

1. Overview of Survey Results

This survey covers the following researchers affiliated with the institutions listed below as of May 1, 1999: full-time faculty and researchers employed in positions equivalent to university associate professor or above, graduates 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 1,473 institutions and 219,991 persons subject to the survey, and valid responses were received from 1,328 institutions (90.2% response rate) and 145,243 persons (66.0% response rate) (Table 1).

In the followings the situation on 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	623	194,004	608	124,789	97.6%	64.3%
Junior Colleges	586	18,001	533	14,246	91.0%	79.1%
Colleges of Technology	62	4,434	60	4,011	96.8%	90.5%
Inter-university Research Institutes	20	1,688	19	1,050	95.0%	62.2%
Government Research Institutes	18	558	13	361	72.2%	64.7%
Private Scientific Research Institutes	164	1,306	95	786	57.9%	60.2%
Total	1,473	219,991	1,328	145,243	90.2%	66.0%

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 (23.2%) and arts (21.7%) have the largest shares, together accounting for 44.9% of the total. These fields are followed, in descending order, by engineering (15.3%), interdisciplinary area (12.7%), science (10.5%), agriculture (5.2%), economics (5.1%), law (2.9%), and wide area (1.8%). Also, the ratio of researchers in the humanities and social sciences (researchers in arts, law, and economics), total 43,092 persons, to researchers in the natural sciences (researchers in science, engineering, agriculture, and medicine), total 78,636 persons, is 35:65.

A breakdown of researchers by the governing authority of the institutions they are affiliated with shows that 46.3% (67,259 persons) are at national institutions, 6.2% (9,034 persons) are at municipal institutions, and 47.5% (68,950 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 (69.8%), agriculture (64.9%) and engineering (63.8%). In contrast, a high proportion of researchers in the humanities and social sciences are affiliated with private institutions, such as economics (72.0%), wide area (70.3%), arts (66.6%), and law (64.2%).

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	Institutions	
Universities	National	Assistant and Above	6,412	1,030	1,326	6,651	8,684	3,407	11,237	6,270	444	378	45,839	
		Others	1,484	202	216	2,966	3,349	1,464	3,692	2,108	126	166	15,773	
		Total	7,896	1,232	1,542	9,617	12,033	4,871	14,929	8,378	570	544	61,612	100
	Municipal	Assistant and Above	1,246	188	404	611	792	334	2,129	724	125	95	6,648	
		Others	128	14	49	84	139	47	304	67	4	14	850	
		Total	1,374	202	453	695	931	381	2,433	791	129	109	7,498	66
	Private	Assistant and Above	14,402	2,235	4,388	3,224	5,920	1,321	12,967	5,459	1,022	876	51,814	
		Others	1,184	201	291	142	298	98	1,273	234	45	99	3,865	
		Total	15,586	2,436	4,679	3,366	6,218	1,419	14,240	5,693	1,067	975	55,679	457
	Total	Assistant and Above	22,060	3,453	6,118	10,486	15,396	5,062	26,333	12,453	1,591	1,349	104,301	
		Others	2,796	417	556	3,192	3,786	1,609	5,269	2,409	175	279	20,488	
		Total	24,856	3,870	6,674	13,678	19,182	6,671	31,602	14,862	1,766	1,628	124,789	623
Junior Colleges	National	Assistant and Above	69	3	6	24	26	1	423	50	20	22	644	
		Others	0	0	0	0	0	0	0	0	0	0	0	
		Total	69	3	6	24	26	1	423	50	20	22	644	25
	Municipal	Assistant and Above	302	23	63	44	28	133	438	149	24	65	1,269	
		Others	0	0	0	0	0	0	1	0	0	1	2	
		Total	302	23	63	44	28	133	439	149	24	66	1,271	58
	Private	Assistant and Above	5,240	229	696	340	607	601	902	2,377	741	576	12,309	
		Others	5	0	0	0	0	1	0	3	1	12	22	
		Total	5,245	229	696	340	607	602	902	2,380	742	588	12,331	503
	Total	Assistant and Above	5,611	255	765	408	661	735	1,763	2,576	785	663	14,222	
		Others	5	0	0	0	0	1	1	3	1	13	24	
		Total	5,616	255	765	408	661	736	1,764	2,579	786	676	14,246	586
Colleges of Technology	National	Assistant and Above	455	27	22	461	1,994	25	17	495	27	64	3,587	
		Others	3	0	1	0	1	0	0	0	0	0	5	
		Total	458	27	23	461	1,995	25	17	495	27	64	3,592	54
	Municipal	Assistant and Above	34	0	1	45	145	0	2	32	1	5	265	
		Others	0	0	0	0	0	0	0	0	0	0	0	
		Total	34	0	1	45	145	0	2	32	1	5	265	5
	Private	Assistant and Above	29	0	1	16	58	1	0	25	12	12	154	
		Others	0	0	0	0	0	0	0	0	0	0	0	
		Total	29	0	1	16	58	1	0	25	12	12	154	3
	Total	Assistant and Above	518	27	24	522	2,197	26	19	552	40	81	4,006	
		Others	3	0	1	0	1	0	0	0	0	0	5	
		Total	521	27	25	522	2,198	26	19	552	40	81	4,011	62
Inter-University Research Institutes	Assistant and Above	130	4	3	394	102	3	17	257	13	5	928		
	Others	10	0	0	68	4	0	2	35	2	1	122		
	Total	140	4	3	462	106	3	19	292	15	6	1,050	20	
Government Research Institutes	Assistant and Above	215	1	0	61	9	8	4	50	2	4	354		
	Others	3	0	0	4	0	0	0	0	0	0	7		
	Total	218	1	0	65	9	8	4	50	2	4	361	18	
Private Scientific Research Institutes	Assistant and Above	100	10	6	90	60	117	219	119	44	10	775		
	Others	1	0	0	4	0	2	1	0	1	2	11		
	Total	101	10	6	94	60	119	220	119	45	12	786	164	
Total	National	Assistant and Above	7,281	1,065	1,357	7,591	10,815	3,444	11,698	7,122	506	473	51,352	
		Others	1,500	202	217	3,038	3,354	1,464	3,694	2,143	128	167	15,907	
		Total	8,781	1,267	1,574	10,629	14,169	4,908	15,392	9,265	634	640	67,259	217
	Municipal	Assistant and Above	1,582	211	468	700	965	467	2,569	905	150	165	8,182	
		Others	128	14	49	84	139	47	305	67	4	15	852	
		Total	1,710	225	517	784	1,104	514	2,874	972	154	180	9,034	129
	Private	Assistant and Above	19,771	2,474	5,091	3,670	6,645	2,040	14,088	7,980	1,819	1,474	65,052	
		Others	1,190	201	291	146	298	101	1,274	237	47	113	3,898	
		Total	20,961	2,675	5,382	3,816	6,943	2,141	15,362	8,217	1,866	1,587	68,950	1,127
	Total	Assistant and Above	28,634	3,750	6,916	11,961	18,425	5,951	28,355	16,007	2,475	2,112	124,586	
		Others	2,818	417	557	3,268	3,791	1,612	5,273	2,447	179	295	20,657	
		Total	31,452	4,167	7,473	15,229	22,216	7,563	33,628	18,454	2,654	2,407	145,243	1,473

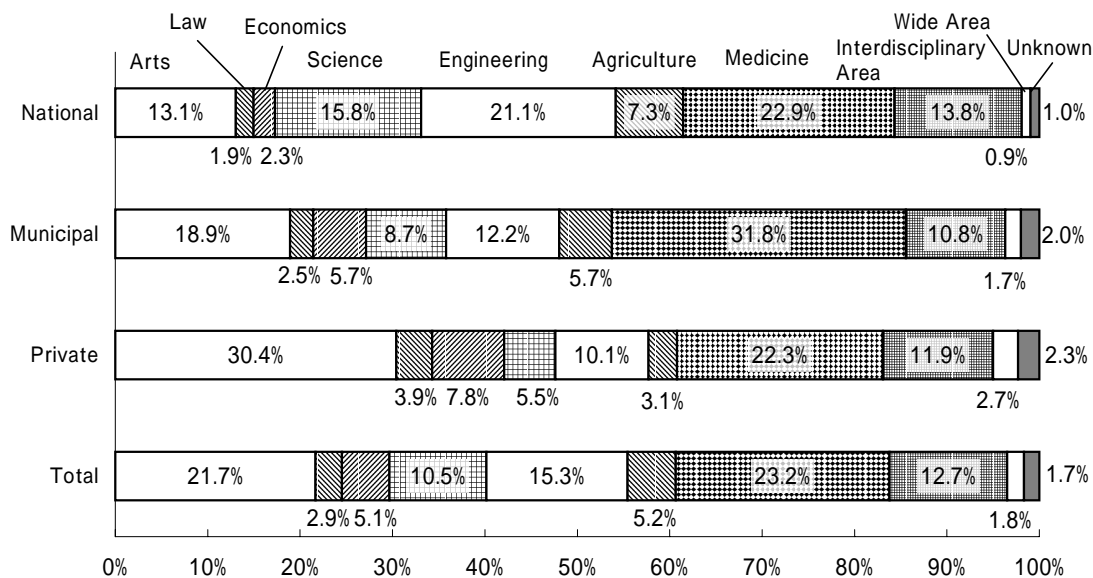


Figure 1 Composition of Researchers by Institution Governing Authority / by Field of Specialization

