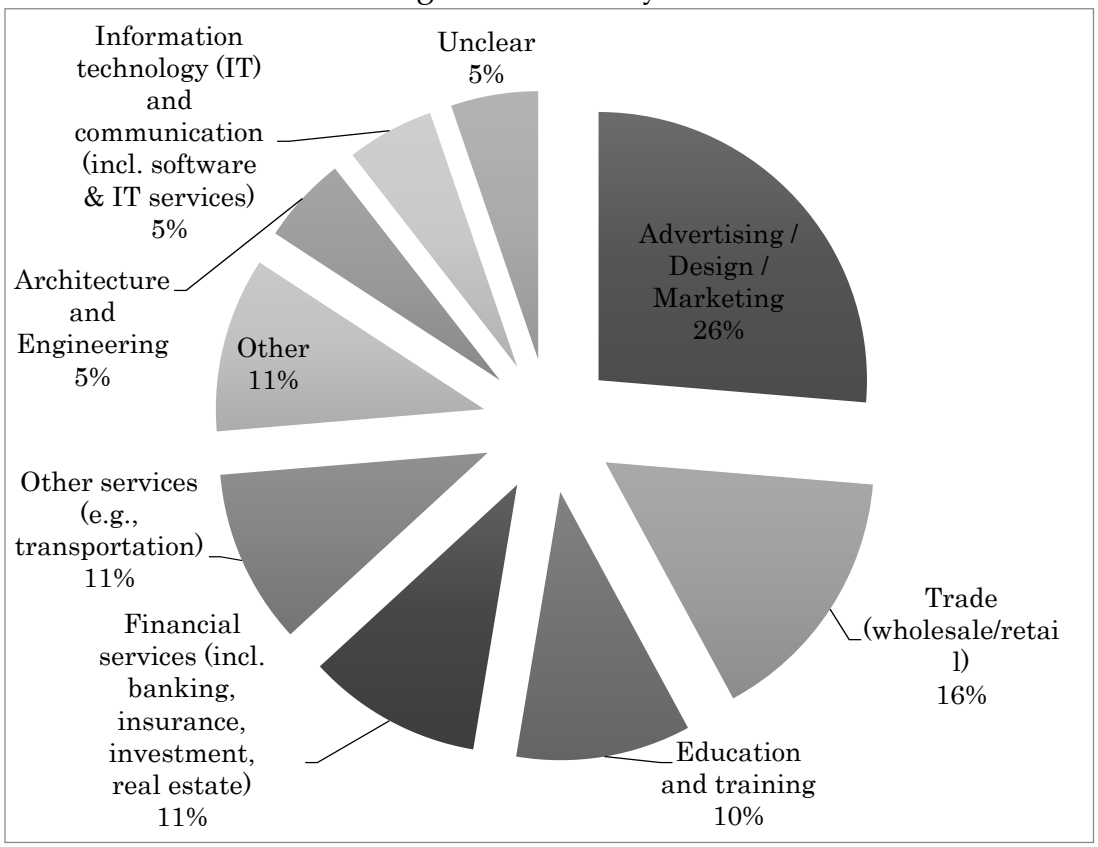


Figure 18. Number of Co-Founders

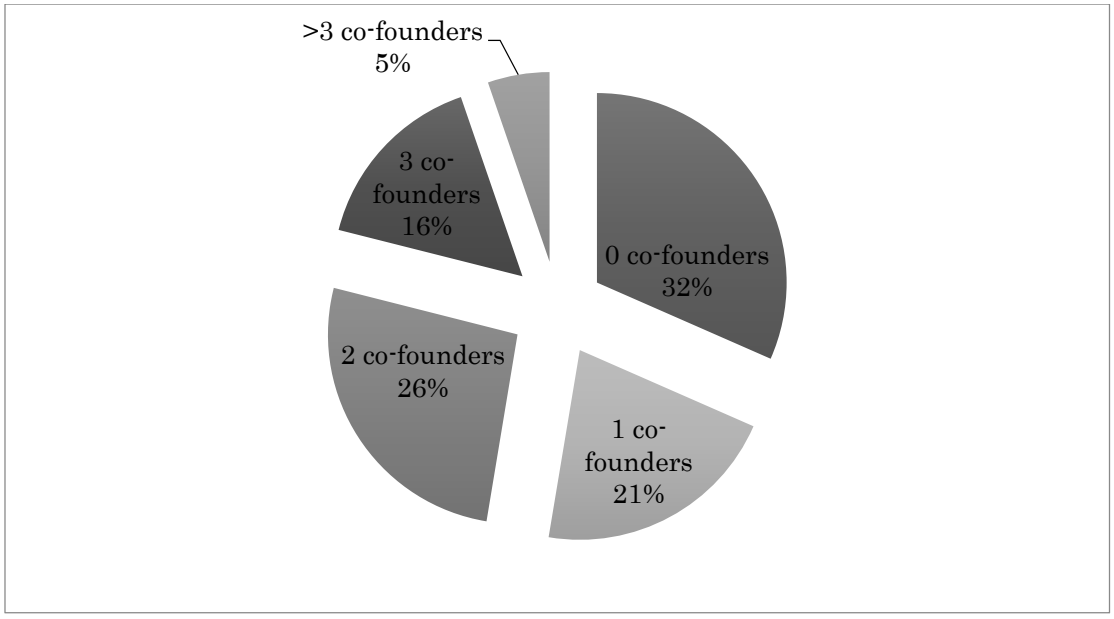
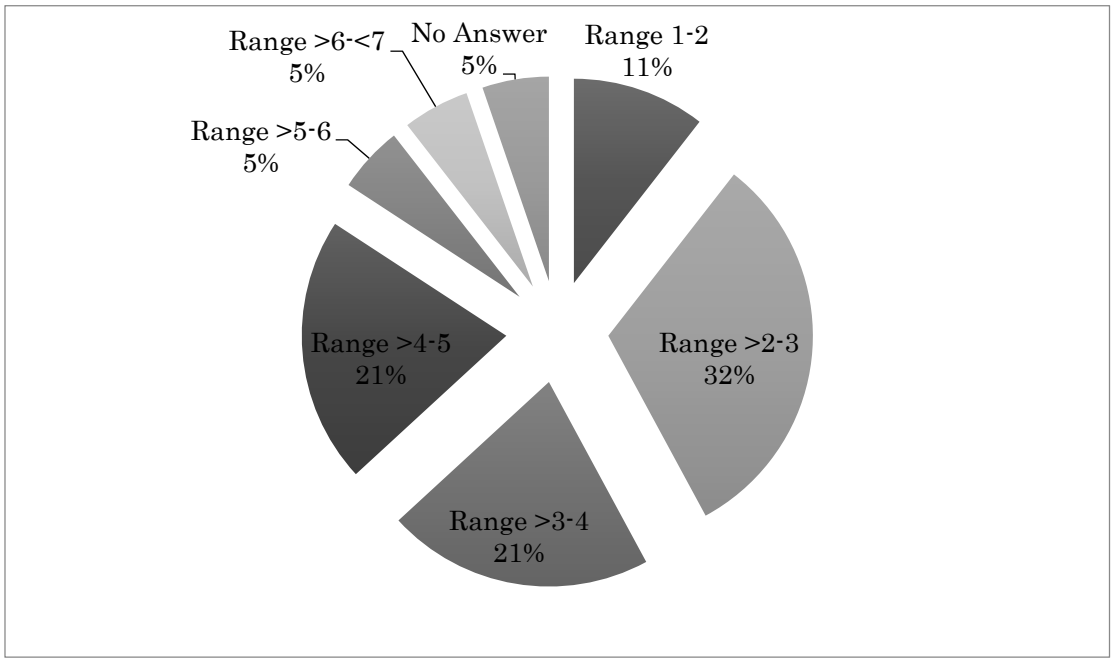


Chart 19. Level of Satisfaction



7= Most Satisfied, 1= Least Satisfied

4.2. Entrepreneurial Motives and Performance

We asked about motivations for starting a business (Table 4). "To realize core values," and "To find new ways to change the world" scored highest. These were followed by "Working with friends, roommates, or community members, people with whom I feel a strong bond, to solve a social problem" and then "To develop a business career" and "To make a lot of money."

Table 4. Motives for Starting a Business

Motives	Average	SD
Realize core values	5	2.00
Find new ways to change the world	4.78	2.05
Work with friends, colleagues or community members to solve social problems	4.53	2.09
Develop a business career	4.42	2.04
Make money	4.21	2.02
Create NPO to address inequality, environmental degradation or other social problems	3.89	2.03
Demonstrate ability to future employees/co-workers	3.83	2.09
Play a role in building strong ties among friends, colleagues and communities	3.68	1.92
Become rich	3.26	1.88

Figure 20 shows quantitative indices of business performance: sales, profits, market share, number of employees, and relation to competitors measured on a seven-point scale. Table 5 shows results for a variety of qualitative measures evaluated using seven-point scales. The measures are presented by ranking from those scoring highest to those scoring lowest.

