

1. Overview of Survey Results

This survey covers the following researchers affiliated with the institutions listed below as of May 1, 1998: full-time faculty and researchers employed in positions equivalent to university associate professor or above, graduate students enrolled in university doctorate (post-MA) programs, special researchers affiliated with the Japan Society for the Promotion of Science, research associates affiliated with the Japan Society for the Promotion of Science, and part-time researchers at universities, etc.

- (1) National, municipal, and private universities
- (2) National, municipal, and private junior colleges
- (3) National, municipal, and private colleges of technology
- (4) Inter-university research institutes, the National Center for University Entrance Examination, national institutions for academic degrees, the Center for National University Finance (referred to below as "inter-university research institutes, etc.")
- (5) The Ministry of Education, Science, Sports, and Culture, the Agency of Cultural Affairs, and institutions and facilities affiliated with them (referred to below as "government research institutes of the Ministry of Education, Science, Sports, and Culture")
- (6) Private scientific research institutes of the Ministry of Education, Science, Sports, and Culture (referred to below as "private scientific research institutes")

In total, there were 1,457 institutions and 206,178 persons subject to the survey, and valid responses were received from 1,357 institutions (93.1% response rate) and 149,759 persons (72.6% response rate) (Table 1).

In the sections which follow the research activities of the persons responding to the survey (referred to as "researchers" in the discussion below) are described.

Table 1 Persons Surveyed and Number of Responses

	Persons Surveyed		Responses		Response rate	
	Institutions	Persons	Institutions	Persons	Institutions	Persons
Universities	605	179,605	585	128,103	96.7%	71.3%
Junior Colleges	587	18,740	563	15,248	95.9%	81.4%
Colleges of Technology	62	4,400	61	4,075	98.4%	92.6%
Inter-university Research Institutes	20	1,638	20	1,042	100.0%	63.6%
Government Research Institutes	18	561	17	411	94.4%	73.3%
Private Scientific Research Institutes	165	1,234	111	880	67.3%	71.3%
Total	1,457	206,178	1,357	149,759	93.1%	72.6%

2. Background of Academic Researchers

2.1 Number of Researchers by Field of Specialization

Table 2 shows the number of researchers broken down by field of specialization. The fields of specialization categories used in the survey are research field codes based on the "Classification Table for Scientific Research Subsidies". A view of the percentages of the total accounted for by the various fields of specialization (Figure 1) shows that medicine (23.9%) and arts (21.4%) have the largest shares, together accounting for 45.3% of the total. These fields are followed, in descending order, by engineering (15.3%), interdisciplinary area (12.7%), science (10.6%), agriculture (5.2%), economics (5.1%), law (2.9%), and wide area (1.7%). Also, the ratio of researchers in the humanities and social sciences (researchers in arts, law, and economics), total 43,922 persons, to researchers in the natural sciences (researchers in science, engineering, agriculture, and medicine), total 82,393 persons, is 35:65.

A breakdown of researchers by the governing authority of the institutions they are affiliated with shows that 47.0% (70,303 persons) are at national institutions, 6.2% (9,308 persons) are at municipal institutions, and 46.8% (70,148 persons) are at private institutions.

Figure 2 shows the composition of researchers broken down by field of specialization and by institution governing authority. The proportion of researchers in the natural sciences affiliated with national institutions is high, especially in the cases of science (69.9%), agriculture (65.0%) and engineering (63.9%). In contrast, a high proportion of researchers in the humanities and social sciences are affiliated with private institutions, for example economics (71.4%), wide area (69.0%), arts (65.8%), and law (63.6%).

Table 2 Number of Researchers by Institution Type / by Field of Specialization

			Arts	Law	Economics	Science	Engineering	Agriculture	Medicine	Interdisciplinary Area	Wide Area	Unknown	Total
Universities	National	Assistant and Above	6,572	1,087	1,347	6,899	8,797	3,492	12,048	6,342	425	185	47,210
		Others	1,704	218	268	3,184	3,638	1,524	4,118	2,307	126	175	17,262
		Total	8,292	1,305	1,615	10,083	12,435	5,016	16,166	8,649	551	360	64,472
	Municipal	Assistant and Above	1,187	178	396	608	767	308	2,240	670	128	48	6,536
		Others	143	12	61	84	147	78	357	57	7	33	979
		Total	1,336	190	457	692	914	386	2,597	727	135	81	7,515
	Private	Assistant and Above	14,042	2,269	4,376	3,344	6,055	1,373	13,450	5,393	924	808	52,125
		Others	1,157	208	279	150	327	93	1,308	235	46	188	3,991
		Total	15,290	2,477	4,655	3,494	6,382	1,466	14,758	5,628	970	996	56,116
	Total	Assistant and Above	21,801	3,534	6,119	10,851	15,619	5,173	27,738	12,405	1,477	1,041	105,871
		Others	3,004	438	608	3,418	4,112	1,695	5,783	2,599	179	396	22,232
		Total	24,918	3,972	6,727	14,269	19,731	6,868	33,521	15,004	1,656	1,437	128,103
Junior Colleges	National	Assistant and Above	80	3	8	29	30	2	519	67	24	6	768
		Others	0	0	0	0	0	0	0	0	0	0	0
		Total	80	3	8	29	30	2	519	67	24	6	768
	Municipal	Assistant and Above	350	27	70	53	39	147	569	178	40	17	1,490
		Others	0	0	0	0	0	0	0	0	0	3	3
		Total	350	27	70	53	39	147	569	178	40	20	1,493
	Private	Assistant and Above	5,630	239	746	376	616	598	934	2,826	752	246	12,963
		Others	8	0	0	0	0	2	0	6	1	7	24
		Total	5,638	239	746	376	616	600	934	2,832	753	253	12,987
	Total	Assistant and Above	6,060	269	824	458	685	747	2,022	3,071	816	269	15,221
		Others	8	0	0	0	0	2	0	6	1	10	27
		Total	6,068	269	824	458	685	749	2,022	3,077	817	279	15,248
Colleges of Technology	National	Assistant and Above	452	28	24	480	2,041	30	16	486	30	20	3,607
		Others	1	0	1	0	1	0	0	0	0	0	3
		Total	453	28	25	480	2,042	30	16	486	30	20	3,610
	Municipal	Assistant and Above	45	0	1	50	157	1	1	34	8	3	300
		Others	0	0	0	0	0	0	0	0	0	0	0
		Total	45	0	1	50	157	1	1	34	8	3	300
	Private	Assistant and Above	30	0	1	18	74	1	0	23	14	4	165
		Others	0	0	0	0	0	0	0	0	0	0	0
		Total	30	0	1	18	74	1	0	23	14	4	165
	Total	Assistant and Above	527	28	26	548	2,272	32	17	543	52	27	4,072
		Others	1	0	1	0	1	0	0	0	0	0	3
		Total	528	28	27	548	2,273	32	17	543	52	27	4,075
Inter-University Research Institutes		Assistant and Above	133	3	3	403	95	4	19	257	11	4	932
		Others	13	0	1	62	1	0	4	28	1	0	110
		Total	146	3	4	465	96	4	23	285	12	4	1,042
Government Research Institutes		Assistant and Above	251	2	0	65	15	7	5	52	4	4	405
		Others	2	0	0	3	0	0	0	1	0	0	6
		Total	253	2	0	68	15	7	5	53	4	4	411
Private Scientific Research Institutes		Assistant and Above	110	6	35	97	69	122	241	128	52	6	866
		Others	1	0	1	5	0	2	1	1	2	1	14
		Total	111	6	36	102	69	124	242	129	54	7	880
Total	National	Assistant and Above	7,488	1,123	1,382	7,876	10,978	3,535	12,607	7,204	494	219	52,922
		Others	1,720	218	270	3,249	3,640	1,524	4,122	2,336	127	175	17,381
		Total	9,224	1,341	1,652	11,125	14,618	5,059	16,729	9,540	621	394	70,303
	Municipal	Assistant and Above	1,582	205	467	711	963	456	2,810	882	176	68	8,326
		Others	143	12	61	84	147	78	357	57	7	36	982
		Total	1,731	217	528	795	1,110	534	3,167	939	183	104	9,308
	Private	Assistant and Above	19,812	2,514	5,158	3,835	6,814	2,094	14,625	8,370	1,742	1,064	66,119
		Others	1,166	208	280	155	327	97	1,309	242	49	196	4,029
		Total	21,069	2,722	5,438	3,990	7,141	2,191	15,934	8,612	1,791	1,260	70,148
	Total	Assistant and Above	28,882	3,842	7,007	12,422	18,755	6,085	30,042	16,456	2,412	1,351	127,367
		Others	3,029	438	611	3,488	4,114	1,699	5,788	2,635	183	407	22,392
		Total	32,024	4,280	7,618	15,910	22,869	7,784	35,830	19,091	2,595	1,758	149,759

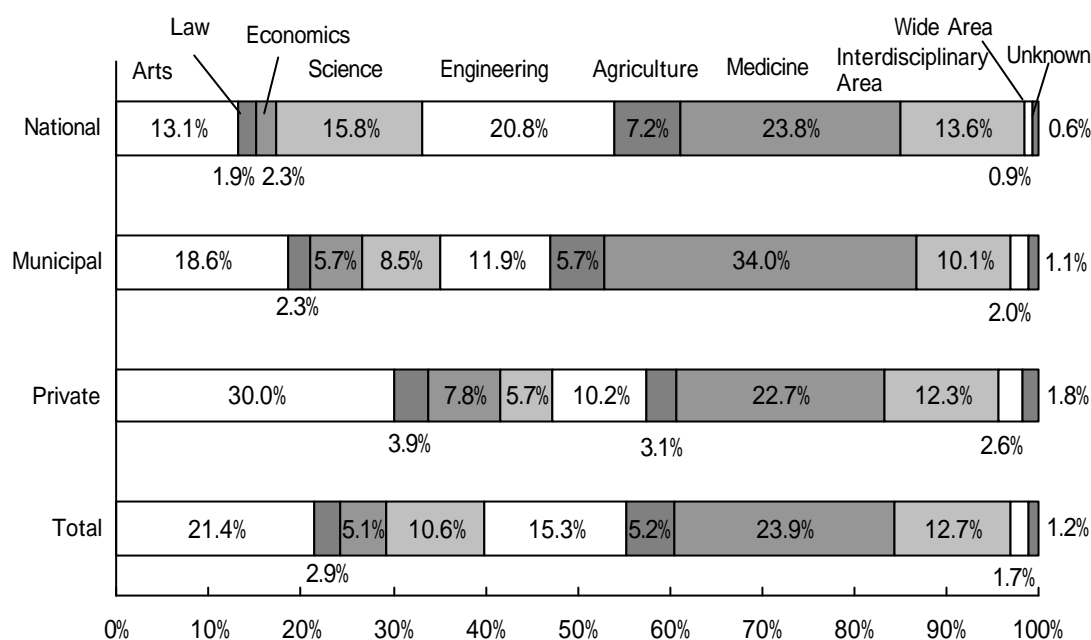


Figure 1 Composition of Researchers by Institution Governing Authority / by Field of Specialization

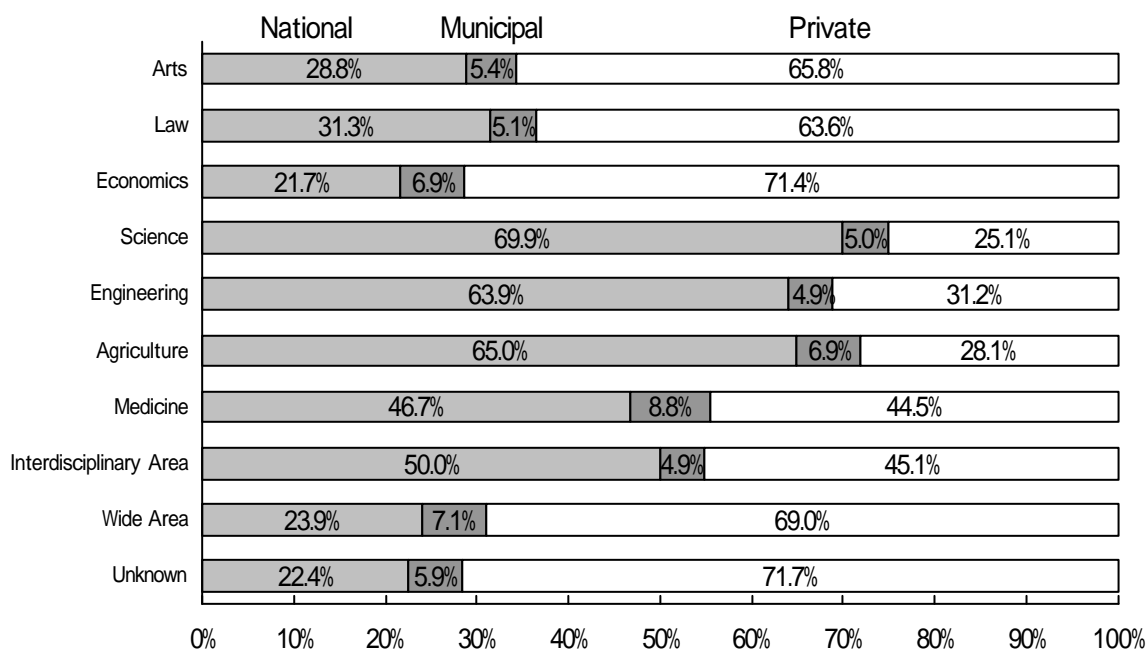


Figure 2 Composition of Researchers by Field of Specialization / by Institution Governing Authority

2.2 Number of Researchers by Institution Type

Broken down by institution type, the proportion of researchers affiliated with universities account for 85.5% of the total (128,103 persons), those affiliated with junior colleges for 10.2% (15,248 persons), those affiliated with colleges of technology for 2.7% (4,075 persons), those affiliated with inter-university research institutes for 0.7% (1,042 persons), those affiliated with private scientific research institutes for 0.6% (880 persons), and those affiliated with government research institutes of the Ministry of Education, Science, Sports, and Culture for 0.3% (411 persons).

The proportions of researchers at universities, junior colleges, and colleges of technology broken down by institution governing authority are shown in Table 2. The composition for universities is national 50.3%, municipal 5.9%, and private 43.8%; that for junior colleges is national 5.0%, municipal 9.8%, and private 85.2%; and that for colleges of technology is national 88.6%, municipal 7.4%, and private 4.0%.

Table 3 lists the composition of researchers by professional title at universities and junior colleges. The proportion of professors and lecturers at private institutions is higher than at national and municipal institutions, while the proportion of associate professors, research assistants, and graduate students enrolled in university doctorate (post-MA) programs (referred to as "university graduate students" below) is higher at national and municipal institutions than at private institutions.

**Table 3 Composition of Researchers by Professional Title
at Universities and Junior Colleges**

		Total	National	Municipal	Private
Universities	President / Vice President	0.3%	0.2%	0.3%	0.5%
	Professor	31.3%	24.3%	27.2%	39.8%
	Associate Professor	20.0%	20.3%	22.0%	19.4%
	Lecturer	10.3%	6.3%	12.8%	14.4%
	Research Assistant	18.8%	21.3%	22.3%	15.4%
	Others	2.0%	0.8%	2.2%	3.3%
	Graduate Student	16.0%	24.7%	12.3%	6.6%
	Part-time Researcher	1.0%	1.9%	0.5%	0.1%
	Unknown	0.3%	0.2%	0.3%	0.3%
	Total	100.0%	100.0%	100.0%	100.0%
Junior Colleges	President / Vice President	1.4%	0.3%	1.1%	1.5%
	Professor	38.5%	33.5%	33.0%	39.5%
	Associate Professor	29.8%	28.0%	28.3%	30.0%
	Lecturer	20.7%	12.6%	19.4%	21.4%
	Research Assistant	7.6%	25.3%	17.3%	5.5%
	Others	1.8%	0.4%	0.7%	2.0%
	Graduate Student	0.0%	0.0%	0.0%	0.0%
	Part-time Researcher	0.0%	0.0%	0.0%	0.0%
	Unknown	0.2%	0.0%	0.2%	0.2%
	Total	100.0%	100.0%	100.0%	100.0%

2.3 Age

The average age of all the researchers is 44.3. Broken down by field of specialization, the average age is highest in wide area (49.9), followed in descending order by economics (48.4), arts (47.9), and law (46.8). Generally speaking, the average age was higher among researchers in the humanities and social sciences. The average age in other fields was as follows: engineering (44.1), interdisciplinary area (44.0), agriculture (43.7), and science (42.7). The field with the lowest average age was medicine, at 41.0. When the above are broken down by institution governing authority, in each case the average age of researchers at private institutions is higher than that of researchers at national and municipal institutions (Figure 3). Also, the average age among men is 44.88 and that among women is 41.58 (Figure 4).

Broken down by institution type, the average age of researchers at inter-university research institutes is the lowest at 42.1. This was followed, in ascending order, by government research institutes of the Ministry of Education, Science, Sports, and Culture; universities; junior colleges; and private scientific research institutes. The average age of researchers is highest (49.6) at colleges of technology. This is due to the large proportion of comparatively older researchers at colleges of technology who are affiliated with private colleges of technology.

The average age of researchers broken down by professional title is as follows for research assistants and above: the average age among professors is 56.1, among whom that among professors at inter-university research institutes is the lowest, at 52.8, and that among professors at colleges of technology is the highest, at 57.8. Overall, the average age of assistant professors is 44.9, that of lecturers 40.9, and that of research associates 35.8. Among university professors, associate professors, and lecturers the highest average ages are found among those affiliated with private institutions, followed in descending order by municipal and national institutions. However, among research institutes the order is reversed, with those affiliated with private institutions being the youngest, on average. Incidentally, the average age of university presidents is 63.8 at national institutions, 66.2 at municipal institutions, and 66.0 at private institutions. Also, the average age among special researchers affiliated with the Japan Society for the Promotion of Science, research assistants affiliated with the Japan Society for the Promotion of Science, and part-time researchers at universities, etc. (referred to as "part-time researchers" below) is 30.4 (Table 4).

The age composition of researchers overall is as follows: those aged 31 to 40 are the largest group, at 26.2% of the total; they are followed by the 41 to 50 group (25.2%), the 51 to 60 group (20.9%), the 30 and below group (15.9%), the 61 to 70 group (10.9%), and the 71 and above group (0.8%).

The breakdown by field of specialization shows that 54.5% of researchers in medicine and 42.3% in interdisciplinary area are 40 or younger. The proportion of younger researchers is high in these fields. In contrast, fields of specialization where the percentage of researchers who are 40 or younger is small include wide area (23.2%), economics (29.4%), arts (29.7%) (Figure 5). This shows that generally speaking the proportion of older researchers is higher in the humanities and social sciences than in the natural sciences.