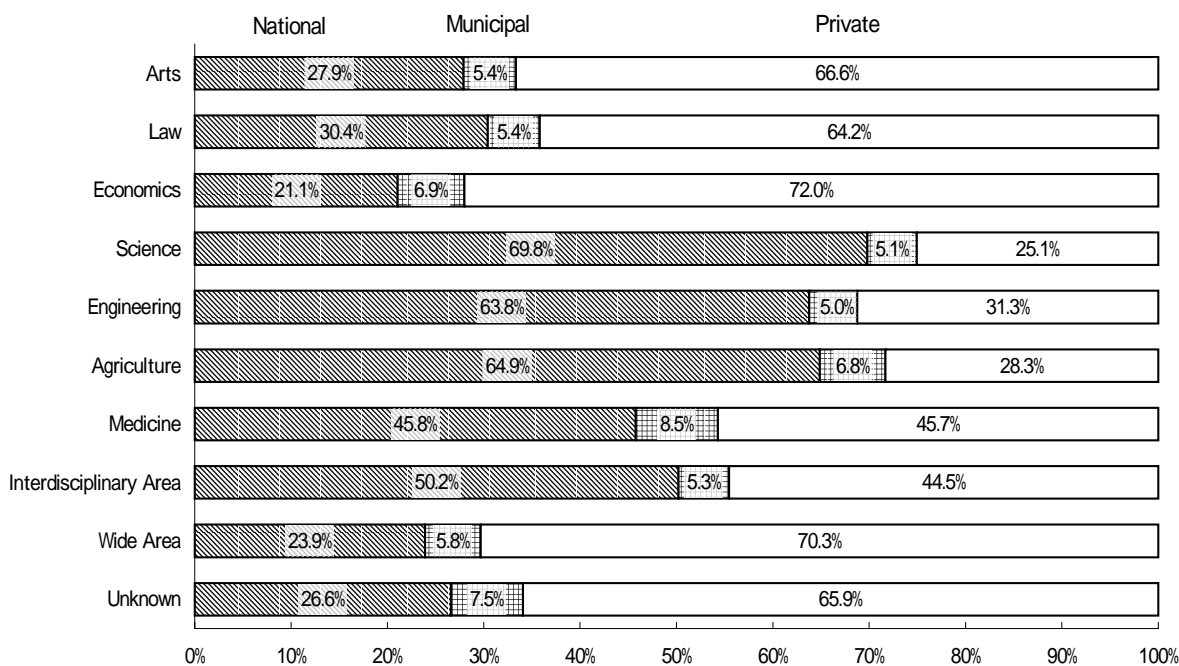


Figure 2 Composition of Researchers by Field of Specialization / by Institution Governing Authority

2.2 Number of Researchers by Institution Type

Broken down by institution type, the proportion of researchers affiliated with universities account for 85.9% of the total (124,789 persons), those affiliated with junior colleges for 9.8% (14,246 persons), those affiliated with colleges of technology for 2.8% (4,011 persons), those affiliated with inter-university research institutes for 0.7% (1,050 persons), those affiliated with private scientific research institutes for 0.5% (786 persons), and those affiliated with government research institutes of the Ministry of Education, Science, Sports, and Culture for 0.3% (361 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 49.4%, municipal 6.0%, and private 44.6%; that for junior colleges is national 4.5%, municipal 8.9%, and private 86.6%; and that for colleges of technology is national 89.6%, municipal 6.6%, and private 3.8%.

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	0.4%	0.2%	0.4%	0.6%
	Professor	32.7%	25.3%	29.8%	41.2%
	Associate Professor	20.5%	20.8%	22.7%	19.7%
	Lecturer	10.4%	6.3%	13.3%	14.4%
	Research Assistant	17.8%	20.7%	20.9%	14.2%
	Others	1.9%	1.0%	1.7%	2.9%
	Graduate Student	15.3%	23.6%	10.8%	6.6%
	Part-time Researcher	1.0%	1.9%	0.4%	0.1%
	Unknown	0.2%	0.1%	0.1%	0.2%
Total		100.0%	100.0%	100.0%	100.0%
Junior Colleges	President / Vice President	1.4%	0.3%	1.2%	1.5%
	Professor	40.3%	34.9%	33.5%	41.3%
	Associate Professor	29.4%	28.6%	27.9%	29.6%
	Lecturer	20.0%	11.5%	19.4%	20.5%
	Research Assistant	7.2%	24.4%	17.3%	5.3%
	Others	1.5%	0.3%	0.6%	1.7%
	Graduate Student	0.0%	0.0%	0.0%	0.0%
	Part-time Researcher	0.0%	0.0%	0.0%	0.0%
	Unknown	0.1%	0.0%	0.2%	0.1%
Total		100.0%	100.0%	100.0%	100.0%

2.3 Age

The average age of all the researchers is 43.7. Broken down by field of specialization, the average age is highest in wide area (48.7), followed in descending order by economics (47.7), arts (47.2), and law (45.9). 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 (43.3), interdisciplinary area (43.2), agriculture (42.9), and science (41.8). The field with the lowest average age was medicine, at 40.4. 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 44.23 and that among women is 41.00 (Figure 4).

Broken down by institution type, the average age of researchers at inter-university research institutes is the lowest at 40.8. This was followed, in ascending order, by universities; government research institutes of the Ministry of Education, Science, Sports, and Culture; colleges of technology; and private scientific research institutes. The average age of researchers is highest (48.9) at junior colleges.

The average age of researchers broken down by professional title is as follows for research assistants and above: the average age among professors is 55.1, among whom that among professors at inter-university research institutes is the lowest, at 51.9, and that among professors at junior colleges is the highest, at 56.7. Overall, the average age of assistant professors is 43.9, that of lecturers 39.9, and that of research associates 34.9. 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 62.8 at national institutions, 64.5 at municipal institutions, and 65.0 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 29.7 (Table 4).

The age composition of researchers overall is as follows: those aged 31 to 40 are the largest group, at 25.9% of the total; they are followed by the 41 to 50 group (25.2%), the 51 to 60 group (21.1%), the 30 and below group (17.6%), the 61 to 70 group (9.6%), and the 71 and above group (0.5%).

The breakdown by field of specialization shows that 56.1% of researchers in medicine and 48.8% in science 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 (25.8%), economics (31.1%), arts (31.1%) (Figure 5). Generally speaking this shows that the proportion of older researchers is higher in the humanities and social sciences than in the natural sciences.