Figure 20. Quantitative Performance:

Evaluation, Compared with Competitors, of Sales, Profits, Market Share, Number of Employees

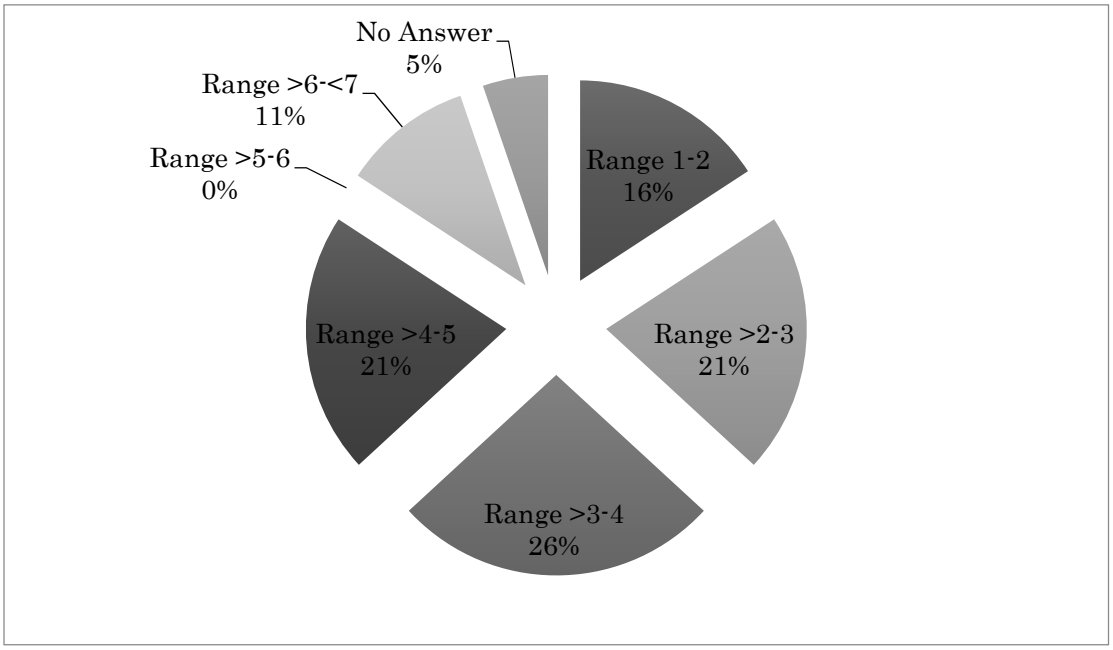


Table 5. Qualitative Performance

Performance Item	Mean	SD
Recognition and support from target customers	4	1.92
Interaction with target customers	3.95	1.99
Efficient handling of customer target customer requests	3.95	1.68
Helps target customers distinguish themselves from other consumers/groups	3.84	1.98
Growing recognition for addressing social issues	3.72	2.08
Brings about changes in rules and regulations	3.61	2.00
Builds personal wealth through entrepreneurship	3.53	1.84
Changes the way other companies do business	3.5	2.07
Shares information and know-how with targeted customers	3.42	1.81
Develops solutions to specific issues confronting society	3.33	1.97
Has become a role model for other companies	3.22	1.99

5. Succeeding to Businesses

We wanted to know how many of the 275 respondents with at least one parent operating their own business expected to succeed to and carry on the business. The results tabulated in Table 6 are derived from evaluation on seven-point scales of items including "I am prepared to continue my parents' business," "My career goal is to continue my parents' business," and "If I have the opportunity, I would like to operate my parents' company." We have also tabulated the business performance of the parents' businesses, using seven-point scales to measure sales, market share, profitability, number of employees, and innovation. We discover correlations significant at the 1% level between desire to carry on the business and the performance of the parents' businesses (Table 6).

Table 6. Succession Intention and Performance of Parents' Businesses

	Succession Intention	Business Performance
Pearson Correlation Coefficient	1	0.368**
Significance (two-tailed)		0.000
Frequency	275	263

**Significant at the 1% level

We used a seven-point scale to ask if parents, siblings, relatives, or others approved or disapproved of the intention to succeed to and carry on the business. Approval increased intention to do so (Table 7).