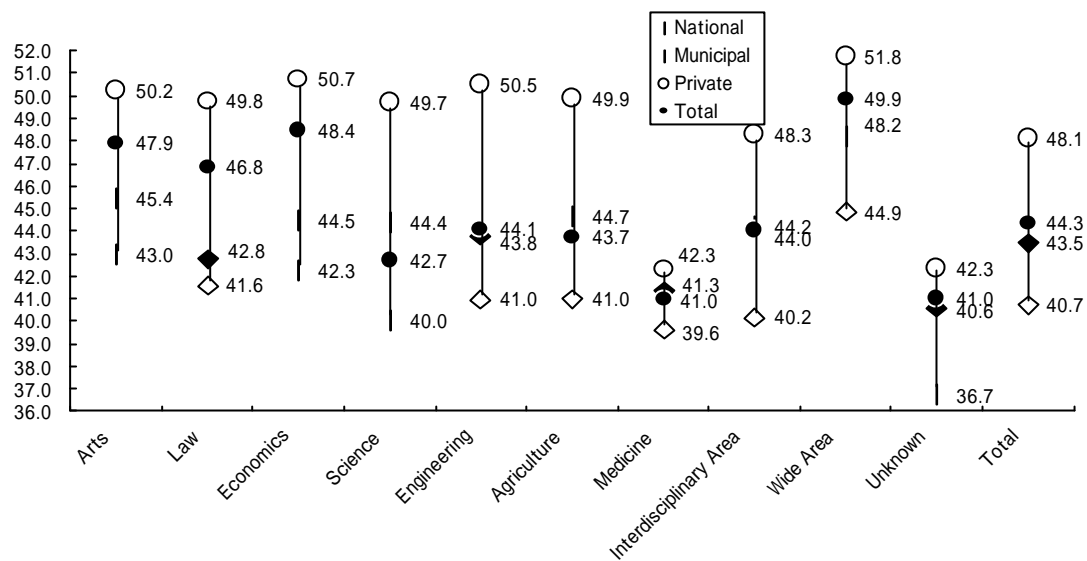


Figure 3 Average Age of Researchers by Field of Specialization

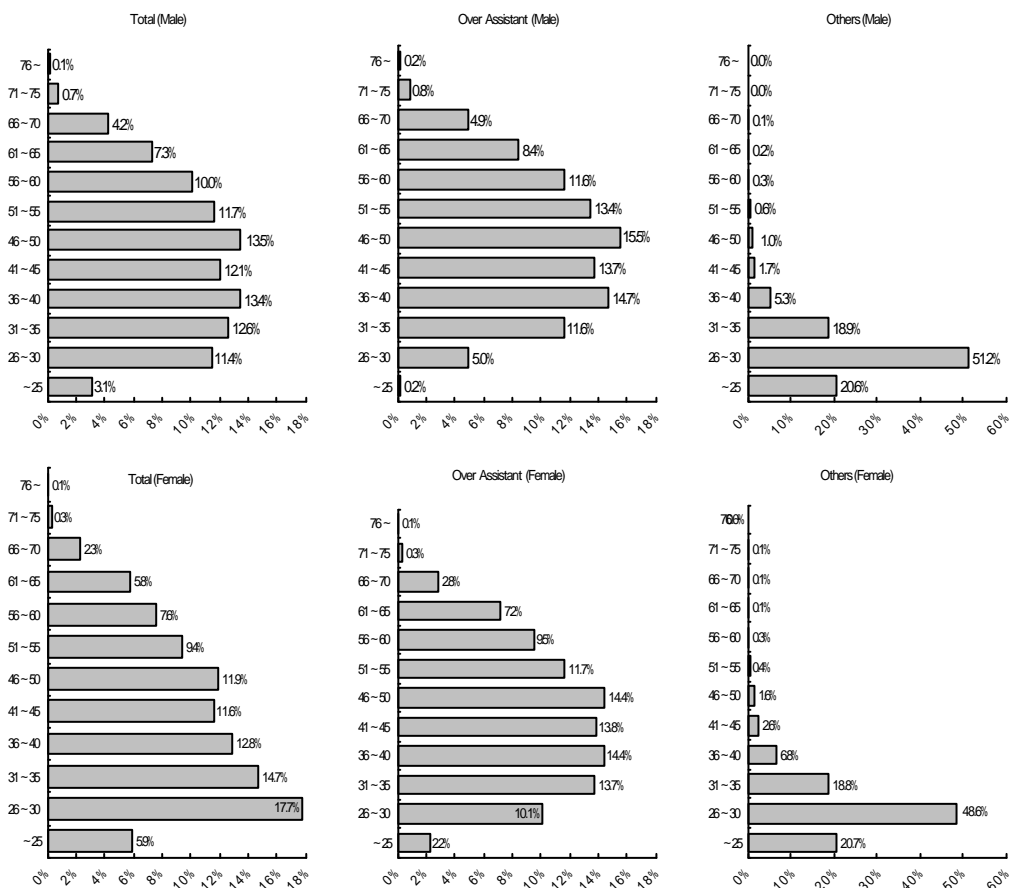
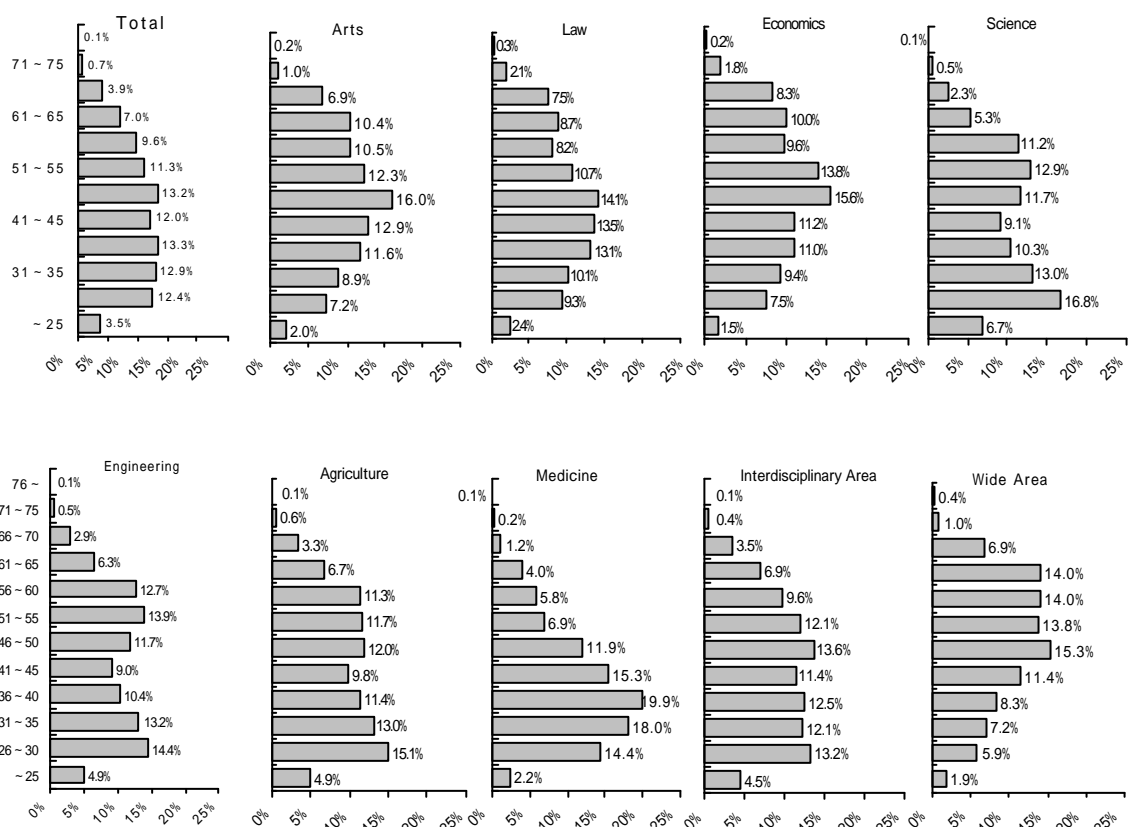


Figure 4 Age Composition of Researchers by Gender

Table 4 Average Age of Researchers by Institution Type / by Professional Title

		Professional Title (in Universities)						Total
		Professor	Associate Professor	Lecturer	Research Assistant	President	Part-time Researcher	
Universities	National	53.8	43.1	40.1	36.2	63.8	30.0	40.3
	Municipal	54.5	44.4	41.1	36.0	66.2	33.6	43.0
	Private	57.5	46.2	41.5	35.4	66.0	34.1	47.6
	Total	55.9	44.5	41.1	35.9	65.4	30.3	43.7
Junior Colleges	National	57.5	46.2	41.5	35.4	66.0	34.1	47.6
	Municipal	55.9	44.5	41.1	35.9	65.4	30.3	43.7
	Private	54.9	47.2	40.9	36.0	63.5		46.2
	Total	55.3	45.4	38.7	33.5	66.9		45.7
Colleges of Technology	National	54.9	47.2	40.9	36.0	63.5		46.2
	Municipal	55.3	45.4	38.7	33.5	66.9		45.7
	Private	58.1	47.8	41.7	32.9	65.9	56.5	50.3
	Total	57.8	47.6	41.4	33.5	66.0	56.5	49.6
Inter-University Research Institutes		52.8	44.9	32.5	36.2		30.2	42.1
Government Research Institutes								43.7
Private Scientific Research Institutes								46.0
Total	National	57.0	46.3	41.6	37.1	56.3	30.0	42.3
	Municipal	54.7	44.4	40.2	35.6	66.5	33.6	43.5
	Private	57.6	46.7	41.5	35.2	66.0	35.5	48.1
	Total	56.1	44.9	40.9	35.8	65.6	30.4	44.3



2.4 Gender

Among all the researchers, 83.8% (125,419 persons) are men and 16.2% (24,261 persons) are women.

Broken down by field of specialization, the proportion of women is relatively high in three fields: wide area (28.0%), arts (25.1%), and interdisciplinary area (22.4%). In contrast, the proportion of women is low in the fields of engineering (3.3%), economics (7.2%), science (7.7%), law (11.5%), and agriculture (11.7%). The very low proportion of women in the field of engineering is particularly noteworthy (Figure 6).

Broken down by institution type, the proportion of women is notably high at junior colleges where they account for 41.3% of the total among all institution governing authority classifications. In contrast, the proportion of women is extremely low at colleges of technology, only accounting for 4.0% among all institution governing authority classifications. Also, broken down by institution governing authority, the proportion of women is low at national institutions, while it is slightly under 50% of municipal and private institutions (Figure 7).

Broken down by professional title, the proportion of women is higher among research assistants, lecturers, university graduate students, and part-time researchers for all institution governing authority classifications (Figure 8). This is thought to be due to the fact that overall women tend to be proportionally more numerous at the lower age levels (Figure 4).

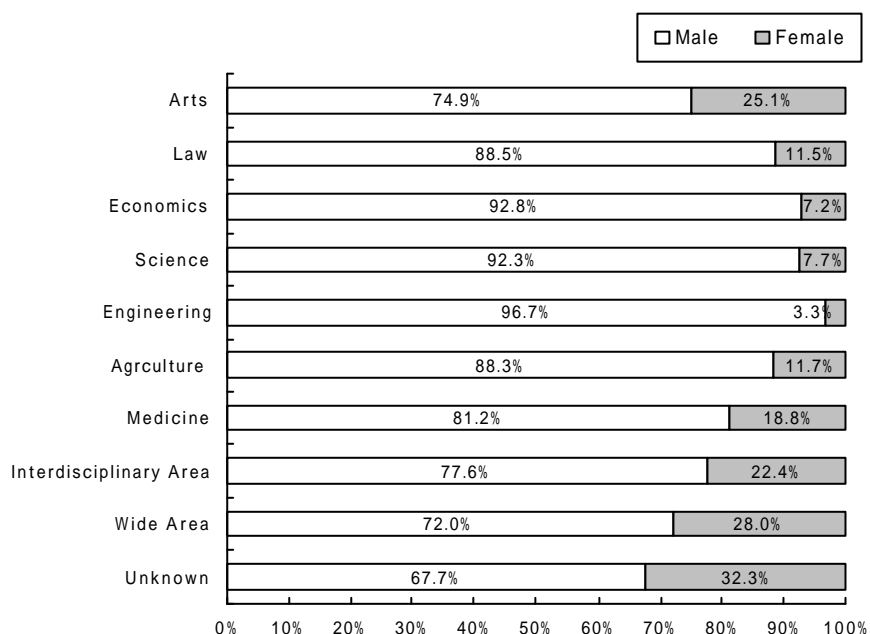


Figure 6 Gender Composition of Researchers by Field of Specialization

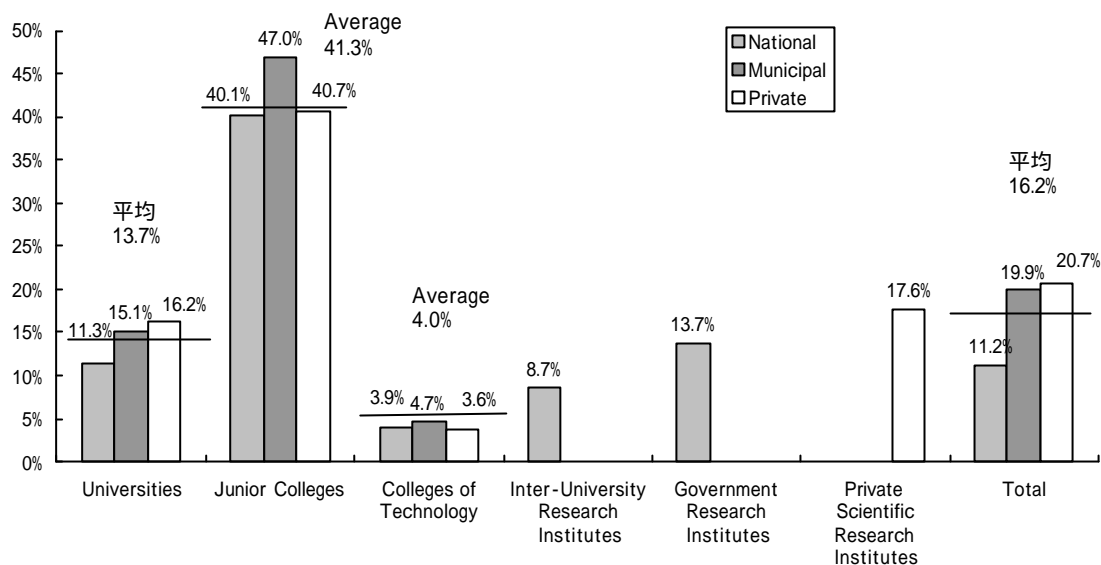


Figure 7 Ratio of Female Researchers by Institution Type

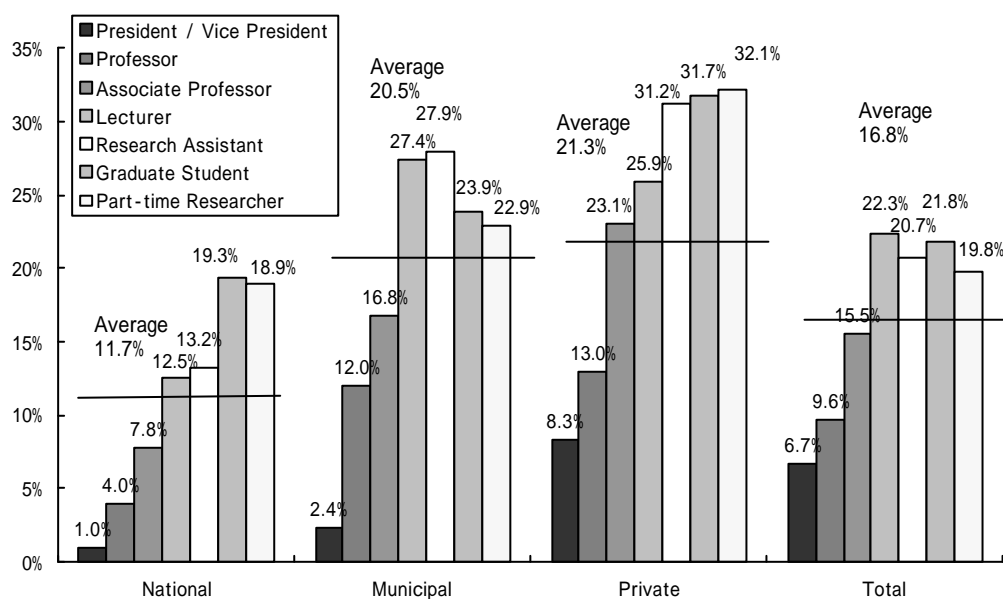


Figure 8 Ratio of Female Researchers by Professional Title

2.5 Non-Japanese Names

Of all the researchers, 4,186 or 2.8% have non-Japanese names.

An examination of the percentages of researchers with non-Japanese names in the various fields of specialization shows that their proportions are largest in the fields of agriculture (5.1%), engineering (4.1%), and arts (4.0%), followed by wide area (3.0%), economics (2.6%), and law (1.9%) (Figure 9). Note that the 1,264 researchers with non-Japanese names in the field of arts account for 30.2% of the total number of researchers with non-Japanese names.

At national and municipal institutions, the proportions of researchers with non-Japanese names broken down by institution type are highest at universities, followed by junior colleges and colleges of technology in descending order. At private institutions the proportions of researchers with non-Japanese names is highest at junior colleges, followed by universities and colleges of technology in descending order (Figure 10).

Broken down by professional title and for institutions of all types, the proportion of researchers with non-Japanese names is highest among university graduate students and part-time researchers. Together, these two categories account for 19.1% of the total for institutions of all types. Among research assistants and above, the proportion of researchers with non-Japanese names is lowest at private institutions and rises at municipal and national institutions, in that order. However, the order is reversed among research associates alone (Figure 11).