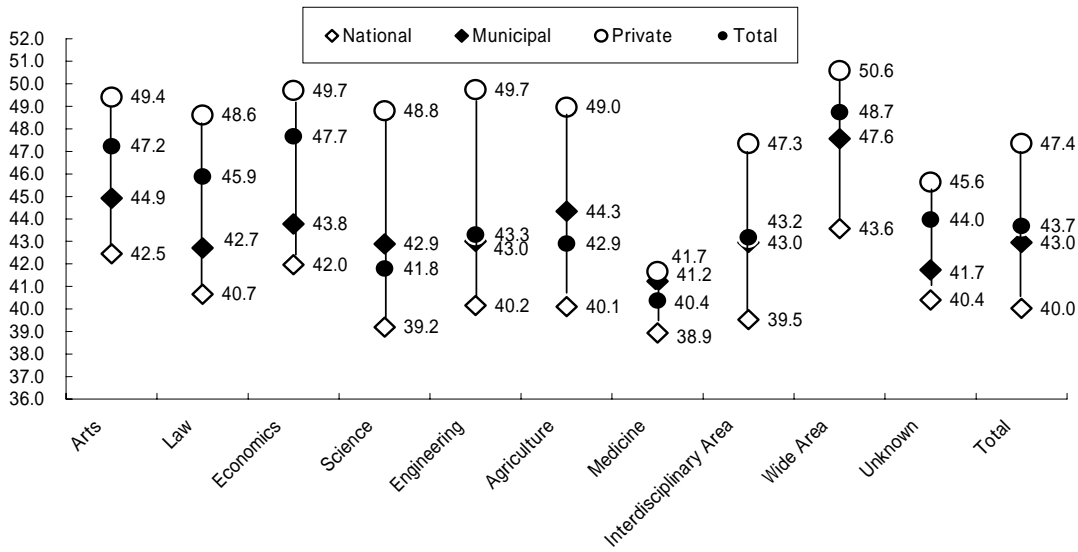


Figure 3 Average Age of Researchers by Field of Specialization

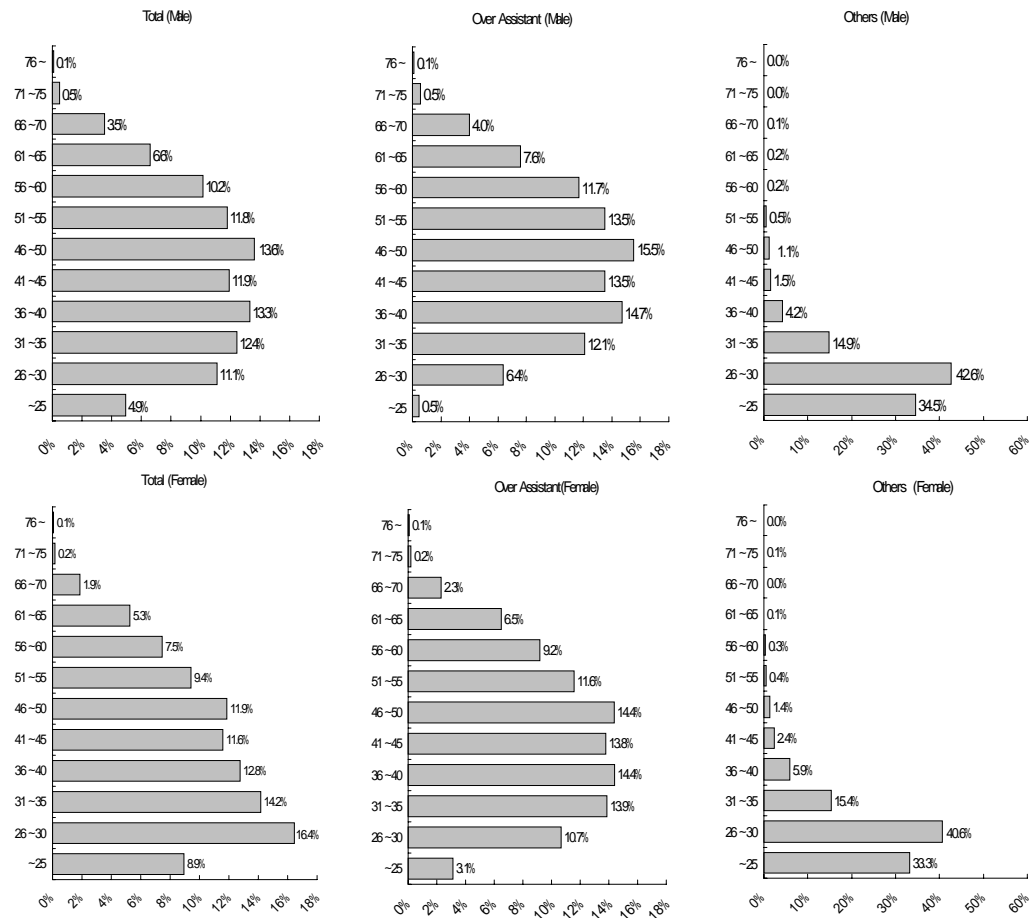


Figure 4 Age Composition of Researchers by Gender

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	52.9	42.1	39.0	35.3	62.9	29.3	39.7
	Municipal	53.5	43.2	39.9	35.0	64.6	33.3	42.6
	Private	56.5	45.3	40.5	34.7	64.9	33.3	46.9
	Total	55.0	43.5	40.0	35.1	64.4	29.6	43.1
Junior Colleges	National	53.5	46.8	41.1	36.1	58.5		46.0
	Municipal	54.3	44.3	38.1	33.1	64.3		44.9
	Private	57.0	46.7	40.9	32.3	65.1	56.5	49.5
	Total	56.7	46.5	40.7	33.0	65.0	56.5	48.9
Colleges of Technology	National	54.0	42.5	33.7	32.1	66.0	40.0	44.5
	Municipal	53.5	38.3	30.4	27.8			44.1
	Private	55.0	49.9	35.7	40.3			48.8
	Total	54.0	42.5	33.6	32.1	66.0	40.0	44.7
Inter-University Research Institutes		51.9	43.6	30.2	35.4		29.2	40.8
Government Research Institutes								43.6
Private Scientific Research Institutes								45.6
Total	National	52.9	42.2	38.5	35.2	62.8	29.3	40.0
	Municipal	53.6	43.2	39.2	34.7	64.5	33.3	43.0
	Private	56.6	45.7	40.6	34.5	65.0	35.1	47.4
	Total	55.1	43.9	39.9	34.9	64.6	29.7	43.7

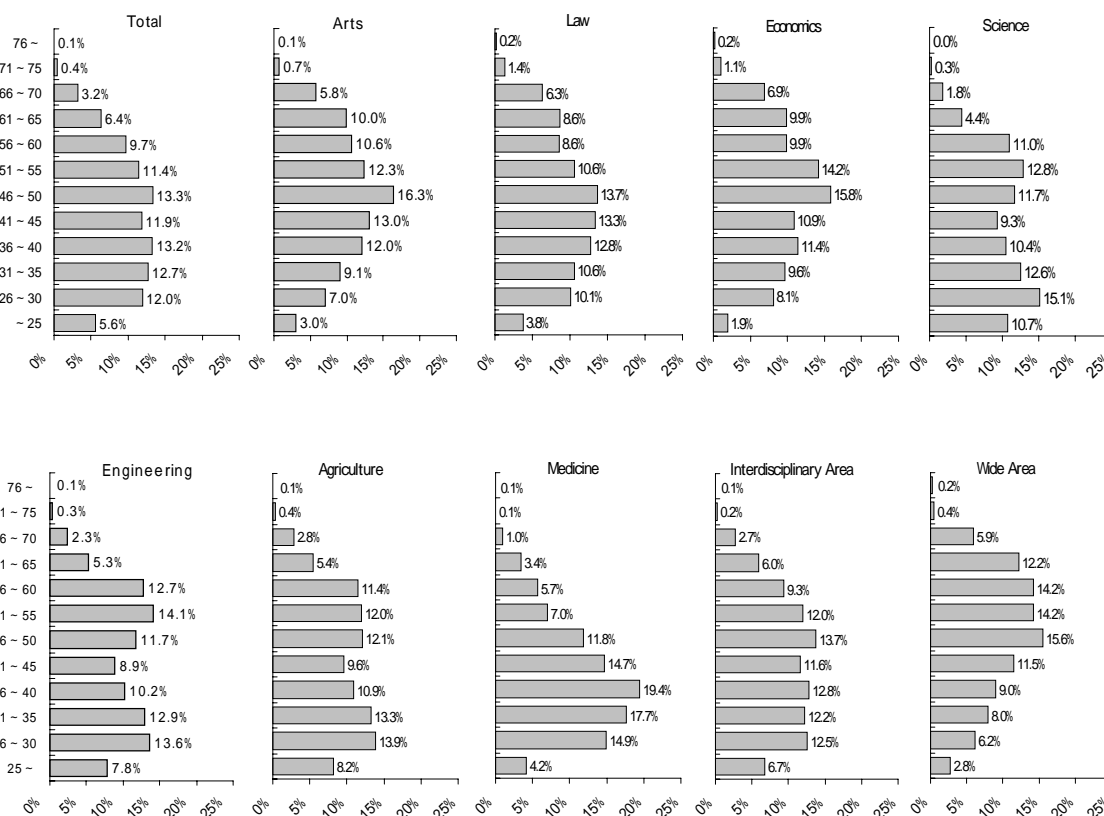


Figure 5 Age Composition of Researchers by Field of Specialization

2.4 Gender

Among all the researchers, 83.3% (120,950 persons) are men and 16.7% (24,177 persons) are women.

Broken down by field of specialization, the proportion of women is relatively high in three fields: wide area (28.7%), arts (25.8%), and interdisciplinary area (20.9%). In contrast, the proportion of women is low in the fields of engineering (3.6%), economics (7.7%), science (7.8%), agriculture (12.0%), and law (12.6%). 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 42.2% 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 3.9% 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 graduates, 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).