Table 7. Approval and Desire for Succession

	Succession Intention	Response from Others
Pearson Correlation Coefficient	1	0.485**
Significance (two-tailed)		0.000
Frequency	275	269

**Significant at the 1% level

The intention to succeed to the business was measured using a seven-point scale. Of the 66 respondents who reported the mid level value, 4, or higher, the majority expected to succeed to the business five years or more in the future (Table 8).

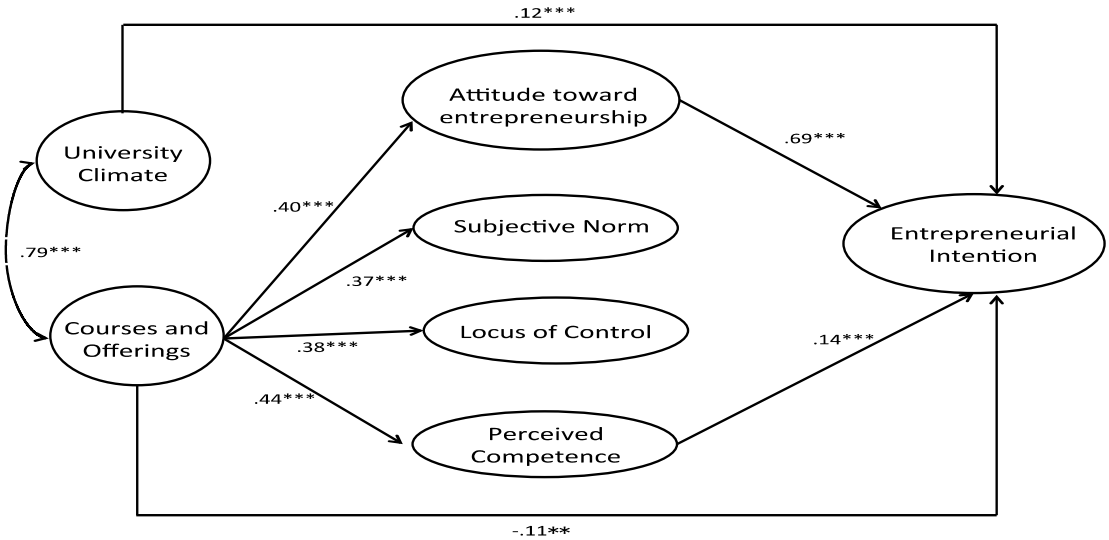
Table 8. Timing of Succession

Timing of Succession	Frequency	%
Within 1 year after graduation	3	4.5
Within 2-5 years after graduation	16	24.2
Five years or more after graduation	47	71.2
Total	66	100

6. Analysis of Factors Affecting Entrepreneurial Intention

Here we analyze the data from Japan, looking for factors that affect student intentions to become entrepreneurs. Analyzing these data enables us to better grasp how entrepreneurial education and university atmosphere promoting entrepreneurship can energize students' entrepreneurial intentions. These findings should be taken into account and used by universities in Japan.

Figure 21. Factors Affecting Entrepreneurial Intention (Japan)



*p < .05; **p < .01; ***p < .001
$\chi^2(449) = 2755.53$, NFI = .923, RFI = .910, CFI = .935, RMSEA = .059, AIC = 2977.53
Values are standardized coefficients.

In Figure 21, Entrepreneurial Intention is the factor located furthest to the right. This model, based on the Theory of Planned Behavior, suggests how it is influenced by the other factors. The figure includes the factors remaining when unintended paths, number of indices, number of errors, and error correlations are excluded from the model. Latent variables are described below.

Entrepreneurial Intention is a measure constructed from six items: preparation to become an entrepreneur, seeing entrepreneurship as a career goal, unsparing effort to set up and manage a business, decision to set up a company, seriousness about setting up a company, and strong desire to set up a company (Linan & Chen 2009).

University Climate is constructed from three items: climate favoring creation of new business ideas, climate encouraging entrepreneurship, and university support for students' entrepreneurial activities (Franke & Lüthje 2004; Geissler, 2013).

Courses and Offerings is constructed from five items: deeper understanding of entrepreneurial position, values, and motivations; deeper understanding of actions required to start a business; practical skills required to start a business; effort to form a broader network; and effort to discover business opportunities (Souitaris et al. 2007).

Attitude toward entrepreneurship is constructed from five items, including whether becoming an entrepreneur is seen as having significant merits or demerits for the students themselves; whether becoming an entrepreneur is an attractive prospect; and whether, given the opportunity and the capital, the student will likely become an entrepreneur (Linan & Chen 2009).