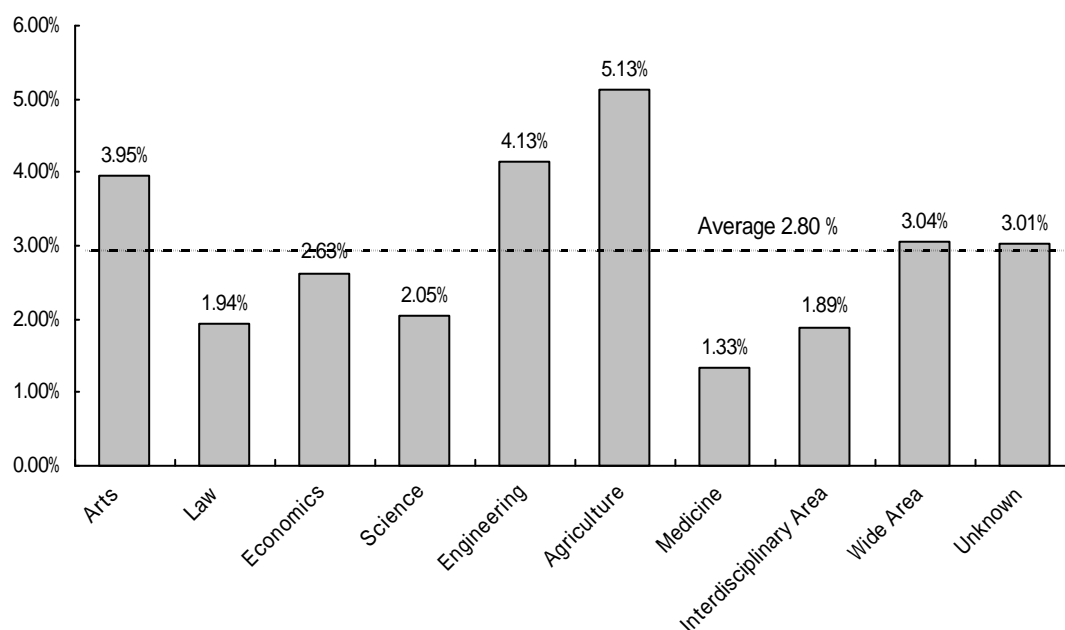


Figure 9 Ratio of Researchers with Non-Japanese Names by Field of Specialization

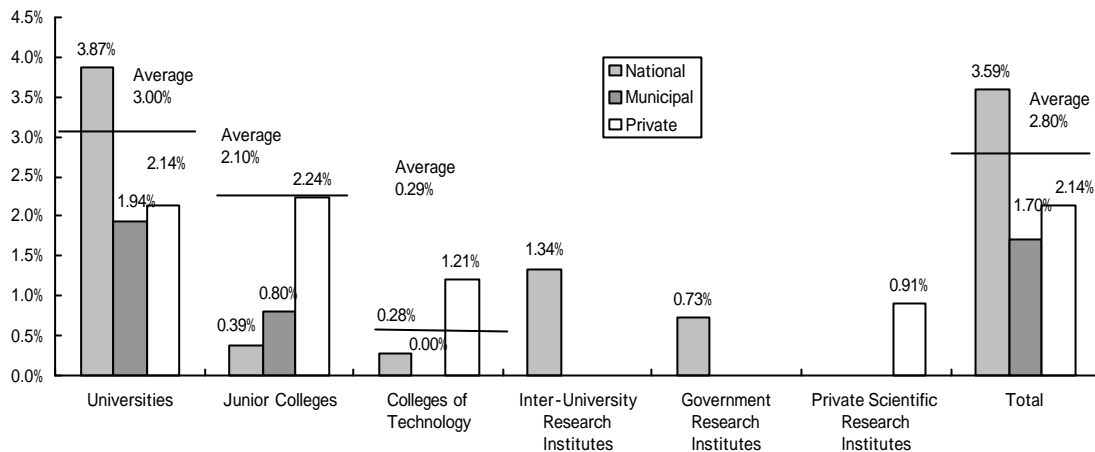


Figure 10 Ratio of Researchers with Non-Japanese Names by Institution Type

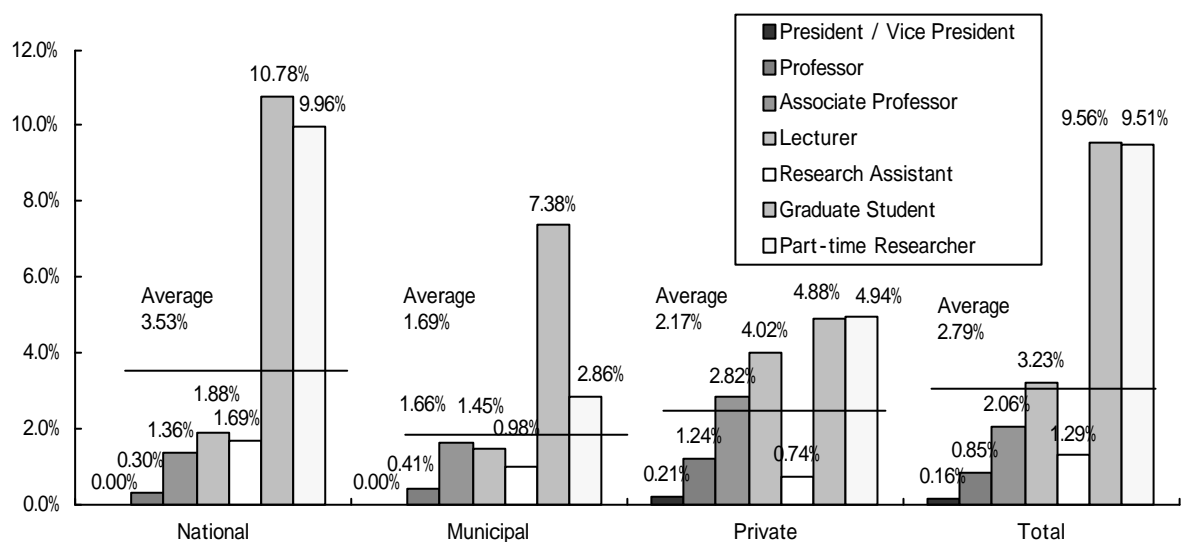


Figure 11 Ratio of Researchers with Non-Japanese Names by Professional Title

3. Academic Background

3.1 Last Degree Course Completed

Regarding the last degree course completed by the researchers, 104,672 persons (69.9%) hold a graduate degree. Of these, 56,256 (37.6% of the total) hold a doctorate degree and 46,503 (31.1% of the total) hold a master's degree. Also, 40,112 (26.8% of the total) have completed only an undergraduate degree and 4,975 (3.3% of the total) have completed only a junior college degree, or equivalent (Table 5).

The data on last degree course completed broken down by field of specialization shows that the field of science has the highest proportion of researchers with graduate degrees, at 89.2%, followed by economics, at 86.2%. Next come law and arts, at 84.7% and 82.3% respectively. These are followed in descending order by engineering (78.9%), agriculture (77.3%), interdisciplinary area (67.7%), and wide area (44.1%). Medicine is the lowest, at 43.1% (Figure 12).

An examination of the last degree course completed broken down by institution type shows that the percentage of researchers with graduate degrees is extremely high at inter-university research institutes and government research institutes of the Ministry of Education, Science, Sports, and Culture, where the figures are 88.0% and 80.1%, respectively. These are followed in descending order by universities (72.4%), colleges of technology (62.6%), junior colleges (51.1%), and private scientific research institutes (50.0%) (Figure 13).

A look at the ratio of researchers graduated from institutions in Japan and overseas institutions shows that 7,409 of the respondents, or 4.9% of the total, are graduates of overseas institutions (Table 5). By field of specialization, their proportions are largest in arts (10.1%), wide area (9.3%), economics (6.4%), and law (5.3%). By type of institution, graduates of overseas institutions are comparatively numerous at junior colleges (5.8%) and universities (5.0%), exceeding the overall average.

**Table 5 Last Degree Course Completed and Institution Location
by Field of Specialization**

	Total	Graduate School				University	Junior College or Others	Country of School			
		Doctoral Course	Master's Course	Unknown	Total			Japan		Overseas	
								Persons	Percentage	Persons	Percentage
Arts	32,024	13,200	12,559	617	26,376	4,932	716	26,747	83.5%	3,244	10.1%
Law	4,280	2,313	1,240	73	3,626	611	43	3,803	88.9%	227	5.3%
Economics	7,618	4,592	1,846	126	6,564	963	91	6,634	87.1%	490	6.4%
Science	15,910	7,940	6,133	126	14,199	1,533	178	14,542	91.4%	512	3.2%
Engineering	22,869	7,725	10,121	179	18,025	4,245	599	20,794	90.9%	1,000	4.4%
Agriculture	7,784	2,628	3,302	89	6,019	1,607	158	7,074	90.9%	288	3.7%
Medicine	35,830	11,362	3,679	405	15,446	18,917	1,467	32,482	90.7%	659	1.8%
Interdisciplinary Area	19,091	5,974	6,750	193	12,917	5,369	805	17,349	90.9%	660	3.5%
Wide Area	2,595	392	675	77	1,144	1,139	312	2,123	81.8%	241	9.3%
Unknown	1,758	130	198	28	356	796	606	1,076	61.2%	88	5.0%
Total	149,759	56,256	46,503	1,913	104,672	40,112	4,975	132,624	88.6%	7,409	4.9%

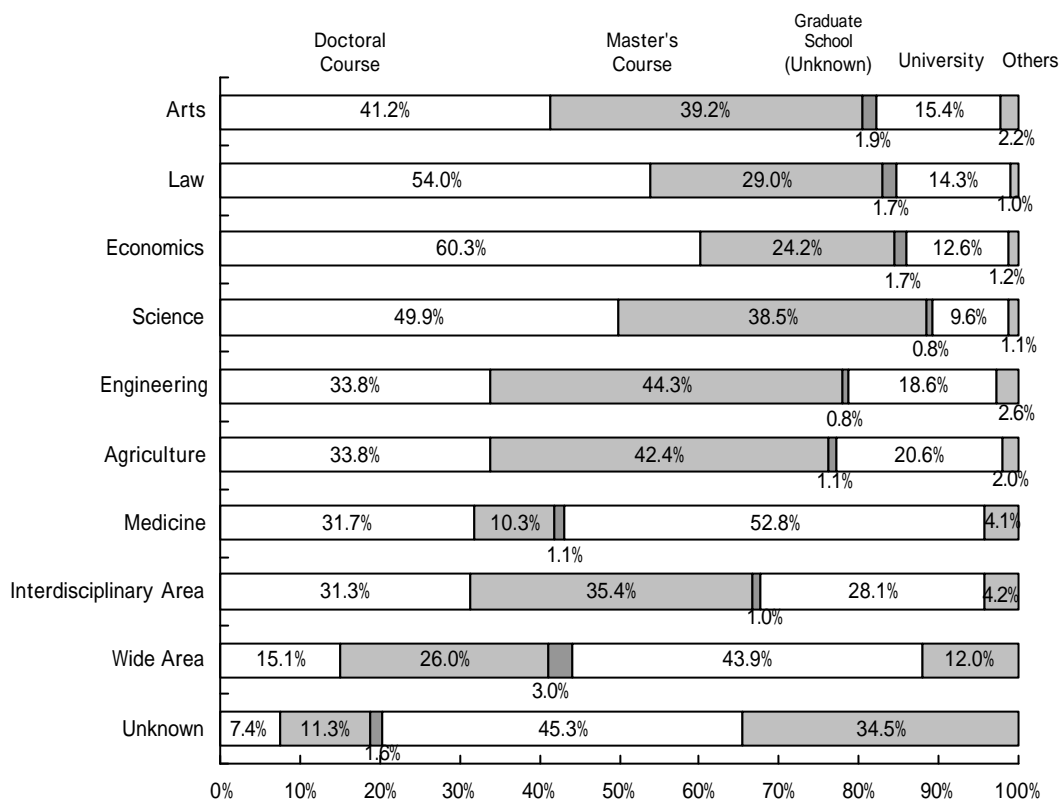


Figure 12 Last Degree Course Completed by Field of Specialization

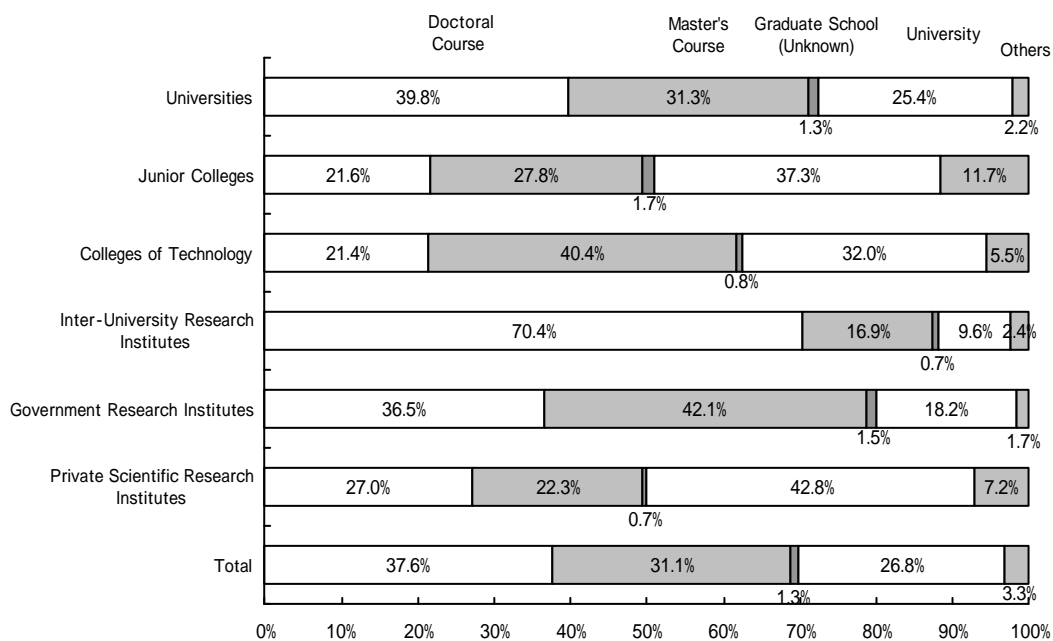


Figure 13 Last Degree Course Completed by Institution Type

3.2 Researchers with Doctorate Degrees

The number of the researchers with doctorate degrees is 68,244, which amounts to 45.6% of the total. Broken down by type degree, doctors of medicine are the most numerous, at 26.5%. They are followed in descending order by persons with doctorates in engineering (24.7%), science (18.0%), and agriculture (7.5%). These figures are summarized in Figure 14 below.

Broken down by field of specialization, the proportion of researchers with doctorate degrees is relatively high in science (68.4%), agriculture (64.1%), engineering (61.7%), medicine (61.5%), and interdisciplinary area (42.4%). In contrast, the proportion of researchers with doctorate degrees is extremely low in the fields of arts, law, and economics, being 14.4%, 20.9%, and 26.4%, respectively (Figure 15).

Broken down by institution type, the proportion of researchers with doctorate degrees is highest at inter-university research institutes, at 78.6%. This is followed in descending order by universities (49.2%) and private scientific research institutes (44.8%). The proportion is comparatively low at colleges of technology (35.1%), government research institutes of the Ministry of Education, Science, Sports, and Culture (28.7%), and junior colleges (16.2%). Note that researchers with doctorate degrees account for the majority, 52.5%, of researchers at national institutions (Figure 16).

A breakdown by professional title of researchers with doctorate degrees shows that they form the highest proportion among the presidents and vice-presidents of institutions at 64.5%. These are followed in descending order by professors (60.1%), associate professors (58.2%), lecturers (60.8%), and research assistants (54.8%). Also, the proportion of researchers with doctorate degrees is highest of all among part-time researchers at 73.7% (Figure 17, Table 6).

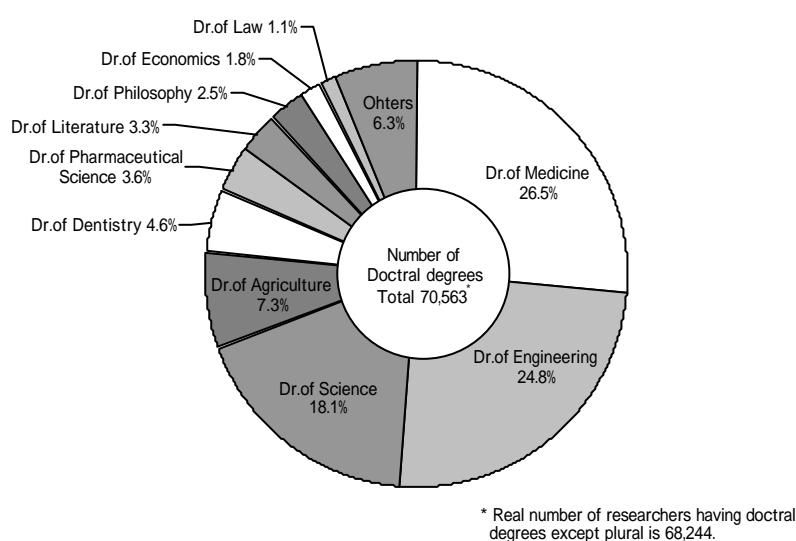


Figure 14 Researchers with Doctorate Degrees

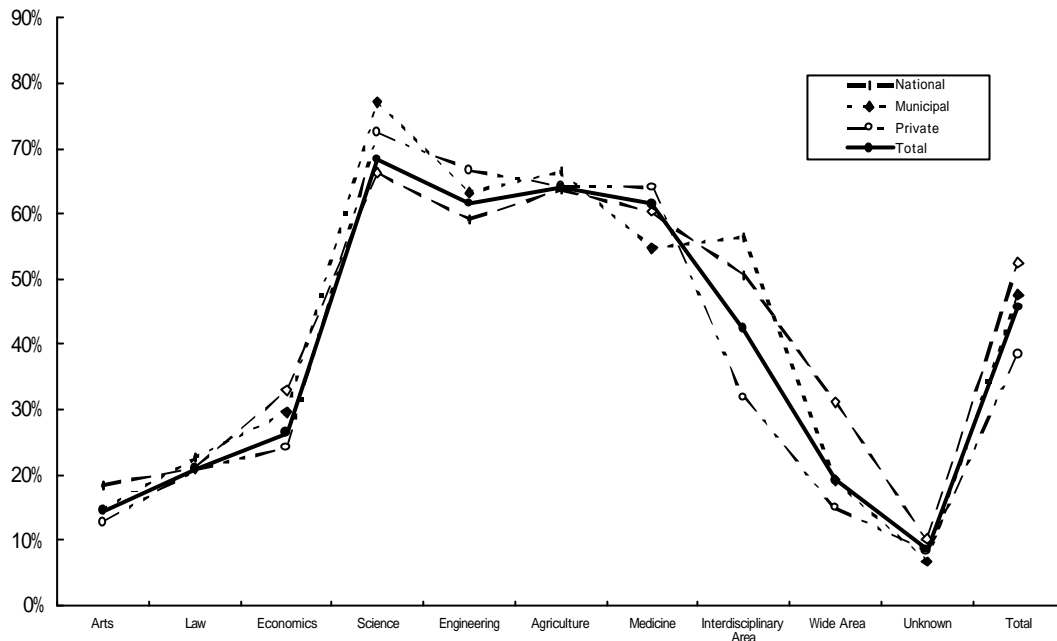


Figure 15 Ratio of Researchers with Doctorate Degrees by Field of Specialization / by Institution Governing Authority

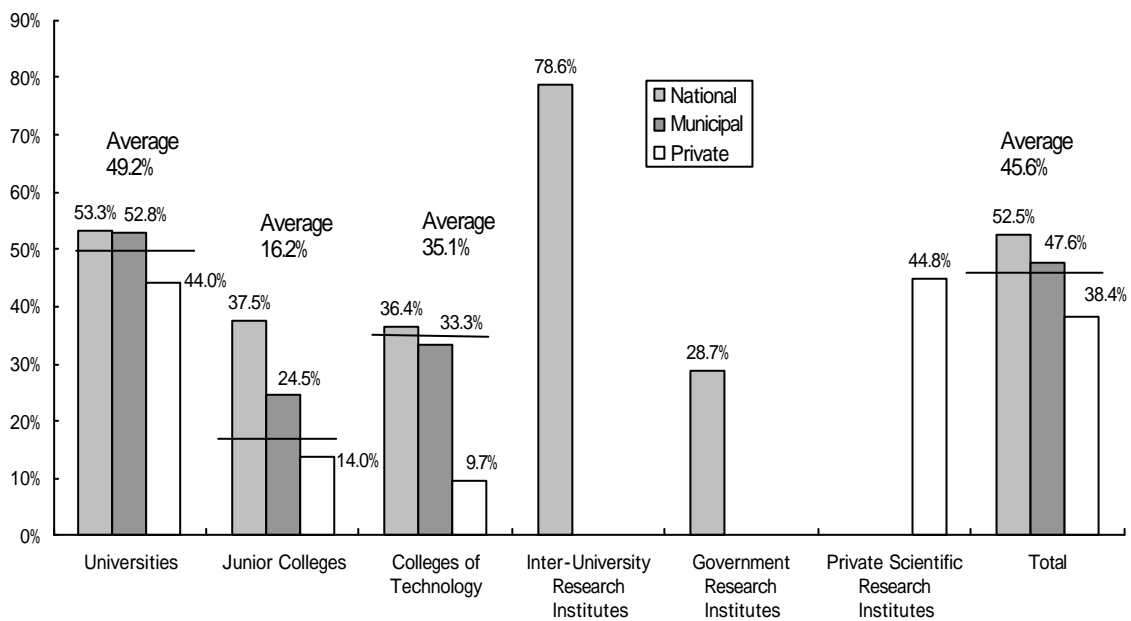


Figure 16 Ratio of Researchers with Doctorate Degrees by Institution Type / by Institution Governing Authority