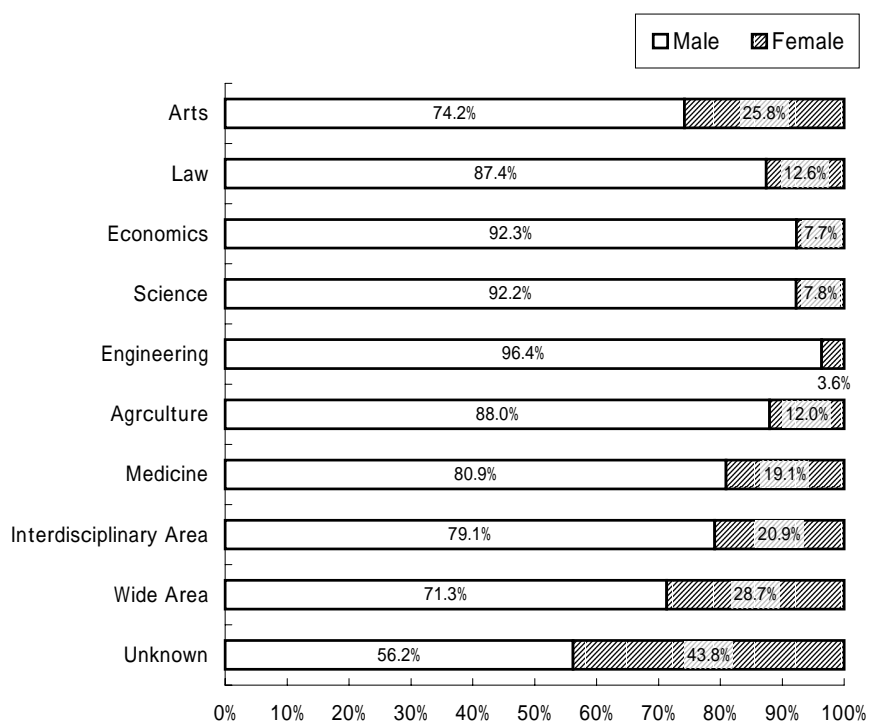


Figure 6 Gender Composition of Researchers by Field of Specialization

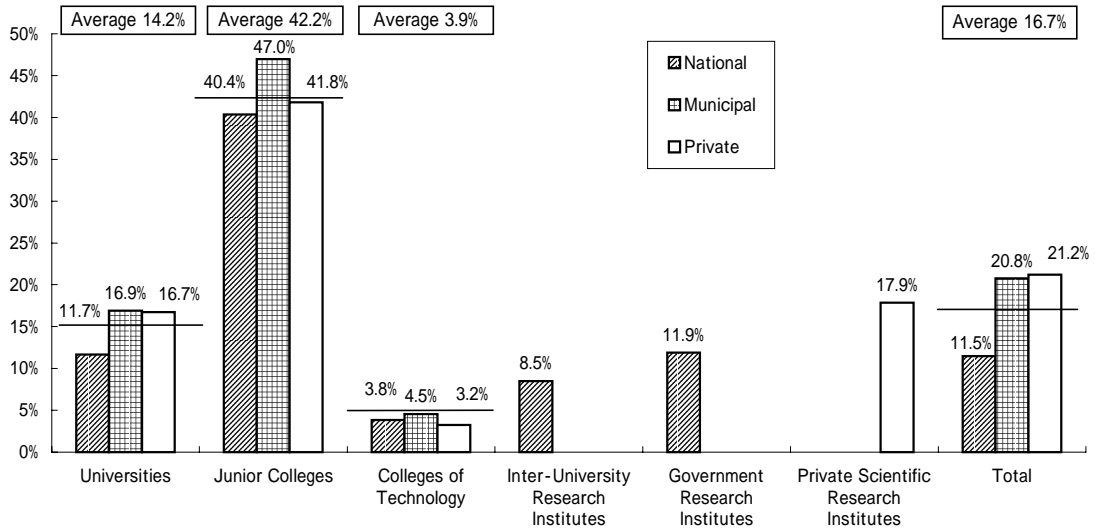


Figure 7 Ratio of Female Researchers by Institution Type

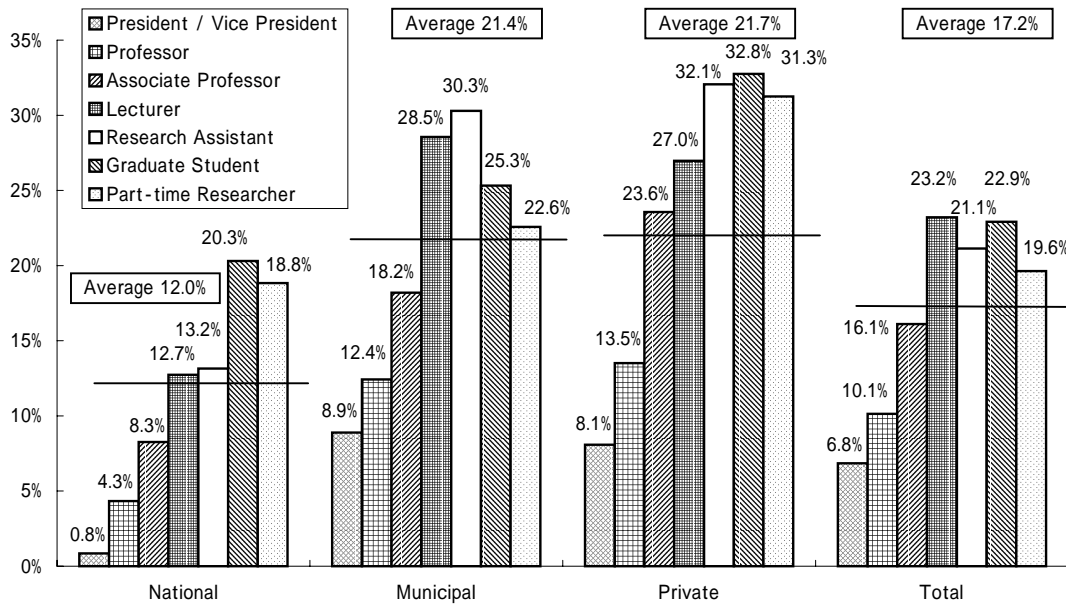


Figure 8 Ratio of Female Researchers by Professional Title

2.5 Non-Japanese Names

Of all the researchers, 3,816 or 2.6% 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 (4.2%), arts (3.9%), and engineering (3.8%), followed by wide area (2.8%), economics (2.7%), and law (1.9%) (Figure 9). Note that the 1,226 researchers with non-Japanese names in the field of arts account for 32.1% of the total number of researchers with non-Japanese names.

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. (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 graduates and part-time researchers. Together, these two categories account for 16.8% 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).