Subjective Norm is a measure of whether family, friends and acquaintances approve students' becoming entrepreneurs (Linan & Chen, 2009).

Locus of Control is a measure constructed from answers to three

questions gauging ability to protect profitability for oneself; ability to plan and execute; and how determined one is to make one's own way in the world (Levenson, 1973).

Perceived Competence is a measure constructed from answers to seven questions gauging ability to identify new business opportunities; ability to manage business innovation; leadership; and ability to build a network of specialists (Chen , Greene & Crick, 1998; Forbes, 2005; Weber & Schaper ,2004; Zhao, Seibert & Hills, 2005).

In Figure 21, we should pay special attention to University Climate and Courses and Offerings, the two variables located furthest to the left. University Climate is directly and strongly correlated with Entrepreneurial Intention. We see no indirect effects. In contrast, the effects of Courses and Offerings are mediated by Attitude toward entrepreneurship and Perceived Competence in affecting Entrepreneurial Intention. Of particular interest are the positive correlations between Courses and Offerings and both Subjective Norm and Locus of Control. There are no paths connecting these items to Entrepreneurial Intention. Even when the responses of those around the student express understanding of entrepreneurship and students see themselves as the Locus of Control in their lives, these factors alone do not result in Entrepreneurial Intention.

There is, however, one direct and negative correlation, between Courses and Offerings and Entrepreneurial Intention. The explanation lies in the clear failure of University Learning to provide the skills and abilities required by entrepreneurship. The result is caution about becoming an entrepreneur.

7. Summary

The purpose of this survey is to reveal the distinctive features of Japanese students' career selection and entrepreneurial activities by comparing its results with global averages and to determine the effects of University Climate and Entrepreneurial Education on Entrepreneurial Intention.

In the Japan sample, 70% of the 1,490 respondents were majoring in the social sciences. The proportion of those who include creating companies immediately after graduation among their career goals is less than 1%. Five years after graduation, that proportion rises to 11.7%. The global average for all participating nations is 8.8% immediately after graduation and 38.2% five years after graduation. There is little difference between the global average and the proportion in Japan (50.5%) of those who have received some entrepreneurial education, but the proportion of those who have taken compulsory courses is low. If we focus on those who want to start companies within five years after graduation, 46.8% have taken elective courses, but only 16.2% have taken compulsory courses. The global averages for these measures are, respectively, 45.8% and 44.6%, suggesting that increasing the number of compulsory courses would increase the number of students choosing entrepreneurial careers.

There is a significant difference in self-evaluation on seven management-related skills between those who intend to start companies within five years of graduation, and those seeking employment. Those hoping to start companies rate their skills higher than those seeking employment.

In Japan, nascent entrepreneurs, those preparing to start companies, comprised 12.8% of respondents (190 individuals), while those who have already started companies make up 1.3% of respondents (19 individuals). However, among nascent entrepreneurs, only around 20% have gathered information about markets and competitors or discussed the likely customers

and products. Less than 10% have put together a business plan. Japanese students are low on taking concrete action. In terms of business sector, most would-be entrepreneurs are interested in advertising, design, or marketing. Around 80% anticipate forming a co-founder team. Among active entrepreneurs, the majority is involved in advertising, design, or marketing, and around 70% had multiple co-founders. Among motivations for starting companies, self-realization and solving social problems are stronger than economic motivations.

Among the 275 respondents whose parents run their own businesses, we see a correlation between business performance and intention to inherit and carry on that business. But when comparing those who wish to inherit and carry on a family business with those who want to start their own businesses, the number of those who wish to inherit rises when business performance is poor, suggesting a desire to rebuild the family business. Mid-level performance is correlated with a stronger desire to start a company of one's own, and when performance is strong, inheritance and entrepreneurship become competing goals.

Structural equation modeling (SEM) was used to provide an overview of factors affecting Entrepreneurial Intention. University Climate (university support for entrepreneurial activities and university atmosphere) is directly correlated with Entrepreneurial Intention. Courses and offerings influence Entrepreneurial Intention via Attitude and Perceived Competence.

While we understand that Japan's universities will have to best support entrepreneurial activities and create an arena for entrepreneurship and provide sufficient entrepreneurship-related learning in order to increase Entrepreneurial Intention among students in Japan, additional research is required to clarify the detail of education which would be effective for entrepreneurship.

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