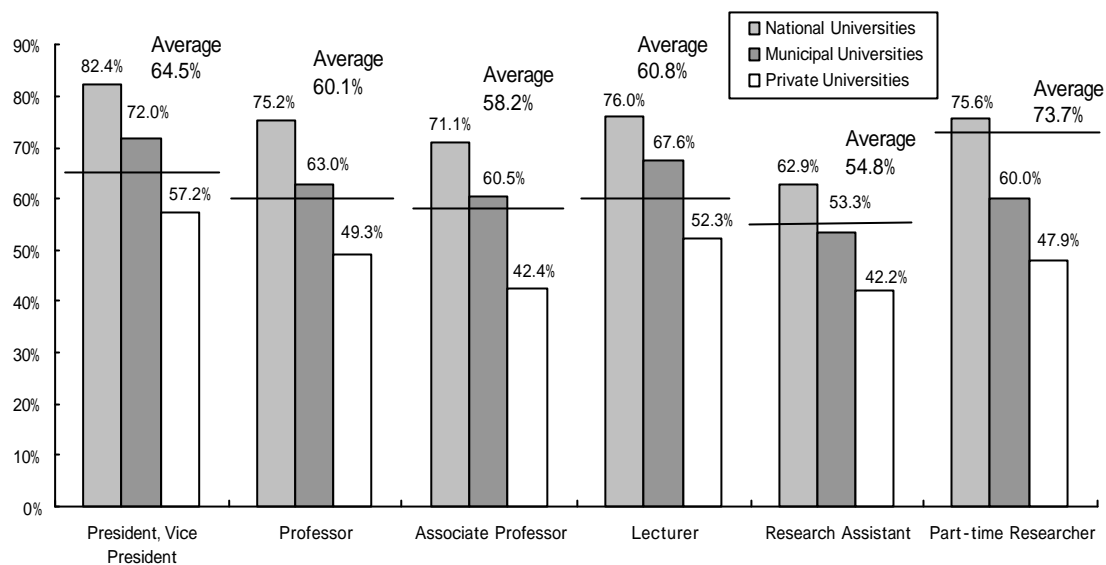


Figure 17 Ratio of University Researchers with Doctorate Degrees by Professional Title

Table 6 Ratio of University Researchers with Doctorate Degrees by Professional Title

		Researcher	Doctor	Ratio of Doctorate Degrees
National Universities	President, Vice President	1 02	84	82.4 %
	Professor	15,656	11,776	75.2 %
	Associate Professor	13,058	9,285	71.1 %
	Lecturer	4,088	3,105	76.0 %
	Research Assistant	13,764	8,654	62.9 %
	Part-time Researcher	1,236	935	75.6 %
Municipal Universities	President, Vice President	25	18	72.0 %
	Professor	2,047	1,289	63.0 %
	Associate Professor	1,654	1,000	60.5 %
	Lecturer	965	652	67.6 %
	Research Assistant	1,678	895	53.3 %
	Part-time Researcher	35	21	60.0 %
Private Universities	President, Vice President	276	158	57.2 %
	Professor	22,349	11,007	49.3 %
	Associate Professor	10,900	4,619	42.4 %
	Lecturer	8,091	4,230	52.3 %
	Research Assistant	8,647	3,645	42.2 %
	Part-time Researcher	73	35	47.9 %
Total	President, Vice President	403	260	64.5 %
	Professor	40,052	24,072	60.1 %
	Associate Professor	25,612	14,904	58.2 %
	Lecturer	13,144	7,987	60.8 %
	Research Assistant	24,089	13,194	54.8 %
	Part-time Researcher	1,344	991	73.7 %

4. Current Research Topics

The survey subjects were asked what research topics they were currently working on, and a total of 242,851 responses were received. This works out to an average of 1.6 research topics per researcher. The averages per researcher at national, municipal, and private institutions were 1.7, 1.7, and 1.5 topics, respectively.

Of the research topics currently being worked on, those related to several particular studies areas were examined specially, and the results are shown in Figure 18. The particular studies area receiving the largest number of responses was life science studies (excluding cancer studies and studies of incurable diseases) with 13,802 topics. This was followed by cancer studies with 7,925 topics, studies of new materials (excluding studies for superconducting and amorphous materials), and environmental science with 5,849 topics.

The average age of the researchers involved was the youngest (39.9) among those working on topics related to recombinant DNA studies. This was followed in order of ascending average age by accelerator science (42.0), other bioengineering studies (42.2), cancer studies (42.4), information science (42.5), studies of incurable diseases (43.0), other life science studies (43.0), studies for superconducting materials (43.4), volcanic eruption prediction studies (43.5), space science (43.5), nuclear fusion studies (43.5), and ocean science (43.6), among others (Figure 19).

In addition, the number of research topics that are considered as contributing to the priority project topics established by the United Nations University -- "development of people and society, and coexistence of different nations, cultures and social structures," "starvation, poverty, resources and environment," "peace, security, settlement of dispute and transformation of world," and "world economy" -- were 3,290, 996, 916, 769, and 436, respectively.

Generally speaking, an examination of the status of research on topics belonging to the particular studies areas shows that individual research is proportionally more prominent in area studies and the research topics established by the United Nations University. Topics entailing collaborative research (both collaboration in Japan and international collaboration) involving partners from outside of the researcher's organization were most numerous in areas such as accelerator science (55.0%) and space science (50.1%), where they exceed 50%. Also, topics involving international collaboration research were comparatively numerous in cases such as Africa (sub-Saharan) studies (25.2%), accelerator science (24.0%), Southeast Asia studies (21.5%), space science (20.6%), South Asia studies (15.4%), Central and South America studies (13.3%), ocean science (12.8%), and Northeast Asia studies (12.2%). In contrast, individual research accounted for a notably high percentage of topics Europe studies (82.5%) and North America studies (81.8%). There is a clear difference in the status of research in area studies between topics focusing on developed regions and those focusing on developing ones (Figure 20).

A look at the status of research broken down by field of research shows that the proportion of individual research is extremely high in the humanities and social

sciences (arts, law, and economics), exceeding 70% in each of the fields named. On the other hand, the proportion of individual research is accounts for less than 50% of the total in the natural sciences (science, engineering, agriculture, and medicine) and interdisciplinary area. In these areas collaboration research is the norm. In particular, the share of topics entailing collaboration research involving partners from outside of the researcher's organization, both collaboration in Japan (22.3%) and international collaboration (10.0%) was higher in the field of science than in any other, accounting for 32.3% of the total for all collaborative research involving outside partners. In contrast, in medicine the proportion of collaboration research is high at 65.8%, but almost all of it involves collaboration in organization. In medicine the proportion of collaboration research involving outside partners is the lowest among all fields belonging to the natural sciences (Figure 21).

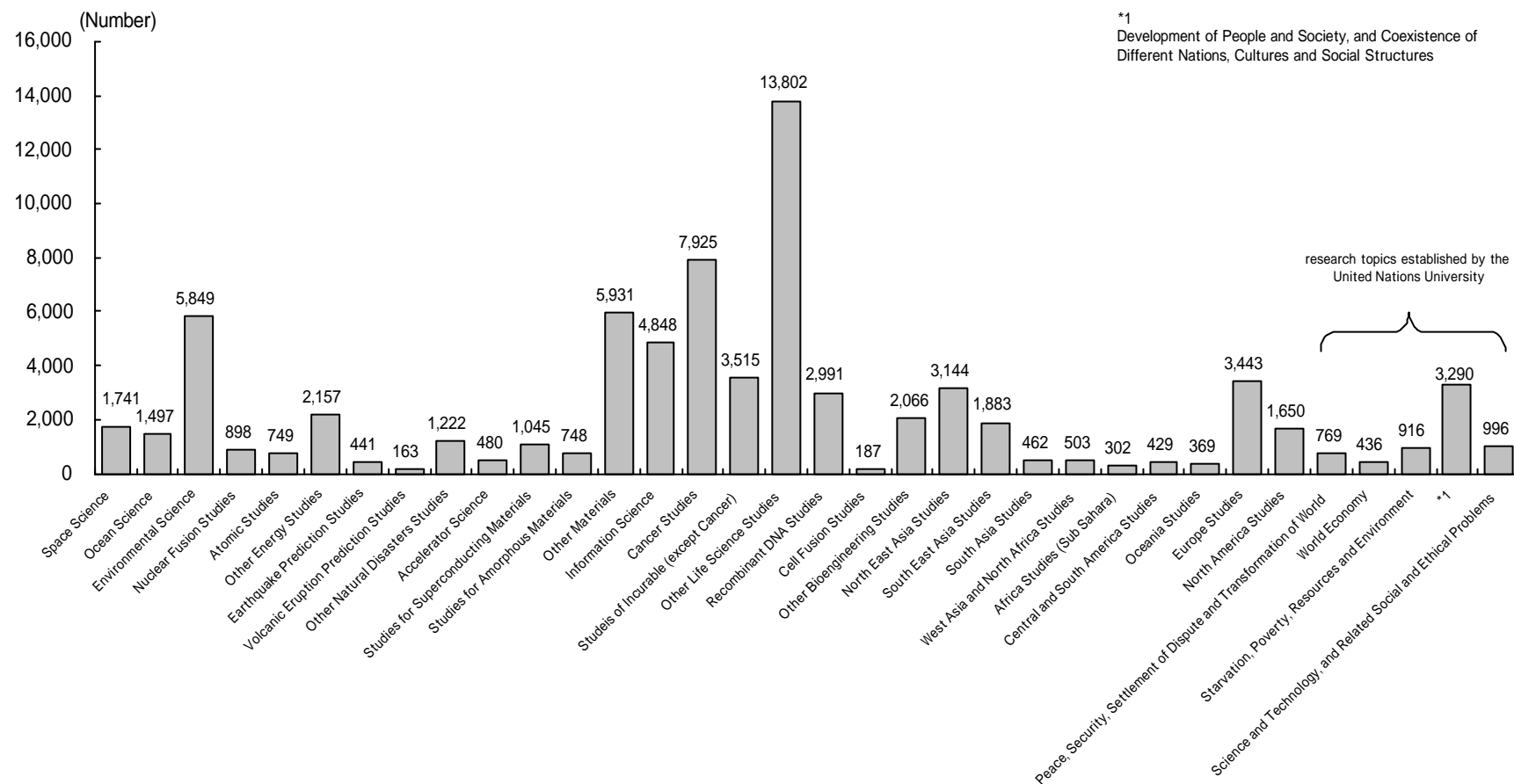


Figure 18 Research Topics Related to Specific Research Areas

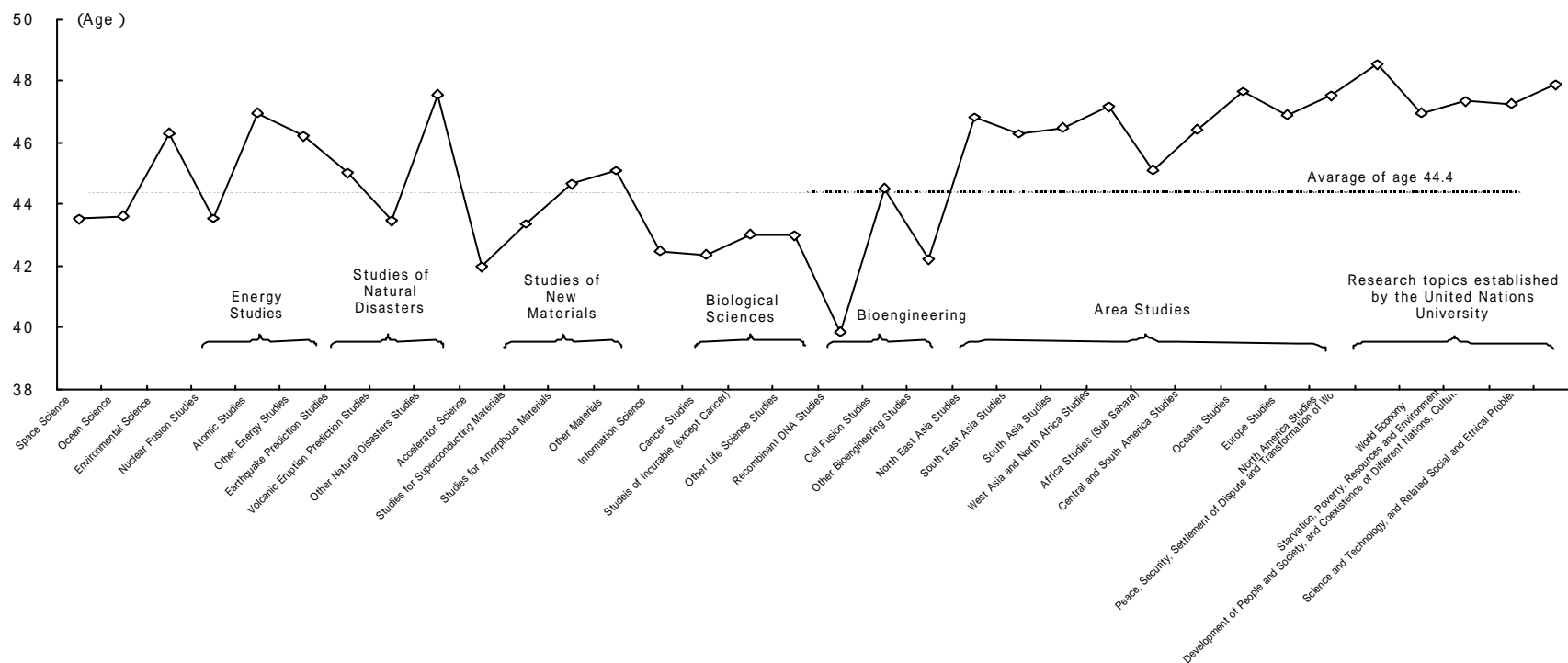


Figure 19 Research Topics Related to Specific Research Areas and Average Age of Researchers

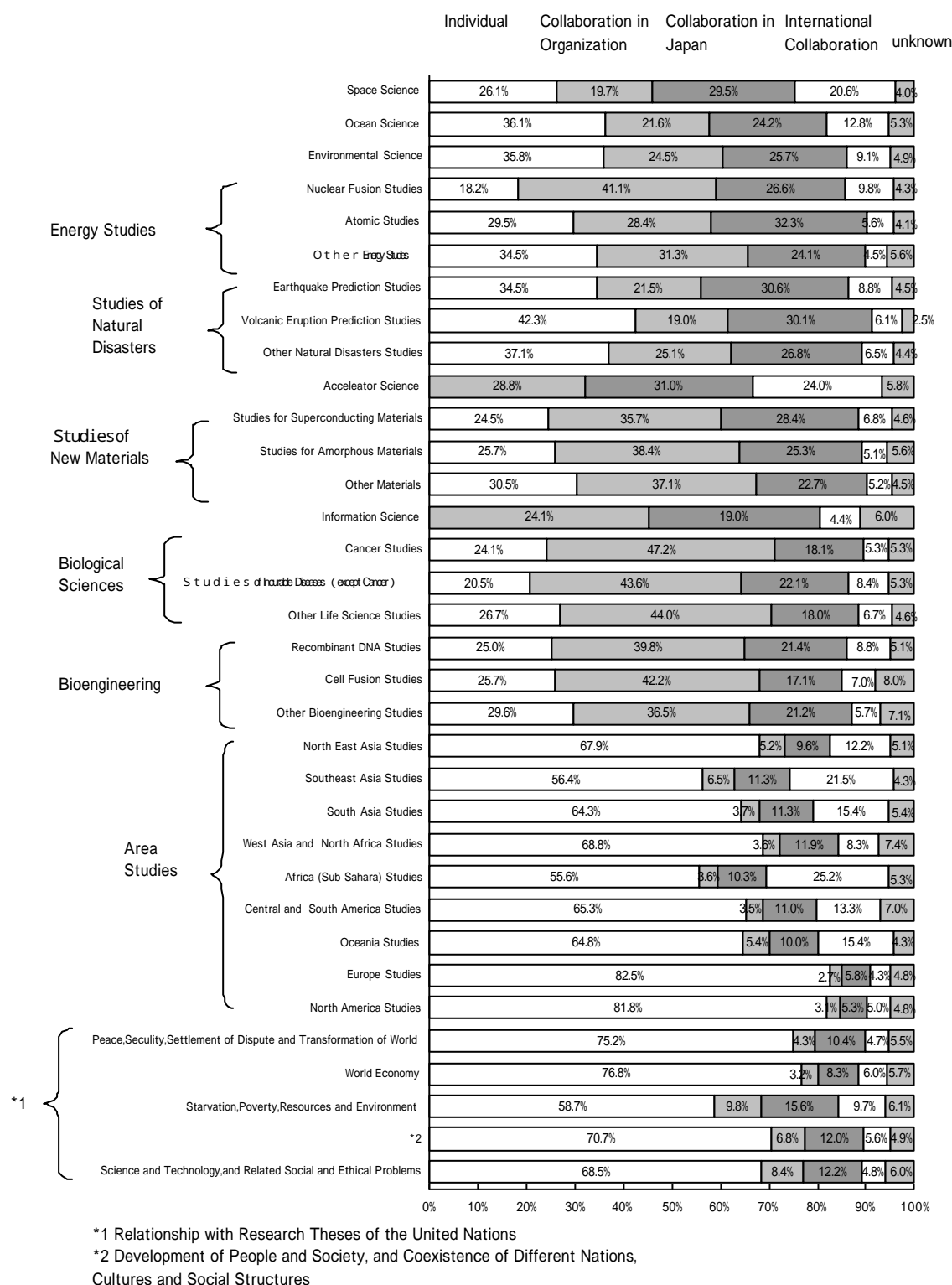


Figure 20 Research Topics Related to Specific Research Areas and Status of Research