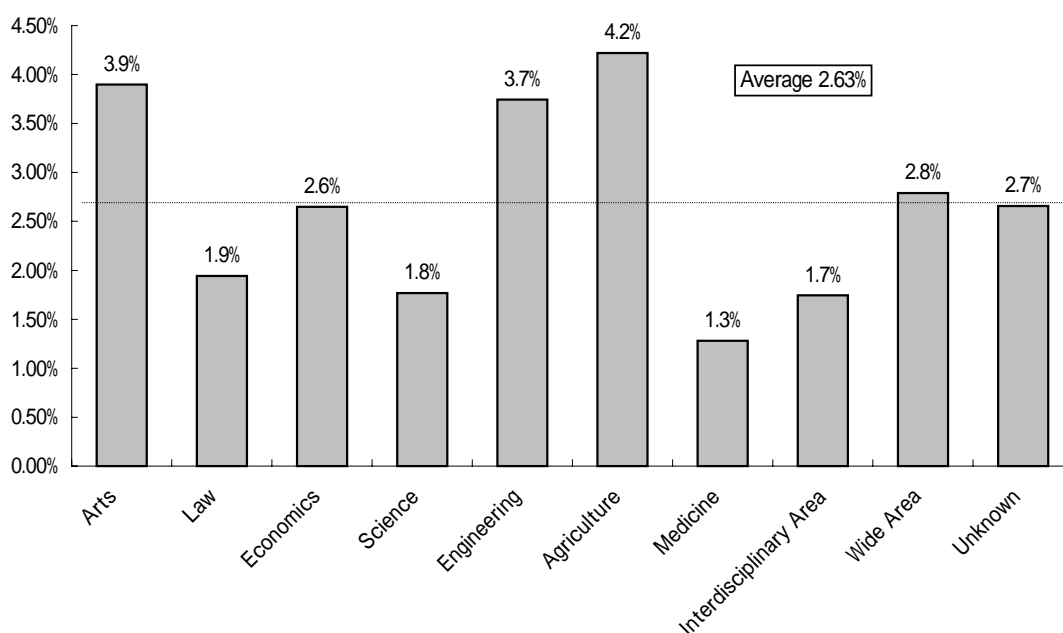


Figure 9 Ratio of Researchers with Non-Japanese Names by Field of Specialization

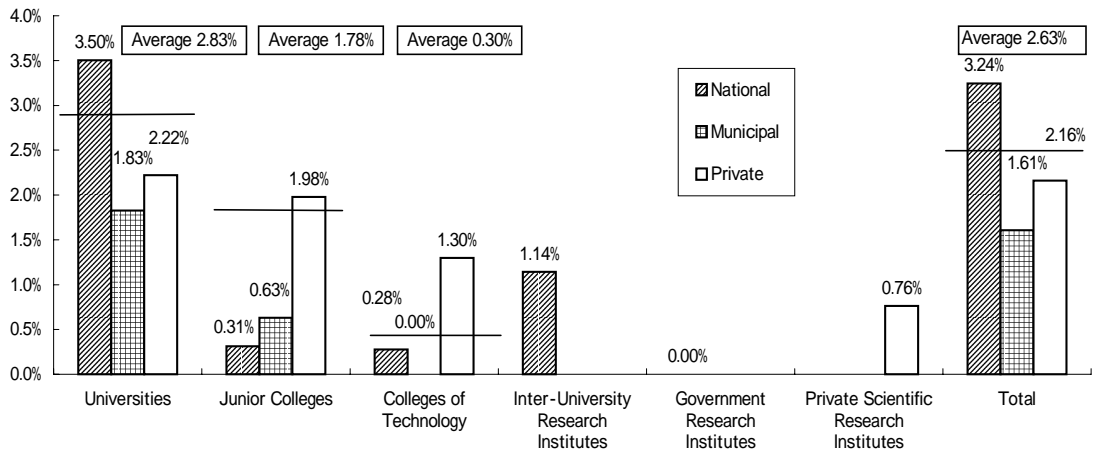


Figure 10 Ratio of Researchers with Non-Japanese Names by Institution Type

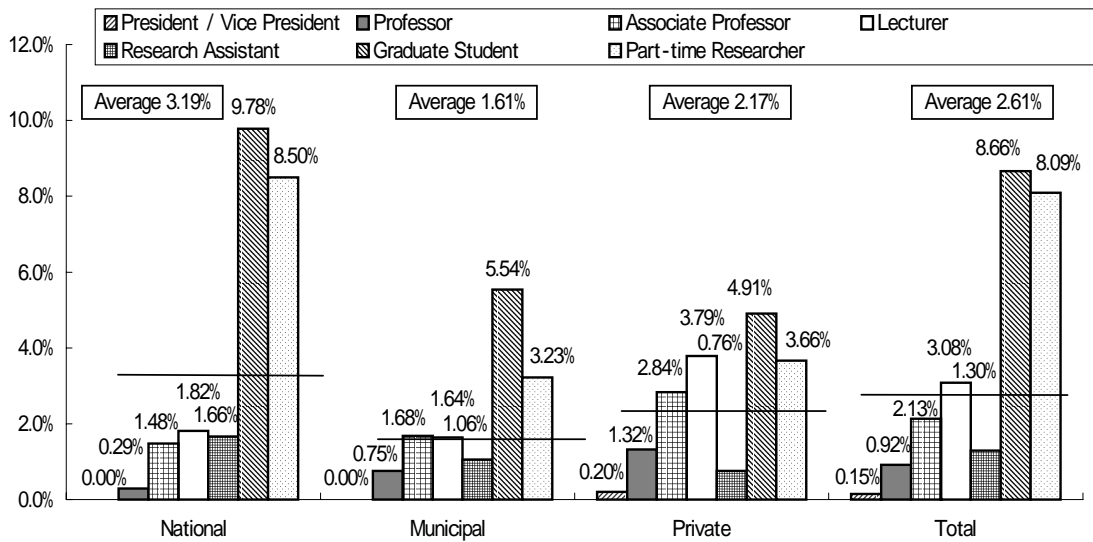


Figure 11 Ratio of Researchers with Non-Japanese Names by Professional Title

3. Academic Background

3.1 Last Degree Course Completed

Regarding the last degree course completed by the researchers, 103,536 persons (71.3%) hold a graduate degree. Of these, 56,057 (38.6% of the total) hold a doctorate degree and 45,627 (31.4% of the total) hold a master's degree. Also, 37,137 (25.6% of the total) have completed only an undergraduate degree and 4,570 (3.1% 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 89.8%, followed by economics, at 86.8%. Next come law and arts, at 85.3% and 83.0% respectively. These are followed in descending order by engineering (79.6%), agriculture (78.5%), interdisciplinary area (70.1%), and wide area (46.4%). Medicine is the lowest, at 45.1% (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 90.3% and 81.2%, respectively. These are followed in descending order by universities (73.6%), colleges of technology (64.6%), junior colleges (51.9%), and private scientific research institutes (52.2%) (Figure 13).

A look at the ratio of researchers graduated from institutions in Japan and overseas institutions shows that 7,222 of the respondents, or 5.0% of the total, are graduates of overseas institutions (Table 5). By field of specialization, their proportions are largest in arts (10.2%), wide area (9.6%), economics (6.7%), and law (5.7%). By type of institution, graduates of overseas institutions are comparatively numerous at junior colleges (5.6%) and universities (5.1%), 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	31,452	13,207	12,318	580	26,105	4,684	663	26,274	83.5%	3,204	10.2%
Law	4,167	2,304	1,193	59	3,556	564	47	3,680	88.3%	238	5.7%
Economics	7,473	4,620	1,750	116	6,486	906	81	6,499	87.0%	497	6.7%
Science	15,229	7,716	5,848	119	13,683	1,382	164	13,951	91.6%	470	3.1%
Engineering	22,216	7,777	9,750	164	17,691	3,931	594	20,207	91.0%	951	4.3%
Agriculture	7,563	2,574	3,276	88	5,938	1,483	142	6,886	91.0%	265	3.5%
Medicine	33,628	11,055	3,674	421	15,150	17,242	1,236	30,556	90.9%	618	1.8%
Interdisciplinary Area	18,454	6,112	6,644	176	12,932	4,898	624	16,810	91.1%	628	3.4%
Wide Area	2,654	439	709	83	1,231	1,101	322	2,140	80.6%	256	9.6%
Unknown	2,407	253	465	46	764	946	697	1,754	72.9%	95	3.9%
Total	145,243	56,057	45,627	1,852	103,536	37,137	4,570	128,757	88.6%	7,222	5.0%

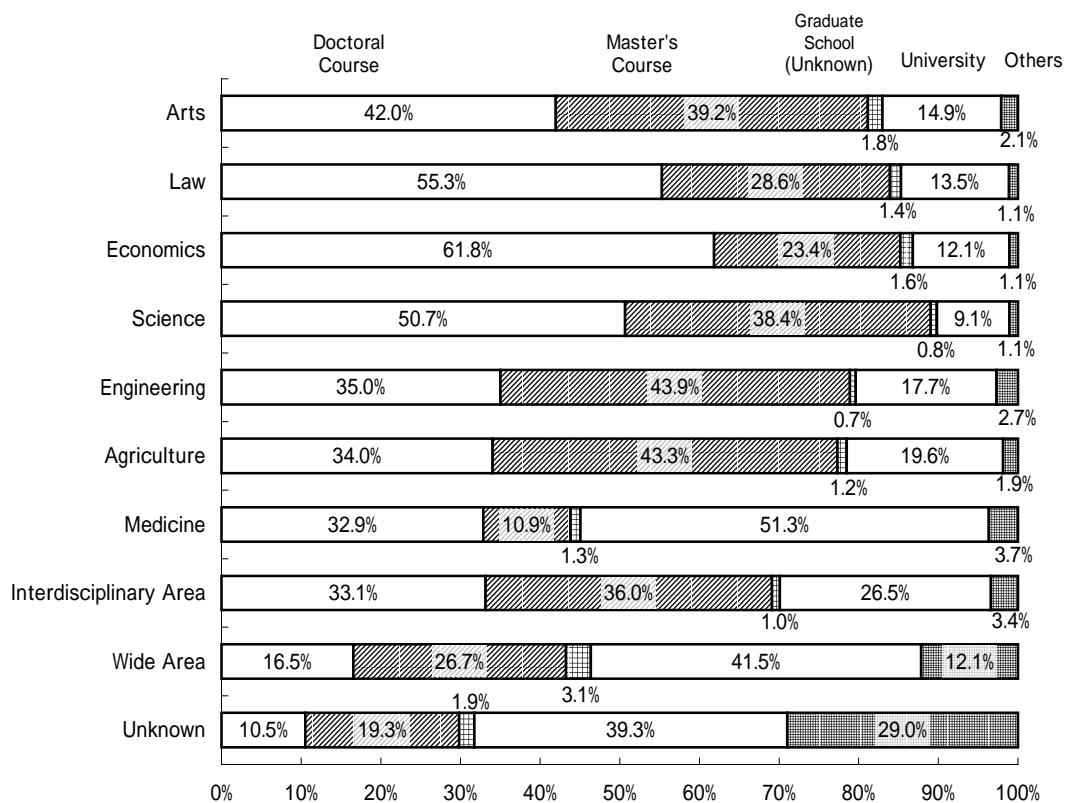


Figure 12 Last Degree Course Completed by Field of Specialization

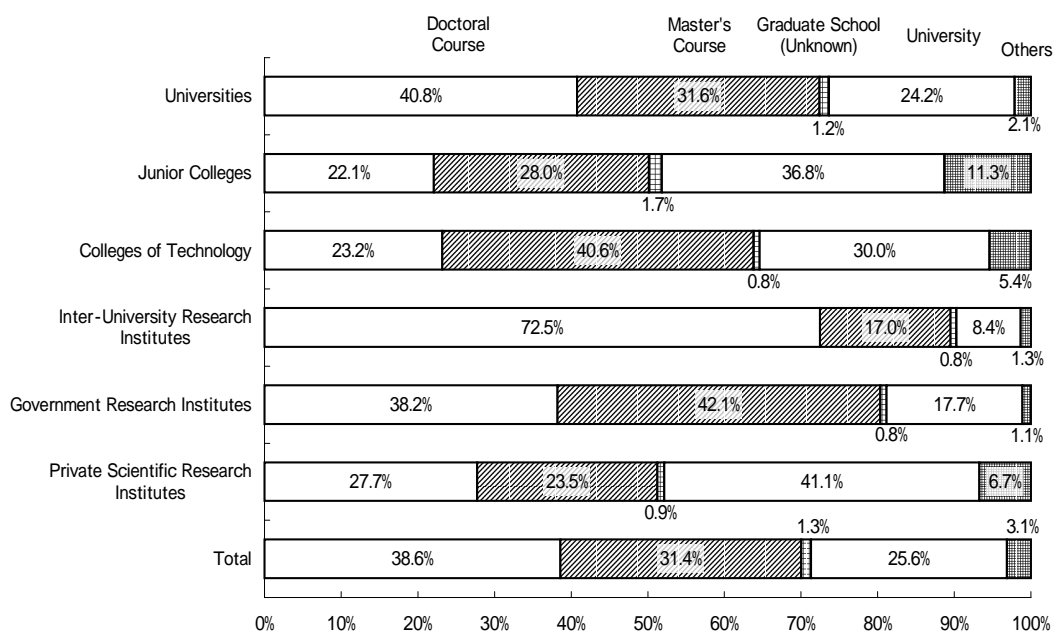


Figure 13 Last Degree Course Completed by Institution Type

3.2 Researchers with Doctorate Degrees

The number of the researchers with doctorate degrees is 68,088, which amounts to 46.9% of the total. Broken down by type degree, doctors of medicine are the most numerous, at 25.4%. They are followed in descending order by persons with doctorates in engineering (25.2%), science (17.8%), and agriculture (7.1%). 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 (69.4%), agriculture (64.6%), engineering (63.8%), medicine (63.3%), and interdisciplinary area (44.7%). In contrast, the proportion of researchers with doctorate degrees is extremely low in the fields of arts, law, and economics, being 15.7%, 21.8%, and 27.6%, respectively (Figure 15).

Broken down by institution type, the proportion of researchers with doctorate degrees is highest at inter-university research institutes, at 80.1%. This is followed in descending order by universities (50.4%) and private scientific research institutes (48.6%). The proportion is comparatively low at colleges of technology (38.0%), government research institutes of the Ministry of Education, Science, Sports, and Culture (28.3%), and junior colleges (16.7%). Note that researchers with doctorate degrees account for the majority, 54.2%, 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 66.2%. These are followed in descending order by professors (60.4%), associate professors (58.9%), lecturers (60.9%), and research assistants (56.8%). Also, the proportion of researchers with doctorate degrees is highest of all among part-time researchers at 77.3% (Figure 17, Table 6).

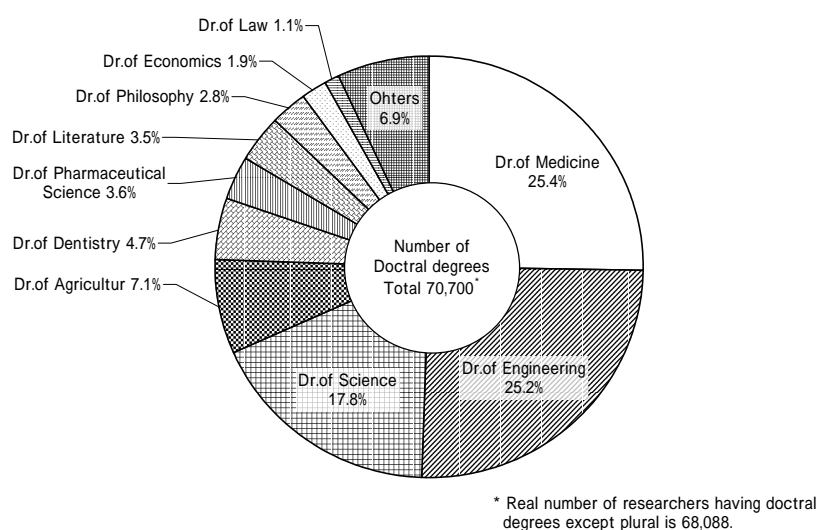


Figure 14 Researchers with Doctorate Degrees

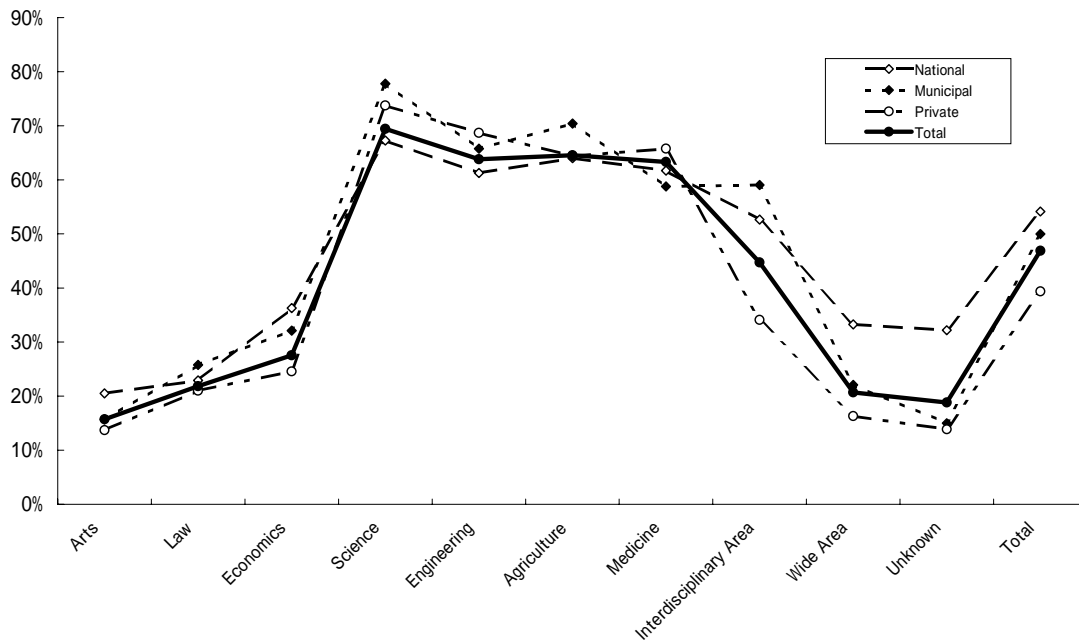


Figure 15 Ratio of Researchers with Doctorate Degrees by Field of Specialization / by Institution Governing Authority

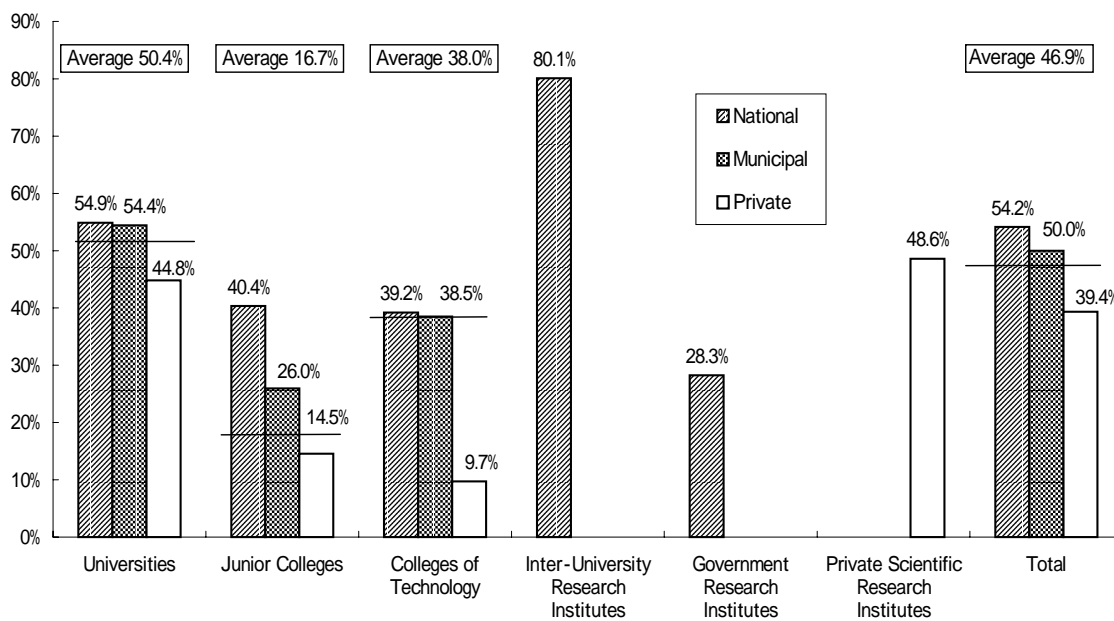


Figure 16 Ratio of Researchers with Doctorate Degrees by Institution Type / by Institution Governing Authority

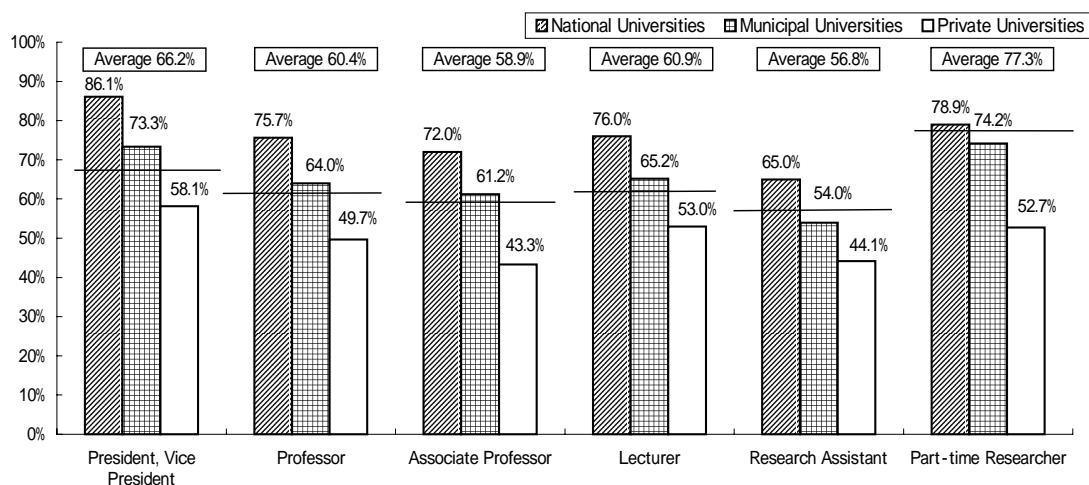


Figure 17 Ratio of University Researchers with Doctorate Degrees by Professional Title

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

		Researcher	Doctor	Ratio of Doctorate Degrees
National Universities	President, Vice President	115	99	86.1%
	Professor	15,586	11,791	75.7%
	Associate Professor	12,834	9,244	72.0%
	Lecturer	3,905	2,966	76.0%
	Research Assistant	12,778	8,303	65.0%
	Part-time Researcher	1,149	907	78.9%
Municipal Universities	President, Vice President	30	22	73.3%
	Professor	2,232	1,428	64.0%
	Associate Professor	1,703	1,043	61.2%
	Lecturer	994	648	65.2%
	Research Assistant	1,565	845	54.0%
	Part-time Researcher	31	23	74.2%
Private Universities	President, Vice President	313	182	58.1%
	Professor	22,936	11,389	49.7%
	Associate Professor	10,984	4,754	43.3%
	Lecturer	8,023	4,252	53.0%
	Research Assistant	7,923	3,497	44.1%
	Part-time Researcher	74	39	52.7%
Total	President, Vice President	458	303	66.2%
	Professor	40,754	24,608	60.4%
	Associate Professor	25,521	15,041	58.9%
	Lecturer	12,922	7,866	60.9%
	Research Assistant	22,266	12,645	56.8%
	Part-time Researcher	1,254	969	77.3%

4. Current Research Topics

The survey subjects were asked what research topics they were currently working on, and a total of 240,800 responses were received. This works out to an average of 1.86 research topics per researcher. The averages per researcher at national, municipal, and private institutions were 1.85, 1.91, and 1.87 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 13,649 topics. This was followed by cancer studies with 7,640 topics, studies of new materials (excluding studies for superconducting and amorphous materials) with 5,885 topics, and environmental science with 5,868 topics.