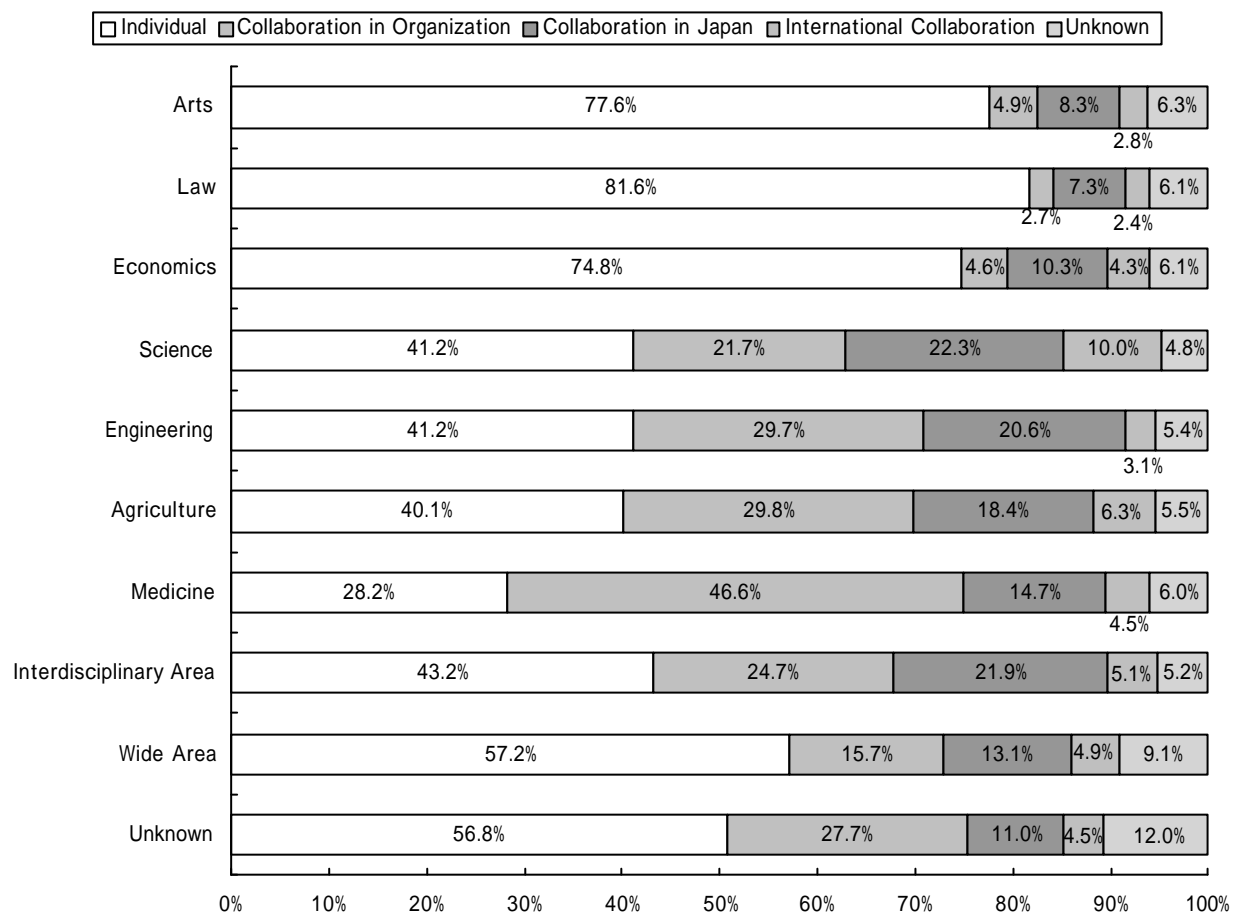


Figure 21 Research Topics and Status of Research by Field of Research

5. Overseas Research Activities

5.1 Traveling Abroad to Perform Research Activities

Of the entire group of researchers responding to the survey, the number who had engaged in two weeks or more of research work overseas during the one-year period preceding the survey was 12,124, or 8.1%. The figures broken down by institution governing authority were national institutions 9.2%, municipal institutions 8.7%, and private institutions 6.9% (Table 7).

Broken down by field of specialization, the figures were as follows, in descending order: law (12.3%), science (11.9%), arts (10.5%), agriculture (10.1%), economics (9.7%), wide area (9.2%), engineering (7.2%), and interdisciplinary area (7.1%). Medicine had the lowest percentage at 4.3%. Also, an examination of the above categories broken down by institution governing authority indicates that in the natural sciences and interdisciplinary area the percentage of scholars traveling abroad to perform research activities was highest at national institutions, lower at municipal institutions, and lowest at private institutions. However, there was no particular trend of this sort among researchers in the humanities and social sciences (Table 7).

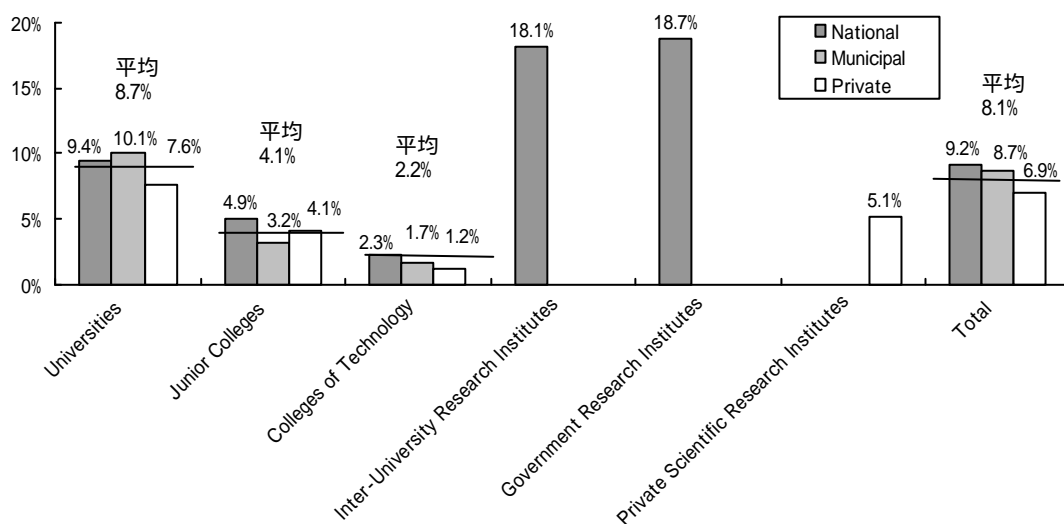
The breakdown by institution type shows that government research institutes of the Ministry of Education, Science, Sports, and Culture (18.7%) and inter-university research institutes (18.1%) have the highest percentages. These are followed in descending order by universities (8.7%), private scientific research institutes (5.1%), junior colleges (4.1%), and colleges of technology (2.2%). There are therefore significant differences between different types of institutions. On the other hand, we can say that there is relatively little difference associated with institution governing authority among institutions of the same type (Figure 22).

Broken down by age, there is a steady rise up to the 36 to 40 group in the percentage of scholars traveling abroad to perform research activities, as the age of the respondents increase. After that the percentage drops gradually as the age increases up to the 61 to 65 group. Also, up to the age of 60 the percentages are generally higher at national institutions, followed by municipal and private institutions, in that order (Figure 23).

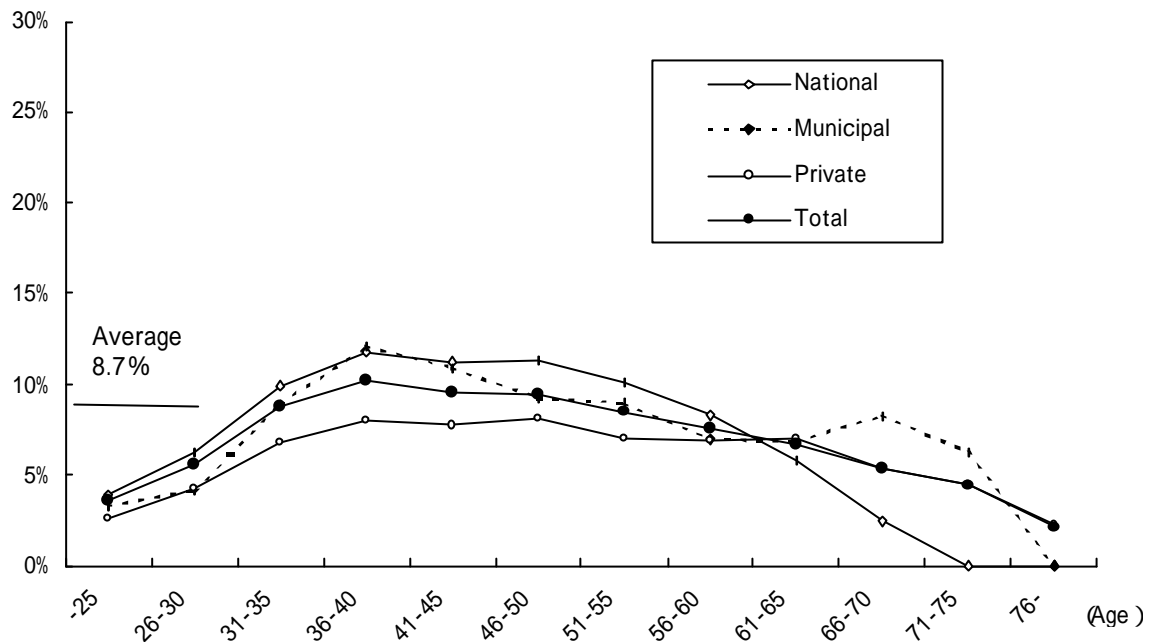
Broken down by professional title, the percentages of professors, associate professors, and part-time researchers traveling abroad to perform research activities are higher than the general average, while the other professional title categories are below the average (Figure 24).

**Table 7 Number of Researchers Who Have Traveled Abroad by Field of Specialization /
by Institution Governing Authority**

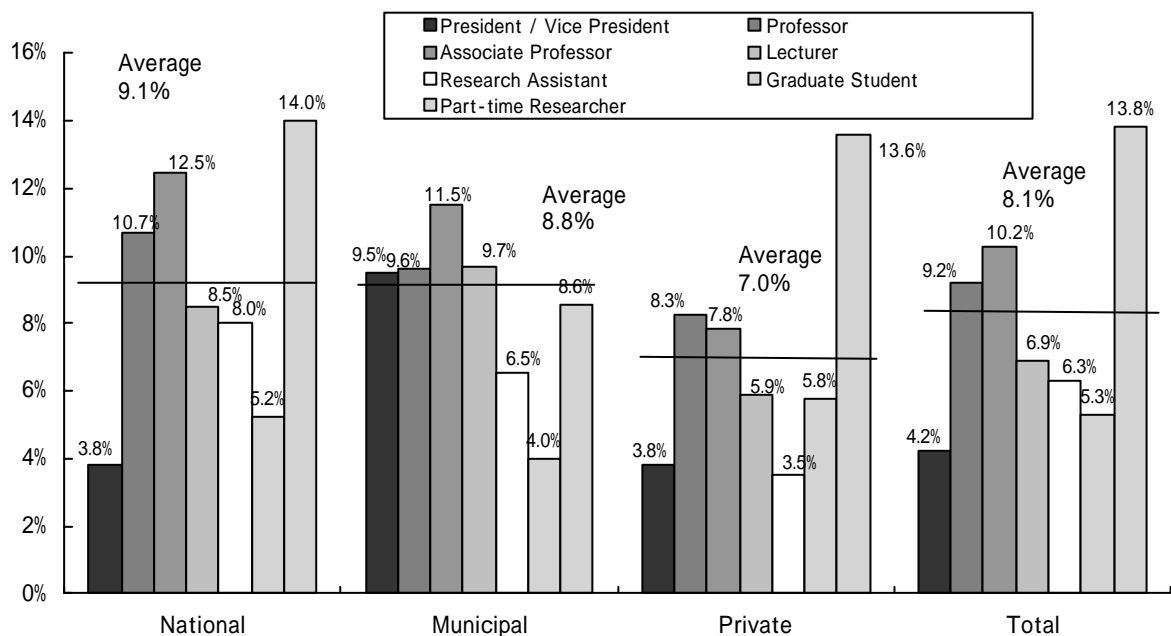
		National	Municipal	Private	Total
Arts	No. of Researchers	1,130	224	1,995	3,349
	Ratio	12.3%	12.9%	9.5%	10.5%
Law	No. of Researchers	190	32	306	528
	Ratio	14.2%	14.7%	11.2%	12.3%
Economics	No. of Researchers	187	62	487	736
	Ratio	11.3%	11.7%	9.0%	9.7%
Science	No. of Researchers	1,473	88	334	1,895
	Ratio	13.2%	11.1%	8.4%	11.9%
Engineering	No. of Researchers	1,111	82	458	1,651
	Ratio	7.6%	7.4%	6.4%	7.2%
Agriculture	No. of Researchers	580	53	151	784
	Ratio	11.5%	9.9%	6.9%	10.1%
Medicine	No. of Researchers	861	165	529	1,555
	Ratio	5.1%	5.2%	3.3%	4.3%
Interdisciplinary Area	No. of Researchers	840	83	425	1,348
	Ratio	8.8%	8.8%	4.9%	7.1%
Wide Area	No. of Researchers	76	19	144	239
	Ratio	12.2%	10.4%	8.0%	9.2%
Unknown	No. of Researchers	13	4	22	39
	Ratio	3.3%	3.8%	1.7%	2.2%
Total	No. of Researchers	6,461	812	4,851	12,124
	Ratio	9.2%	8.7%	6.9%	8.1%



**Figure 22 Ratio of Researchers Who Have Traveled Abroad by Institution Type
/ by Institution Governing Authority**



**Figure 23 Ratio of Researchers Who Have Traveled Abroad by Age
/ by Institution Governing Authority**



**Figure 24 Ratio of Researchers Who Have Traveled Abroad by Professional Title
/ by Institution Governing Authority**

5.2 Participation in International Conferences and Scientific Societies Overseas

Of the entire group of researchers responding to the survey, the number who had attended an international conference or scientific society meeting overseas during the one-year period preceding the survey was 29,049, or 19.4%. The figures broken down by institution governing authority were national institutions 24.3%, municipal institutions 19.9%, and private institutions 14.4%. In comparison with the percentages of researchers traveling abroad to perform research activities, there was a larger deviation associated with institution governing authority.

Broken down by field of specialization, the percentages were relatively high for fields in the natural sciences such as engineering (29.8%), medicine (24.0%), science (23.8%), and agriculture (18.6%), all of which were above the overall average with the exception of agriculture. In contrast, the percentages tended to be low in fields in the humanities and social sciences, such as (in descending order) economics (11.1%), law (11.0%), and arts (9.1%). Also, an examination of the above categories broken down by institution governing authority indicates that the percentage of scholars attending international conferences, etc., overseas was highest in all fields at national institutions (Table 8).

The breakdown by institution type shows that inter-university research institutes (37.8%) have the highest percentage, followed in descending order by universities (21.4%), government research institutes of the Ministry of Education, Science, Sports, and Culture (14.6%), and private scientific research institutes (12.2%). The lowest percentages are for colleges of technology and junior colleges, at 7.8% and 5.4%, respectively (Figure 25).

Broken down by professional title, the percentages of professors, associate professors, and part-time researchers attending international conferences, etc., overseas are higher than the general average. For all professional title categories the percentages were highest at national institutions, followed by municipal and private institutions, in that order (Figure 26).

Broken down by age, there is a steady rise up to the 41 to 45 group in the percentage of scholars attending international conferences, etc., overseas as the age of the respondents increases. After that the percentages remain steady at around 20% up to the 56 to 60 group. Also, the percentages are generally higher at national institutions, followed by municipal and private institutions, in that order. This disparity is particularly large in the 46 to 50 age group (Figure 27).

Figure 28 plots the proportions of researchers traveling abroad to perform research activities together with the proportions attending international conferences or scientific society meetings overseas. It shows that the percentage of researchers with experience attending international conferences, etc., overseas is higher in all age groups than the percentage with experience traveling abroad to perform research activities.

A breakdown by institution governing authority of the party covering expenses for participation in international conferences, etc., overseas shows at national institutions a relatively high proportion (29.9%) for foundations, etc. (including donations and proxy

account funds), with the proportions for Ministry of Education, Science, Sports, and Culture or Japan Society for the Promotion of Science funding (19.2%) also higher than that for municipal or private institutions. On the other hand, at private institutions the proportion accounted for by affiliated institutions (33.9%) was much higher than that at national or municipal institutions. In the case of municipal institutions researchers covering their own expenses (48.1%) are the most prominent (Figure 29).

A breakdown by field of specialization of the party covering expenses for participation in international conferences, etc., overseas indicates that the proportion of researchers covering their own expenses is extremely high in medicine and arts (47.7% and 40.8%, respectively). Also, a high proportion (39.3%) of such participation is covered by foundations, etc. (including donations and proxy account funds) in the field of engineering, and the use of Ministry of Education, Science, Sports, and Culture or Japan Society for the Promotion of Science funding is high (28.1%) in the field of science (Figure 30).