The average age of the researchers involved was the youngest (39.4) among those working on topics related to recombinant DNA studies. This was followed in order of ascending average age by accelerator science (41.7), other bioengineering studies (41.7), volcanic eruption prediction studies (41.8), cancer studies (42.0), information science (42.2), other life science studies (42.5), studies for superconducting materials (42.6), nuclear fusion studies (42.6), space science (42.8), and studies of incurable diseases (42.8), 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 3,431, 1,011, 892, 804, and 453, 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 (54.4%) and space science (50.2%), where they exceed 50%. Also, topics involving international collaboration research were comparatively numerous in cases such as Africa (sub-Saharan) studies (26.7%), Southeast Asia studies (22.1%), accelerator science (22.0%), space science (20.7%), South Asia studies (14.8%), Oceania Studies (14.3%), Central and South America studies (13.2%), ocean science (12.6%), and Northeast Asia studies (12.2%). In contrast, individual research accounted for a notably high percentage of topics Europe studies (83.4%) and North America studies (83.0%). 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 (23.0%) and international collaboration (10.2%) was higher in the field of science than in any other, accounting for 33.2% of the total for all collaborative research involving outside partners. In contrast, in medicine the proportion of collaboration research is high at 65.4%, 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).

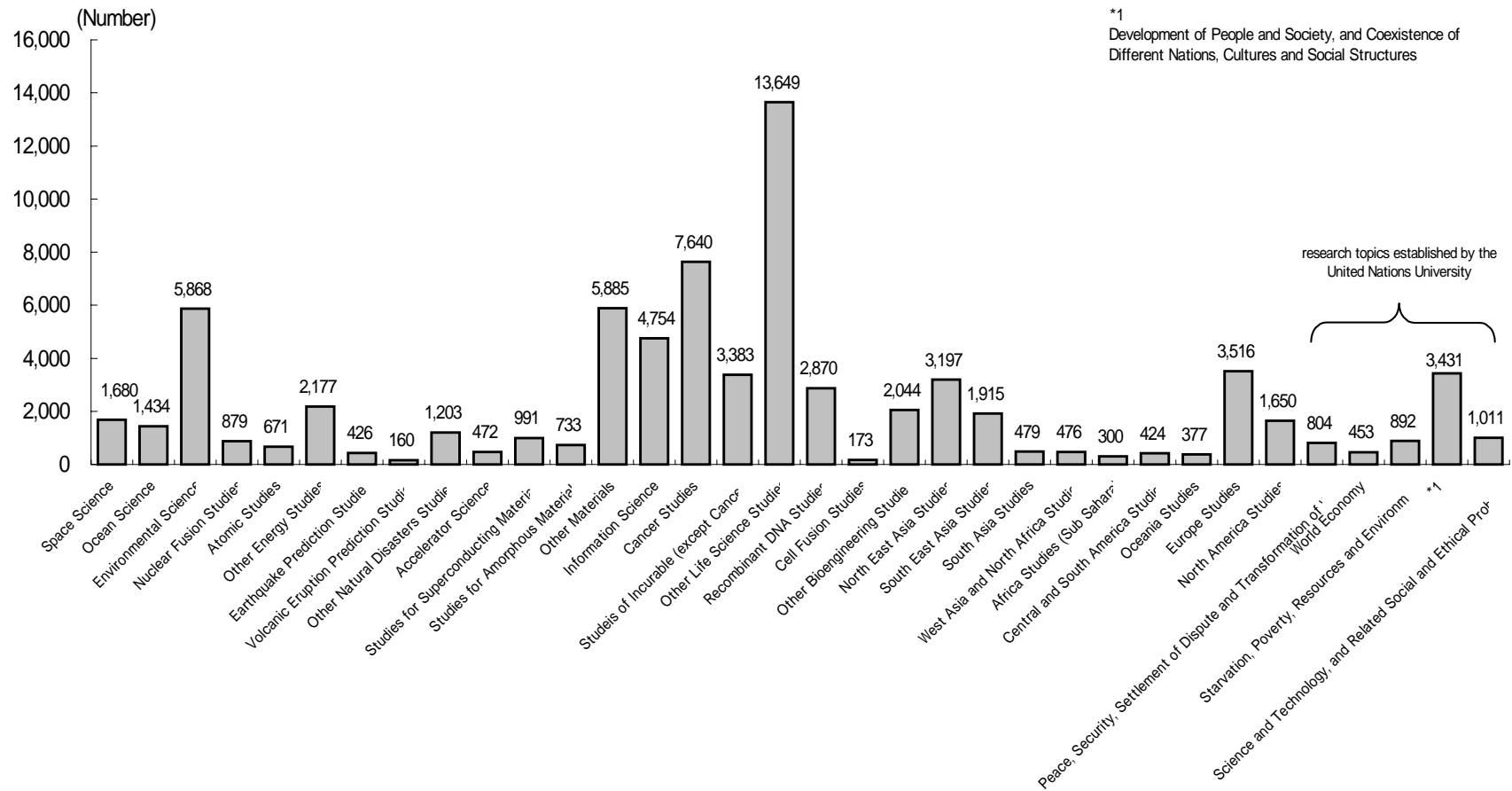


Figure 18 Research Topics Related to Specific Research Areas

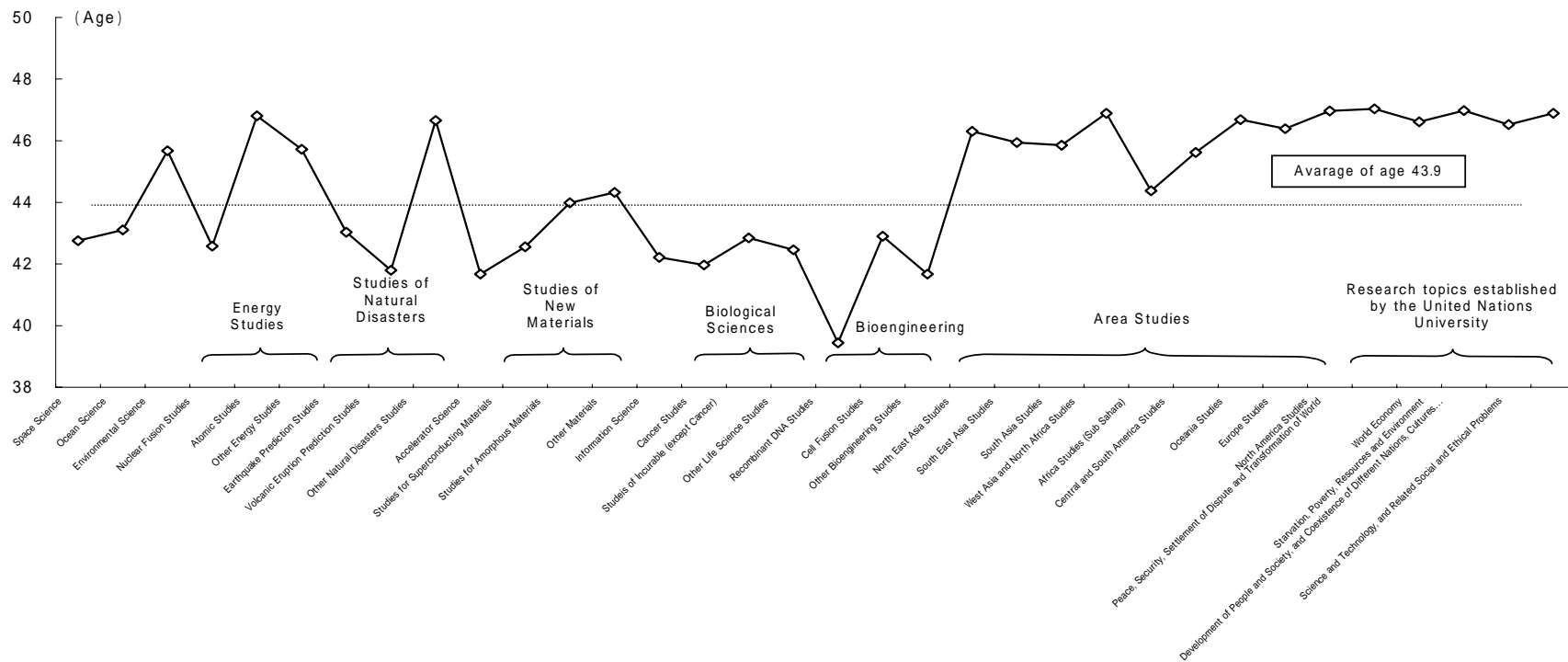


Figure 19 Research Topics Related to Specific Research Areas and Average Age of Researchers