Table 8 Number of Researchers Who Have Participated in International Conferences, Etc., Overseas by Field of Specialization / by Institution Governing Authority

		National	Municipal	Private	Total
Arts	No. of Researchers	971	166	1791	2,928
	Ratio	10.5%	9.6%	8.5%	9.1%
Law	No. of Researchers	151	24	295	470
	Ratio	11.3%	11.1%	10.8%	11.0%
Economics	No. of Researchers	233	64	551	848
	Ratio	14.1%	12.1%	10.1%	11.1%
Science	No. of Researchers	2,870	186	723	3,779
	Ratio	25.8%	23.4%	18.1%	23.8%
Engineering	No. of Researchers	4,752	314	1,739	6,805
	Ratio	32.5%	28.3%	24.4%	29.8%
Agriculture	No. of Researchers	1,078	92	274	1,444
	Ratio	21.3%	17.2%	12.5%	18.6%
Medicine	No. of Researchers	4,371	764	3,455	8,590
	Ratio	26.1%	24.1%	21.7%	24.0%
Interdisciplinary Area	No. of Researchers	2,535	205	1,066	3,806
	Ratio	26.6%	21.8%	12.4%	19.9%
Wide Area	No. of Researchers	110	28	173	311
	Ratio	17.7%	15.3%	9.7%	12.0%
Unknown	No. of Researchers	27	10	31	68
	Ratio	6.9%	9.6%	2.5%	3.9%

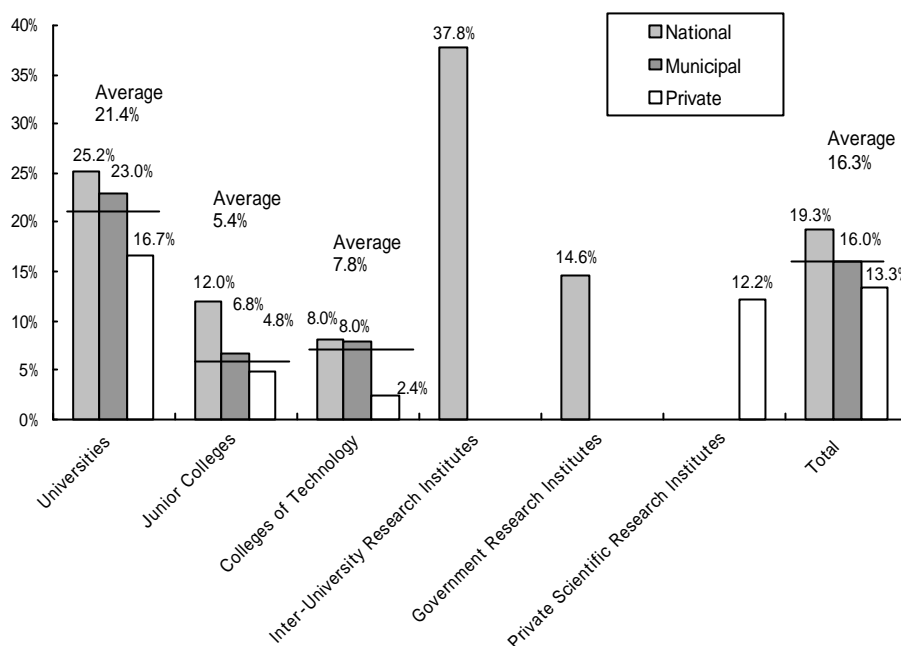


Figure 25 Ratio of Researchers Who Have Participated in International Conferences, Etc., Overseas by Institution Type / by Institution Governing Authority

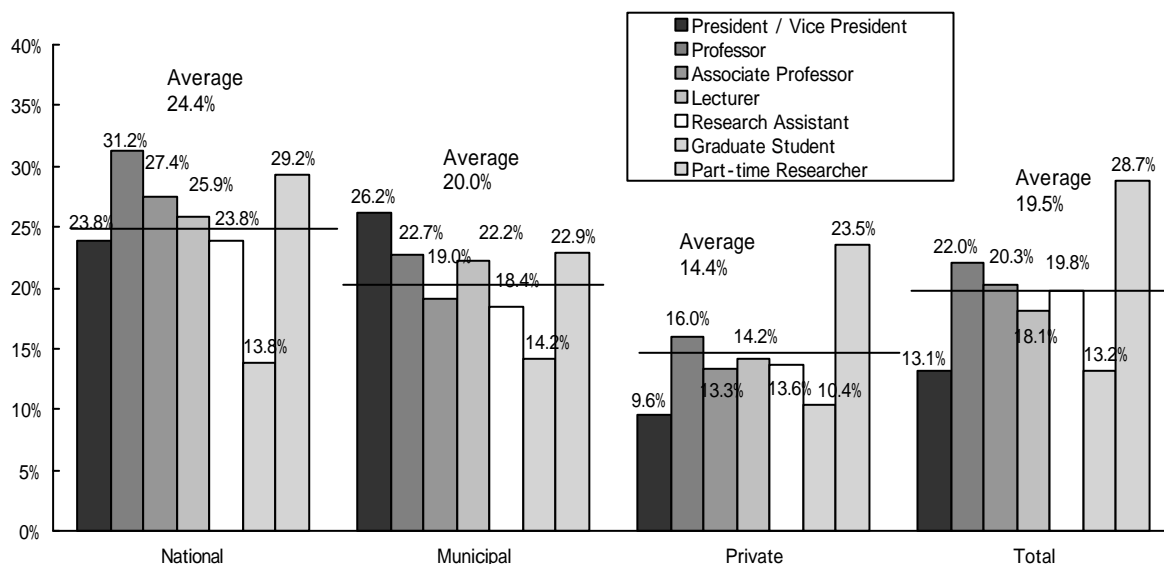


Figure 26 Ratio of Researchers Who Have Participated in International Conferences, Etc., Overseas by Professional Title

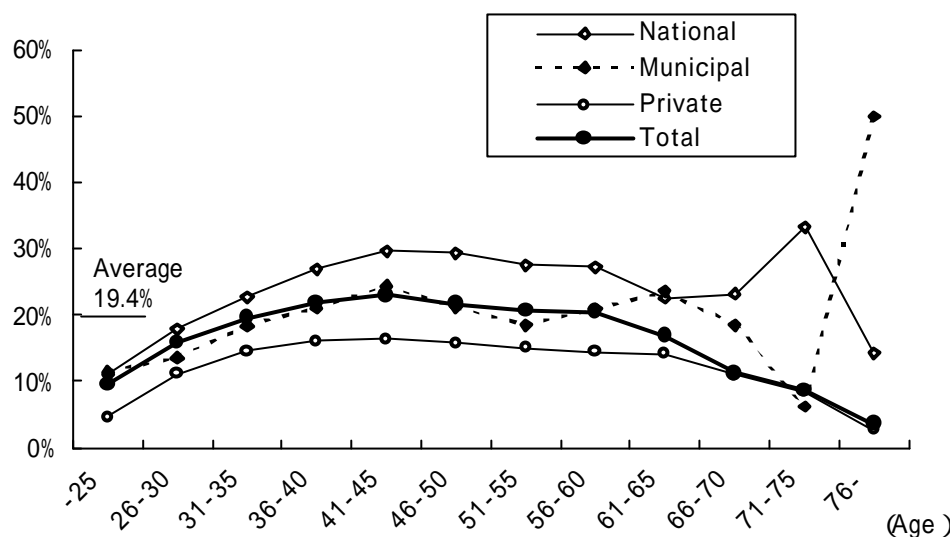


Figure 27 Ratio of Researchers Who Have Participated in International Conferences, Etc., Overseas by Age / by Institution Governing Authority

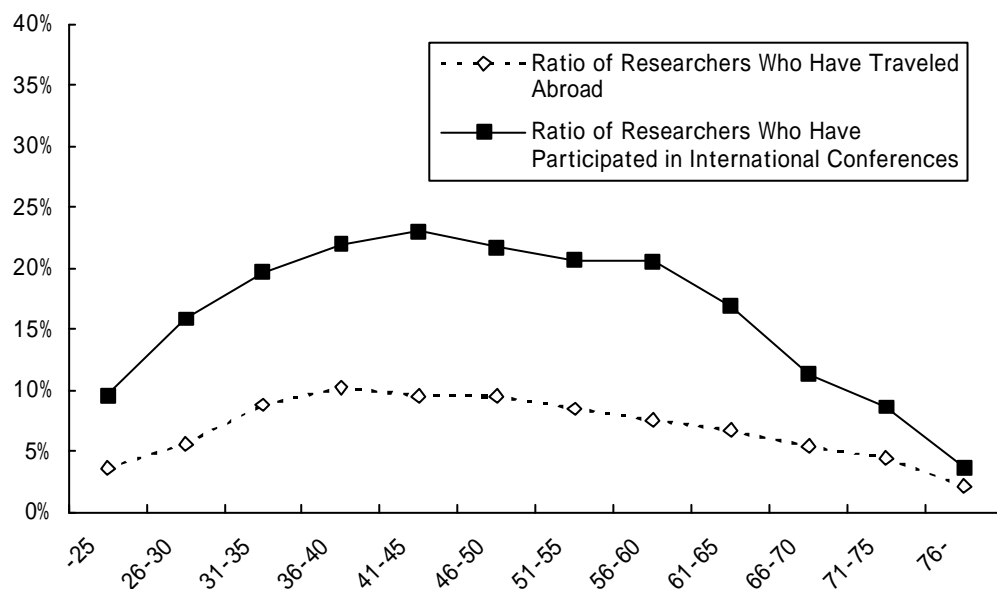


Figure 28 Ratio of Researchers Who Have Traveled Abroad and Ratio of Researchers Who Have Participated in International Conferences, Etc., Overseas by Age

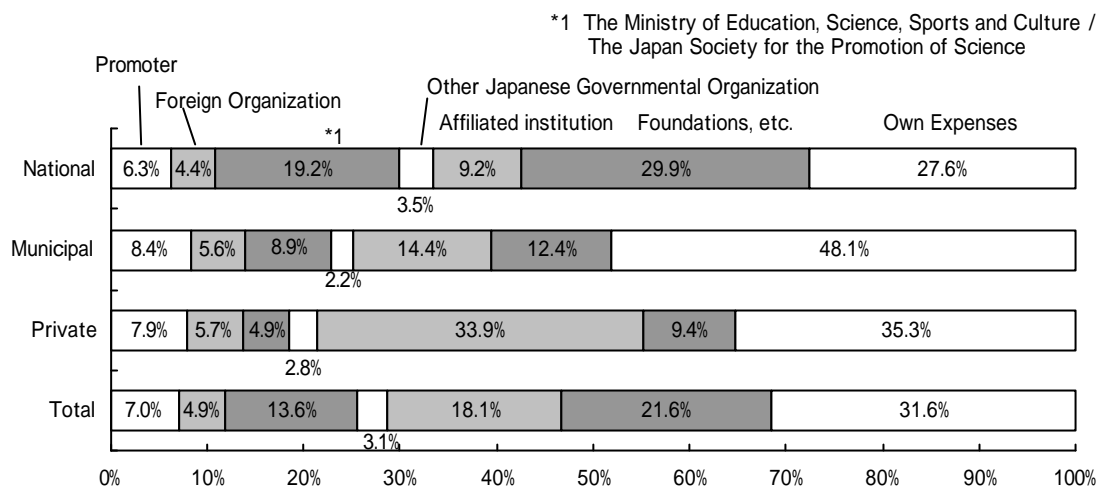


Figure 29 Party Covering Expenses for Participation in International Conferences, Etc., Overseas by Institution Governing Authority

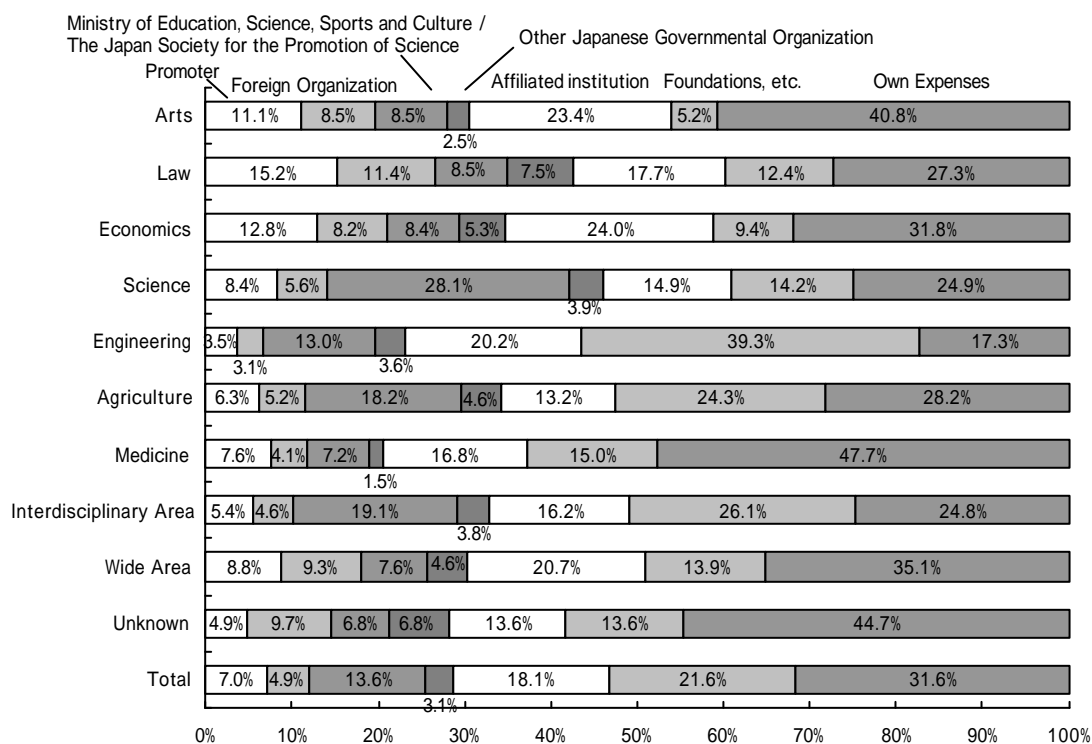


Figure 30 Party Covering Expenses for Participation in International Conferences, Etc., Overseas by Field of Specialization

6. Use of Languages Other Than Japanese by International Conferences and Scientific Societies

6.1 Principal Languages Other Than Japanese Used to Present Research Findings to Research Societies

An examination of the principal languages other than Japanese used to present research findings at the conferences of international academic societies, etc., shows an enormous gap between the most widely used language, English (106,428 respondents, 96.0%) and the second most widely used language, German (4,137 respondents, 3.7%).

Broken down by field of specialization, 99% or more of researchers presenting research findings in languages other than Japanese used English in fields in the natural sciences, such as science, engineering, agriculture, and medicine, and in interdisciplinary area. In contrast, fewer researchers used English in the fields of arts and law than was the case in the natural sciences, with the percentages being 83.5% and 86.1%, respectively. In these two fields the proportion of usage of German and French was relatively high. The percentages for arts were German 11.4% and French 7.7%, and those for law were German 19.2% and French 8.3% (Table 9).

The percentage of researchers using two or more languages other than Japanese to present research findings were highest in fields in the humanities and social sciences such as law, arts, and economics, and low in the natural sciences (Figure 31).

6.2 Principal Languages Other Than Japanese Used to Write Papers

An examination of the principal languages other than Japanese used to write papers for presentation at the conferences of international academic societies, etc., shows an enormous gap between the most widely used language, English (108,833 respondents, 96.6%) and the second most widely used language, German (5,322 respondents, 4.7%).

Broken down by field of specialization, 99% or more of researchers writing papers in languages other than Japanese used English in fields in the natural sciences, such as science, engineering, agriculture, and medicine, and in interdisciplinary area. In contrast, fewer researchers used English in the fields of arts and law than was the case in the natural sciences, with the percentages being 85.5% and 87.4%, respectively. In these two fields the proportion of usage of German and French was relatively high. The percentages for arts were German 13.0% and French 8.4%, and those for law were German 25.4% and French 9.9% (Table 10).

The percentage of researchers using two or more languages other than Japanese to write papers were highest in fields in the humanities and social sciences such as law, arts, and economics, and low in the natural sciences (Figure 32).

Table 9 Number of Researchers by Field of Specialization / by Language Other Than Japanese Used to Present Research Findings, Etc.

	Total	Language								Unknown
		Total of users other than Japanese	English	French	Spanish	Russian	German	Chinese	Others	
Arts	32,024	20,942	17,479	1,621	343	232	2,393	1,177	1,214	11,082
Law	4,280	3,028	2,607	250	31	35	582	79	116	1,252
Economics	7,618	5,499	5,301	127	42	44	283	144	171	2,119
Science	15,910	13,689	13,674	127	23	34	109	48	58	2,221
Engineering	22,869	19,183	19,147	111	25	28	150	159	144	3,686
Agriculture	7,784	6,087	6,060	35	18	10	55	59	77	1,697
Medicine	35,830	27,457	27,426	121	34	8	261	102	75	8,373
Interdisciplinary Area	19,091	13,450	13,340	110	31	24	186	91	100	5,641
Wide Area	2,595	1,219	1,098	47	17	15	104	30	69	1,376
Unknown	1,758	313	296	19	6	1	14	5	13	1,445
Total	149,759	110,867	106,428	2,568	570	431	4,137	1,894	2,037	38,892

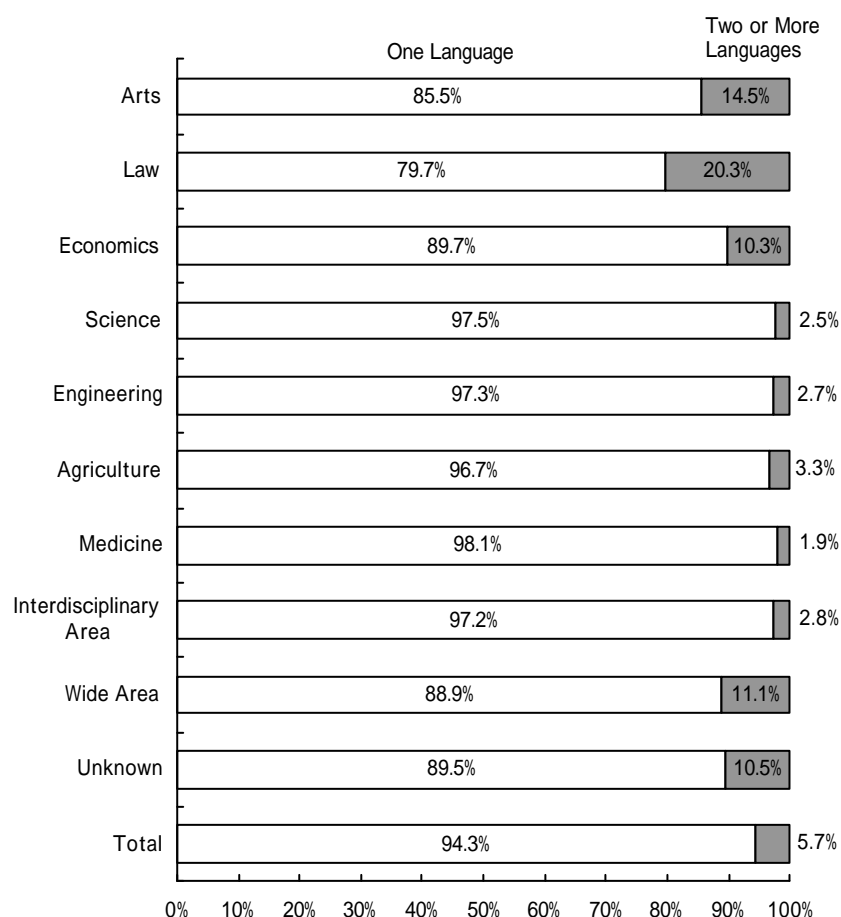


Figure 31 Proportion of Researchers by Field of Specialization / by Number of Languages Other Than Japanese Used to Present Research Findings, Etc.

Table 10 Number of Researchers by Field of Specialization / by Language Other Than Japanese Used to Write Papers

	Total	Languages								Unknown
		Total of users other than Japanese	English	French	Spanish	Russian	German	Chinese	Others	
Arts	32,024	21,037	17,980	1,759	331	258	2,737	1,186	1,030	10,987
Law	4,280	3,099	2,708	307	33	39	788	78	119	1,181
Economics	7,618	5,701	5,536	206	35	65	494	137	165	1,917
Science	15,910	14,229	14,227	195	18	35	205	37	40	1,681
Engineering	22,869	19,670	19,642	140	23	32	324	140	121	3,199
Agriculture	7,784	6,320	6,306	30	18	14	103	55	58	1,464
Medicine	35,830	27,524	27,506	113	27	10	316	90	55	8,306
Interdisciplinary Area	19,091	13,668	13,576	123	21	27	264	103	85	5,423
Wide Area	2,595	1,156	1,070	41	15	17	78	30	43	1,439
Unknown	1,758	298	282	19	5	0	13	3	11	1,460
Total	149,759	112,702	108,833	2,933	526	497	5,322	1,859	1,727	37,057

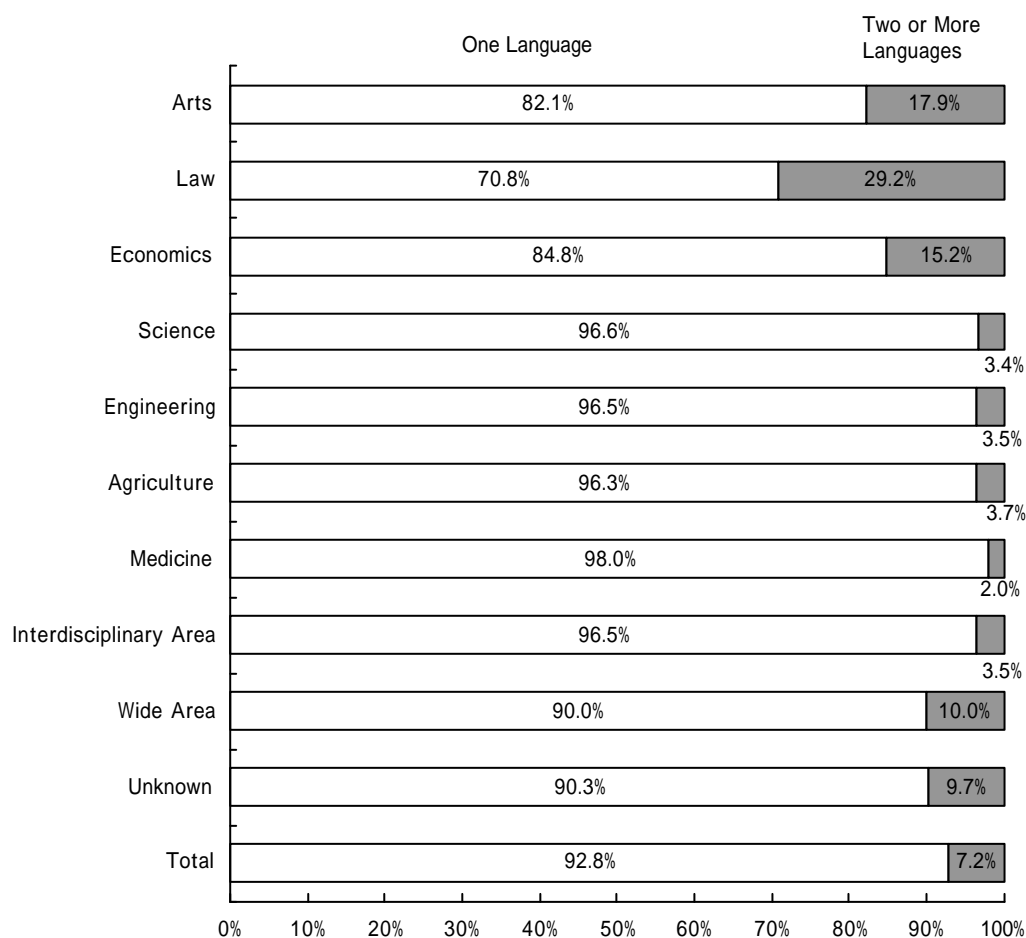


Figure 32 Proportion of Researchers by Field of Specialization/by Number of Languages Other Than Japanese Used to Write Papers

7. Academic Society Affiliations of Researchers

7.1 Japanese Academic Societies

Membership in Japanese academic societies was reported by 135,382, or 90.4%, of the researchers responding. Overall, the average number of such memberships per researcher (including in the total researchers not belonging to any academic societies) was 3.1.

Broken down by institution governing authority, the figures were national institutions 90.2%, municipal institutions 90.8 and private institutions 90.5%.

Broken down by number of academic society affiliations, researchers belonging to three academic societies were most numerous at national, municipal, and private institutions. The next largest group at municipal and private institutions (but not national ones) was researchers belonging to two academic societies, followed by researchers belonging to four (Figure 33).

The average number of memberships at municipal institutions was 3.3, at private institutions 3.2, and at national institutions 3.0 (Table 11).

Broken down by field of specialization, researchers not belonging to any academic societies were most numerous in wide area (25.0%), followed in descending order by law (10.3%), science (9.5%), arts (9.4%), medicine (8.9%), economics (8.6%), and interdisciplinary area (8.4%) (Figure 34).

The average number of academic societies each researcher belonged to exceeded the overall average of 3.1 in the field of medicine, where the number of memberships per individual averages 3.8. In the field of science the average number of memberships was low because 34.5% of the respondents in this field belonged to one academic society only.

There were no significant differences correlating with institution governing authority.

The type of institution for which the average number of academic society memberships was highest was universities (3.2), followed in descending order by government research institutes of the Ministry of Education, Science, Sports, and Culture (3.1), junior colleges (2.9), private scientific research institutes (2.7), inter-university research institutes (2.5), and colleges of technology (2.4) (Figure 35). Note that the average number of memberships was high among researchers affiliated with national and municipal junior colleges because a high proportion of the researchers at these institutions are in the medical field.

Table 11 Average Number of Academic Society Affiliations (Japanese) by Field of Specialization

	National	Municipal	Private	Total
Arts	3.2	3.2	3.1	3.1
Law	2.5	2.8	2.9	2.8
Economics	2.6	2.8	3.2	3.0
Science	2.0	2.5	2.4	2.1
Engineering	2.7	3.0	3.2	2.9
Agriculture	3.1	3.5	3.7	3.3
Medicine	3.7	3.8	4.0	3.8
Interdisciplinary Area	3.0	3.7	3.1	3.1
Wide Area	2.3	1.8	2.1	2.1
Unknown	0.9	0.9	0.8	0.8
Total	3.0	3.3	3.2	3.1

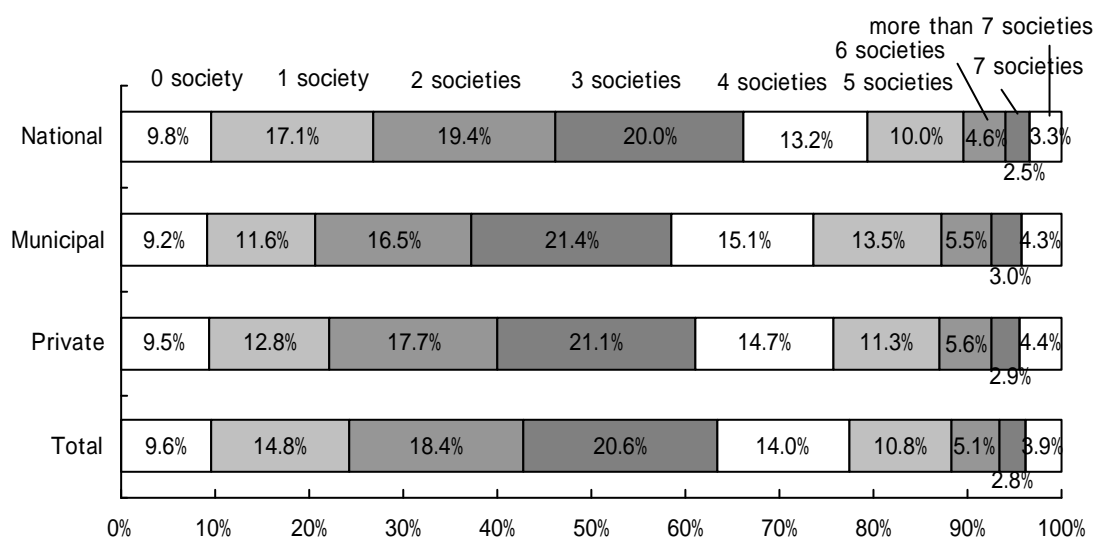


Figure 33 Ratio of Average Number of Academic Society Affiliations (Japanese) by Institution Governing Authority

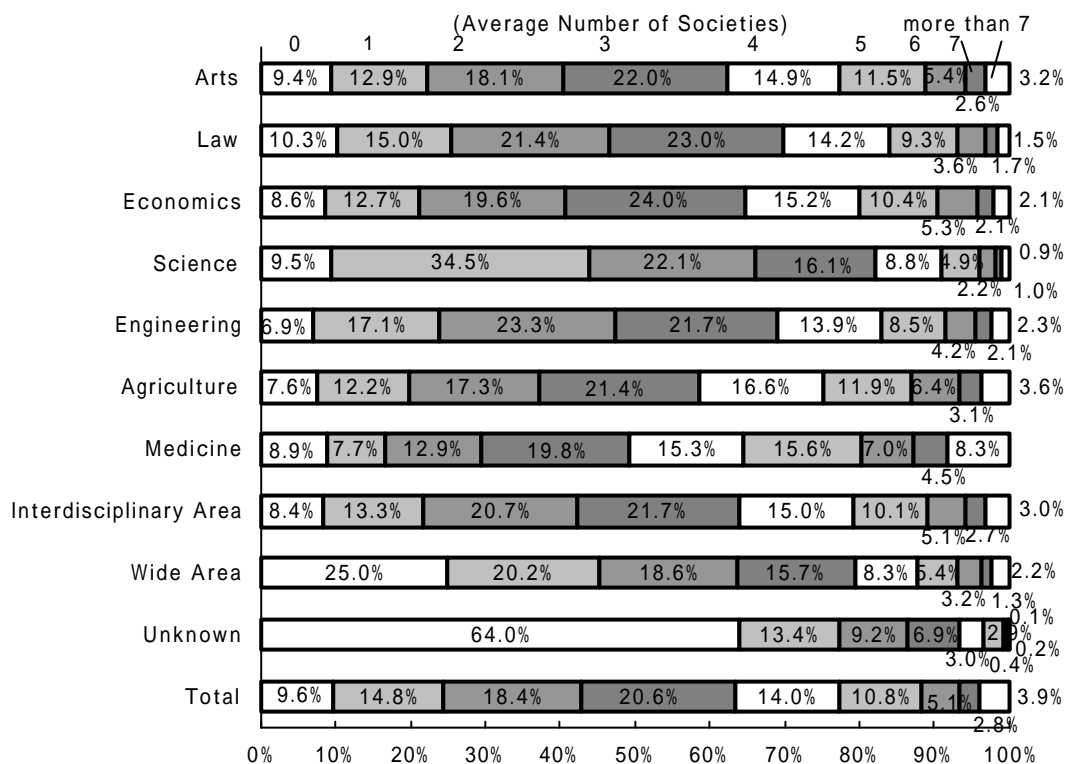


Figure 34 Ratio of Average Number of Academic Society Affiliations (Japanese) by Field of Specialization

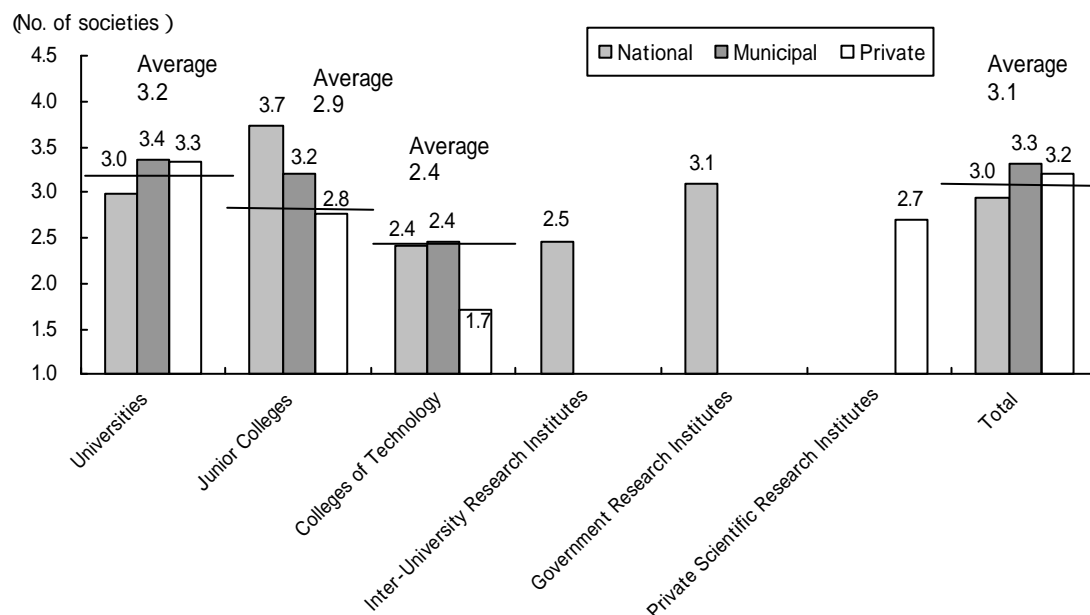


Figure 35 Average Number of Academic Society Affiliations (Japanese) by Institution Type/ by Institution Governing Authority

7.2 Overseas Academic Societies

Membership in one or more overseas academic societies was reported by 32,146, or 21.5%, of the researchers responding. Overall, the average number of such memberships per researcher (including in the total researchers not belonging to any overseas academic societies) was 0.3. Compared with the figures of 135,382 researchers (90.4%) for membership in Japanese academic societies, these figures are extremely low, although that is perhaps to be expected.

Broken down by institution governing authority, national institutions have the largest proportion of researchers belonging to overseas academic societies at 24.1% or 16,911 persons. Next come municipal institutions at 21.1% and private institutions at 18.9%. The average number of memberships at national, municipal, and private institutions was 1.5 (Table 12), with most researchers who belong to overseas academic societies having either one or two such memberships. There are also some researchers who belong to three or more overseas academic societies, though their numbers are small (Figure 36).

Broken down by field of specialization, the percentage of researchers belonging to overseas academic societies was high in fields in the natural sciences such as engineering (26.5%), science (25.7%), agriculture (25.6%), and medicine (23.8%). It was somewhat lower in fields in the humanities and social sciences such as economics (18.9%), arts (15.8%), and law (14.2%) (Figure 37).

The type of institution for which the average number of academic society memberships was highest were government research institutes of the Ministry of Education, Science, Sports, and Culture at 1.68, followed by inter-university research institutes in second place at 1.53 (Figure 38).

Table 12 Average Number of Academic Society Affiliations (Overseas) Among Respondents Affiliated with Overseas Academic Society, by Field of Specialization

	National	Municipal	Private	Total
Arts	1.5	1.6	1.5	1.5
Law	1.4	1.5	1.4	1.4
Economics	1.4	1.3	1.4	1.4
Science	1.4	1.4	1.4	1.4
Engineering	1.4	1.4	1.3	1.3
Agriculture	1.5	1.4	1.4	1.5
Medicine	1.6	1.5	1.6	1.6
Interdisciplinary Area	1.4	1.4	1.5	1.5
Wide Area	1.5	1.8	1.5	1.5
Unknown	1.3	1.0	1.4	1.3
Total	1.5	1.5	1.5	1.5

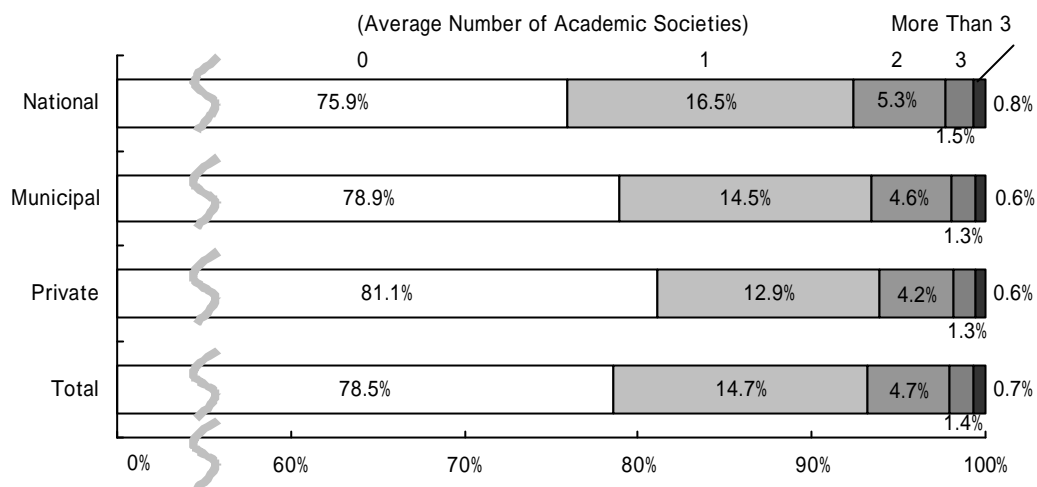


Figure 36 Ratio of Average Number of Academic Society Affiliations (Overseas) by Institution Governing Authority

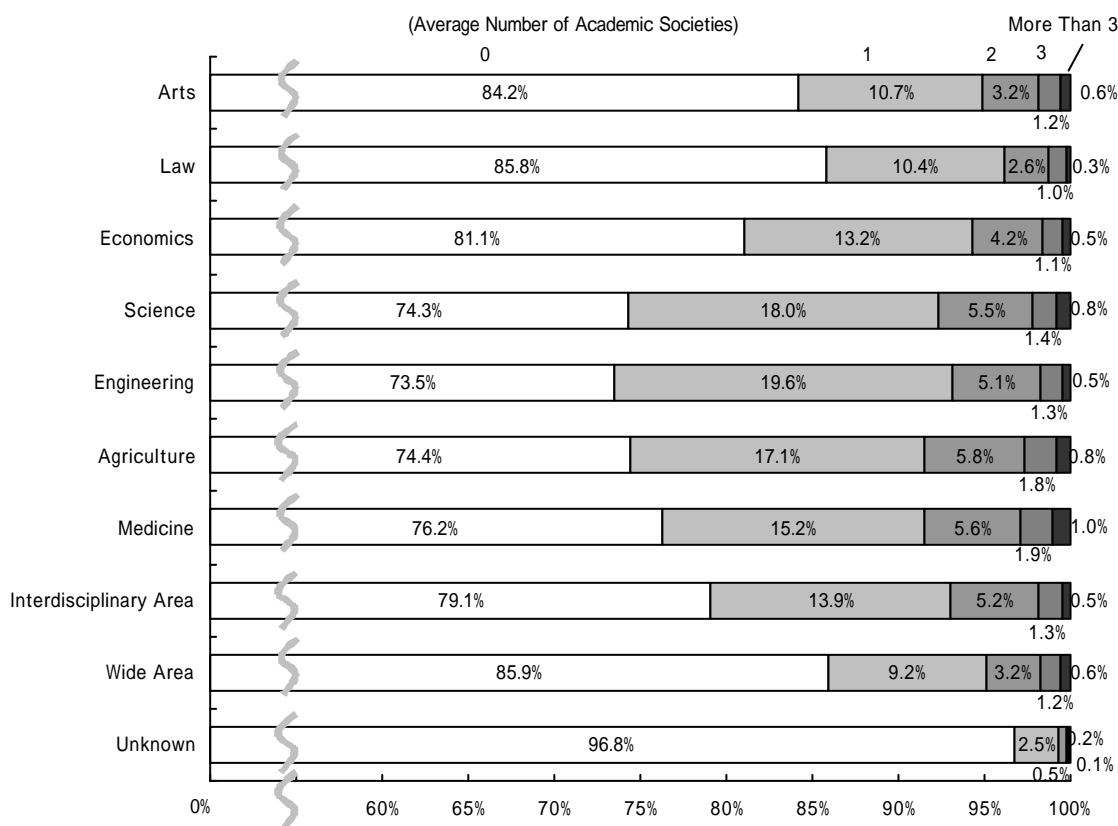


Figure 37 Ratio of Average Number of Academic Society Affiliations (Overseas) by Field of Specialization

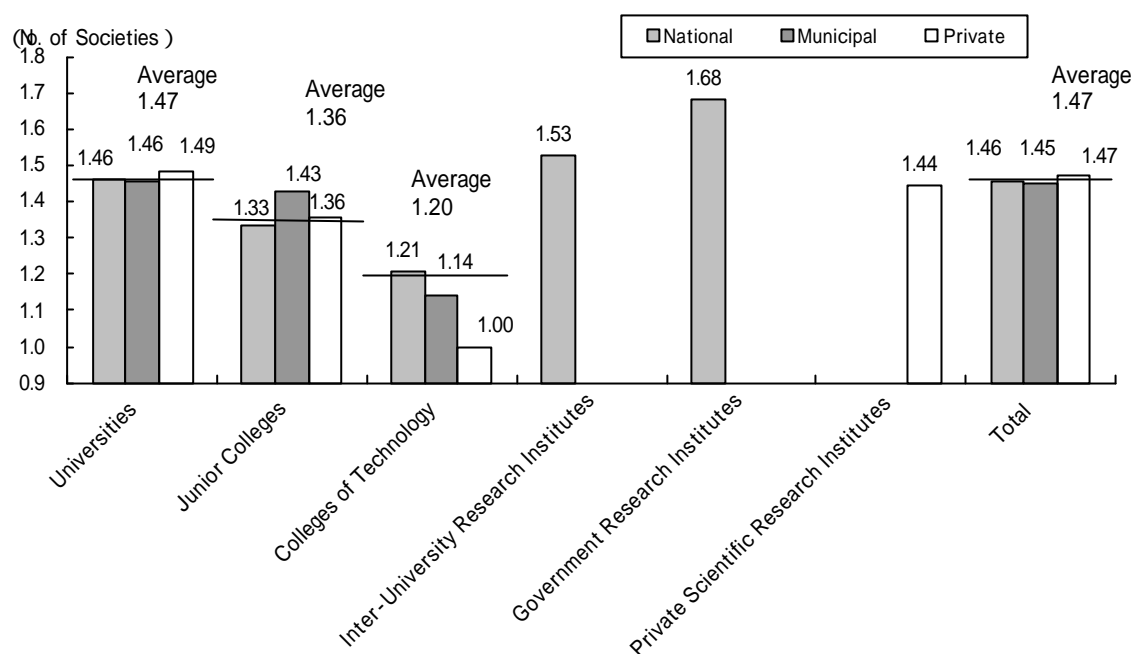


Figure 38 Average Number of Academic Society Affiliations (Overseas) Among Respondents Affiliated with Overseas Academic Society, by Institution Type / by Institution Governing Authority

8. Academic Awards Received

8.1 Japanese Awards Received

Of the total number of researchers, 14.2% have received some sort of Japanese academic award. The breakdown by institution governing authority is national institutions 16.6%, municipal institutions 13.4%, and private institutions 11.9%. Broken down by field of specialization, the percentage of Japanese award holders was highest in engineering (27.8%), followed in descending order by agriculture (21.0%) and wide area (19.0%) (Figure 39).

The type of institution with the largest percentage of Japanese award holders was inter-university research institutes at 17.2%. This was followed in descending order by universities (15.0%), private scientific research institutes (12.7%), government research institutes of the Ministry of Education, Science, Sports, and Culture (11.2%), colleges of technology (9.7%), and junior colleges (9.1%) (Figure 40).

For all respondents overall, the average number of Japanese academic awards received was 0.24. The breakdown by institution governing authority is national institutions 0.27, municipal institutions 0.22, and private institutions 0.21. The breakdown by field of specialization puts engineering (0.53) in first place, followed by wide area (0.50) and agriculture (0.30) (Figure 41).

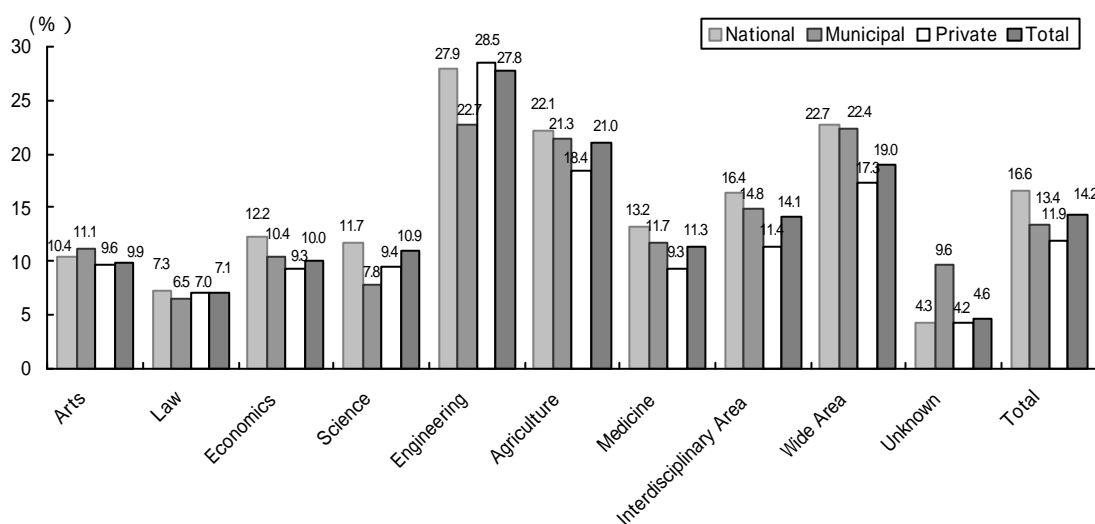


Figure 39 Ratio of Persons Who Have Received Awards (Japanese) by Field of Specialization

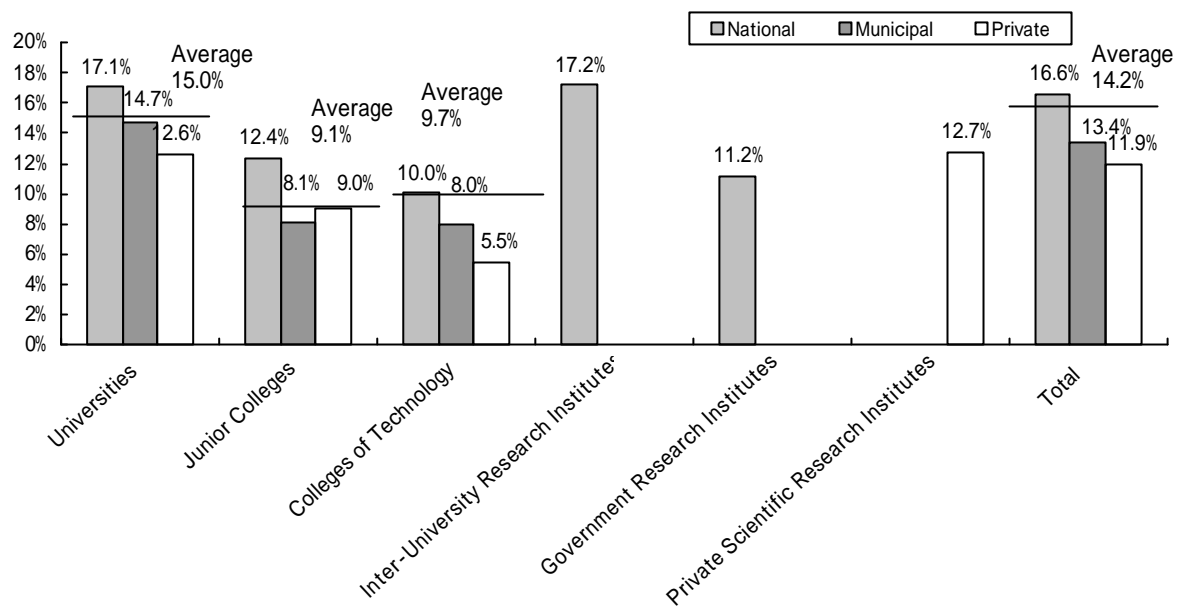


Figure 40 Ratio of Persons Who Have Received Awards (Japanese) by Institution Type

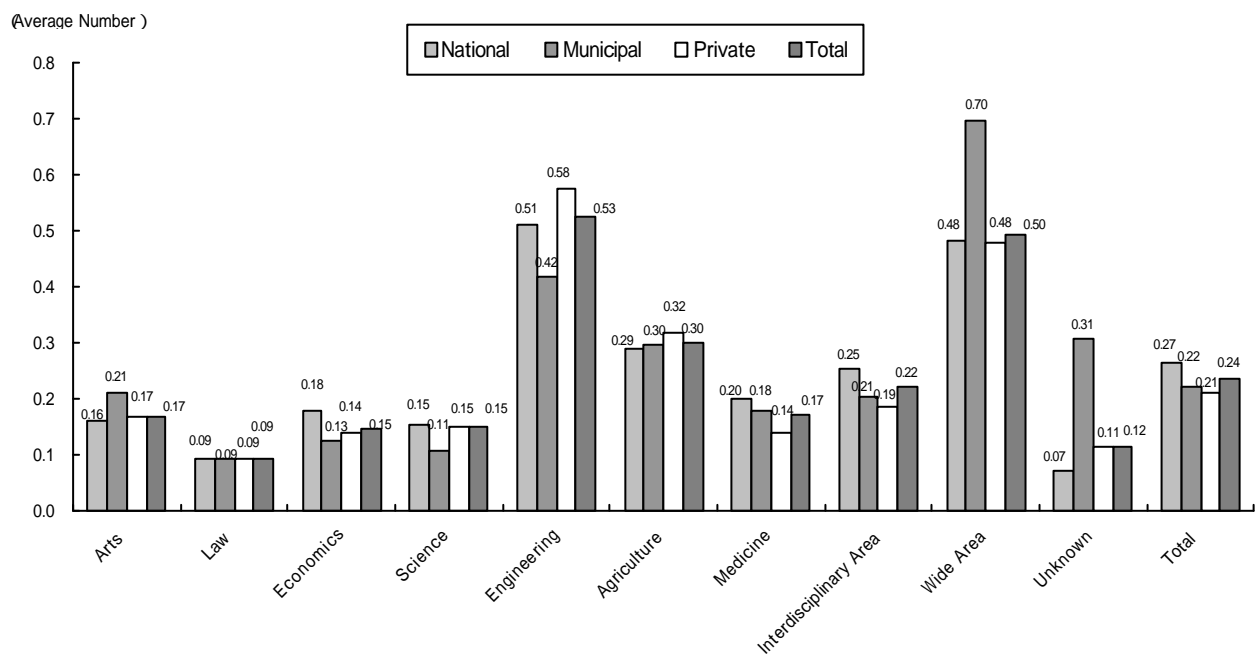


Figure 41 Average Number of Awards Received (Japanese) by Field of Specialization

8.2 Overseas Awards Received

Of the total number of researchers, 2.3% have received some sort of overseas academic award. The breakdown by institution governing authority is national institutions 2.6%, municipal institutions 2.2%, and private institutions 2.1%.

Broken down by field of specialization, the percentage of overseas award holders was highest in engineering (4.2%), followed in descending order by wide area (3.9%) and medicine (2.5%) (Figure 42).

The type of institution with the largest percentage of overseas award holders was inter-university research institutes at 3.2%. This was followed in descending order by universities (2.5%), private scientific research institutes (2.2%), junior colleges (1.3%), government research institutes of the Ministry of Education, Science, Sports, and Culture (1.0%), and colleges of technology (0.8%) (Figure 43).

The average number of overseas academic awards received by respondents overall was 0.034. The breakdown by institution governing authority is national institutions 0.035, private institutions 0.033, and municipal institutions 0.032. The breakdown by field of specialization puts wide area (0.071) in first place, followed by engineering (0.058), medicine (0.034), and arts (0.032) (Figure 44).

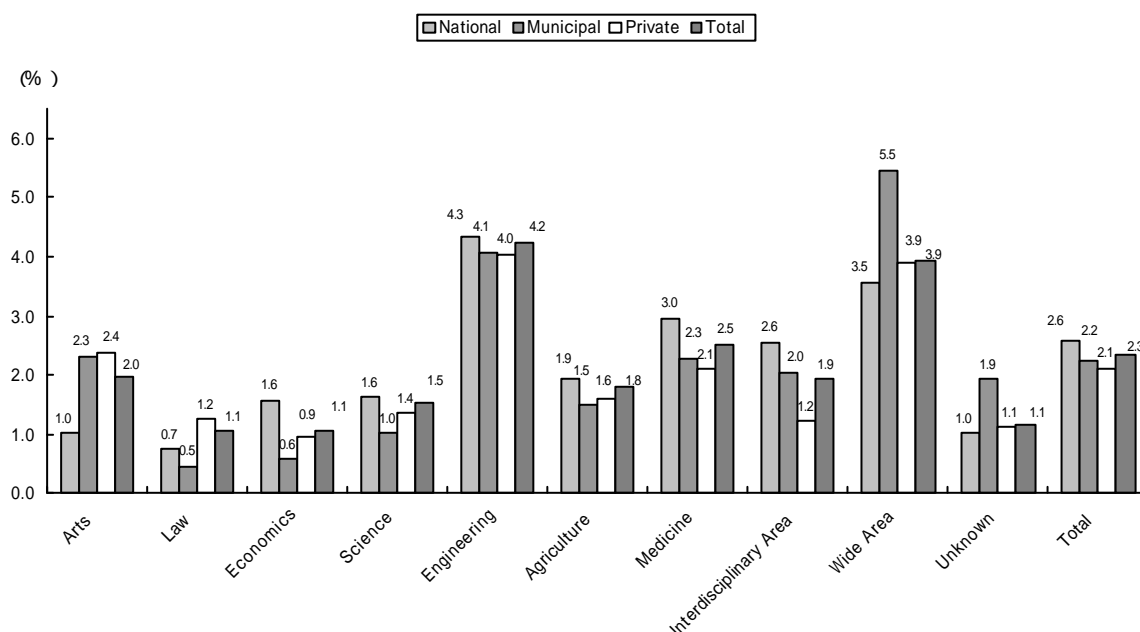


Figure 42 Ratio of Persons Who Have Received Awards (Overseas) by Field of Specialization

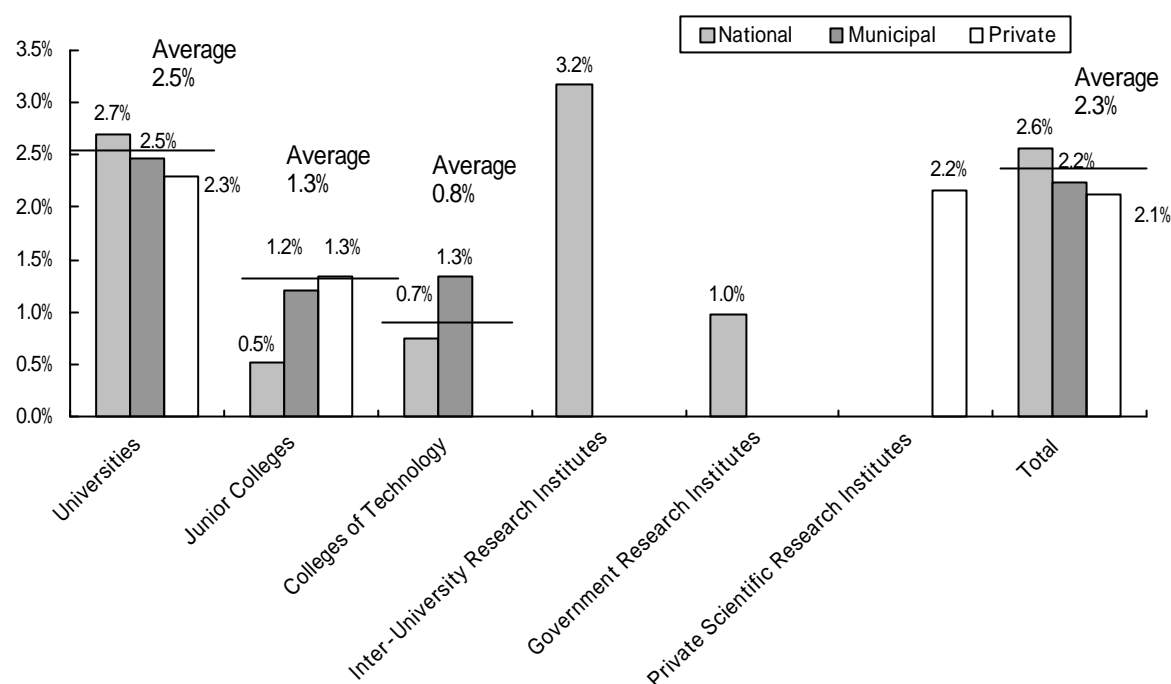


Figure 43 Ratio of Persons Who Have Received Awards (Overseas) by Institution Type

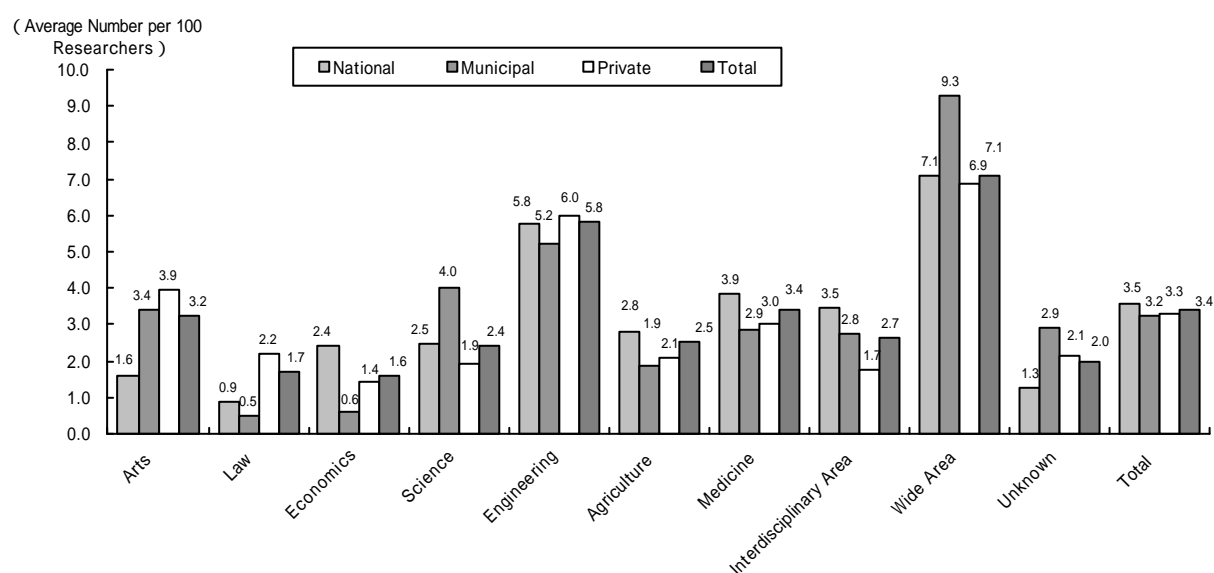


Figure 44 Average Number of Awards Received (Overseas) by Field of Specialization