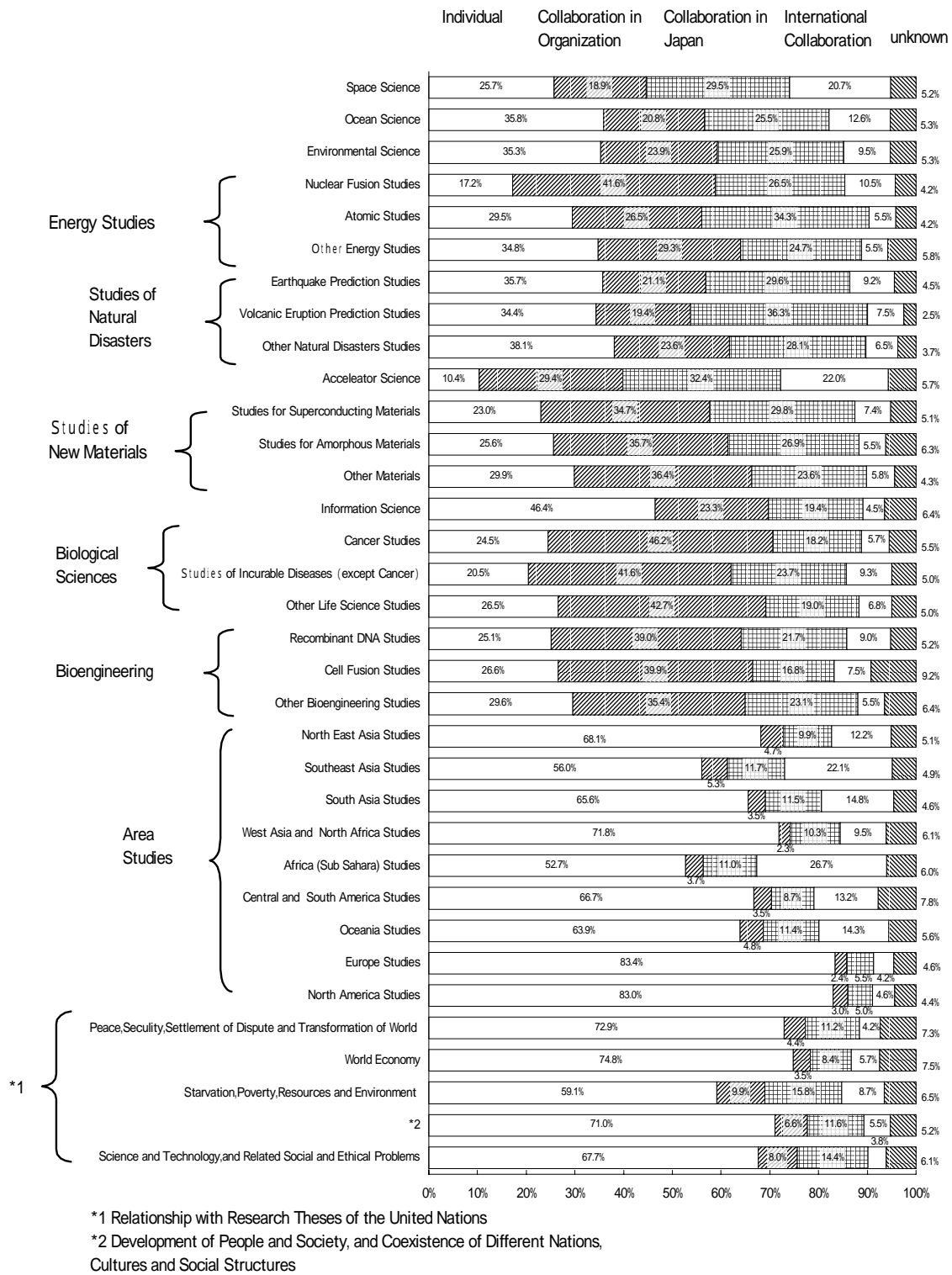


Figure 20 Research Topics Related to Specific Research Areas and Status of Research

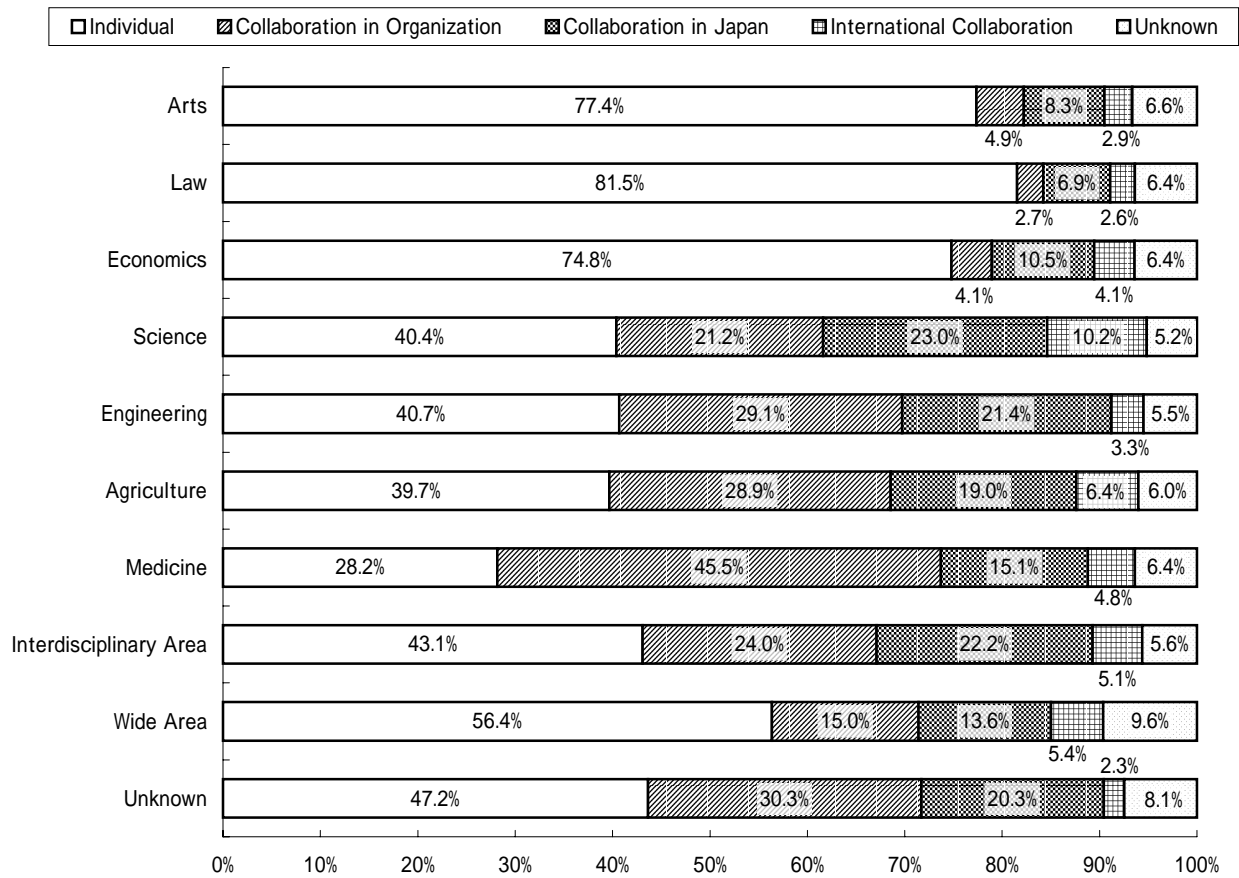


Figure 21 Research Topics and Status of Research by Field of Research

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 10,134, or 7.0%. The figures broken down by institution governing authority were national institutions 8.1%, municipal institutions 7.7%, and private institutions 5.7% (Table 7).

Broken down by field of specialization, the figures were as follows, in descending order: law (10.4%), science (10.9%), agriculture (8.9%), arts (8.8%), economics (8.3%), wide area (7.4%), engineering (6.3%), and interdisciplinary area (5.6%). Medicine had the lowest percentage at 3.8%. Also, an examination of the above categories broken down by institution governing authority indicates that in the natural sciences 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 (18.8%) and inter-university research institutes (15.5%) have the highest percentages. These are followed in descending order by universities (7.5%), private scientific research institutes (3.6%), junior colleges (3.3%), and colleges of technology (2.1%). 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 66 to 70 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	970	182	1,614	2,766
	Ratio	11.0%	10.6%	7.7%	8.8%
Law	No. of Researchers	148	34	252	434
	Ratio	11.7%	15.1%	9.4%	10.4%
Economics	No. of Researchers	159	53	405	617
	Ratio	10.1%	10.3%	7.5%	8.3%
Science	No. of Researchers	1,274	95	288	1,657
	Ratio	12.0%	12.1%	7.5%	10.9%
Engineering	No. of Researchers	971	67	359	1,397
	Ratio	6.9%	6.1%	5.2%	6.3%
Agriculture	No. of Researchers	509	38	128	675
	Ratio	10.4%	7.4%	6.0%	8.9%
Medicine	No. of Researchers	710	133	449	1,292
	Ratio	4.6%	4.6%	2.9%	3.8%
Interdisciplinary Area	No. of Researchers	647	76	313	1,036
	Ratio	7.0%	7.8%	3.8%	5.6%
Wide Area	No. of Researchers	68	13	116	197
	Ratio	10.7%	8.4%	6.2%	7.4%
Unknown	No. of Researchers	24	6	33	63
	Ratio	3.8%	3.3%	2.1%	2.6%
Total	No. of Researchers	5,480	697	3,957	10,134
	Ratio	8.1%	7.7%	5.7%	7.0%

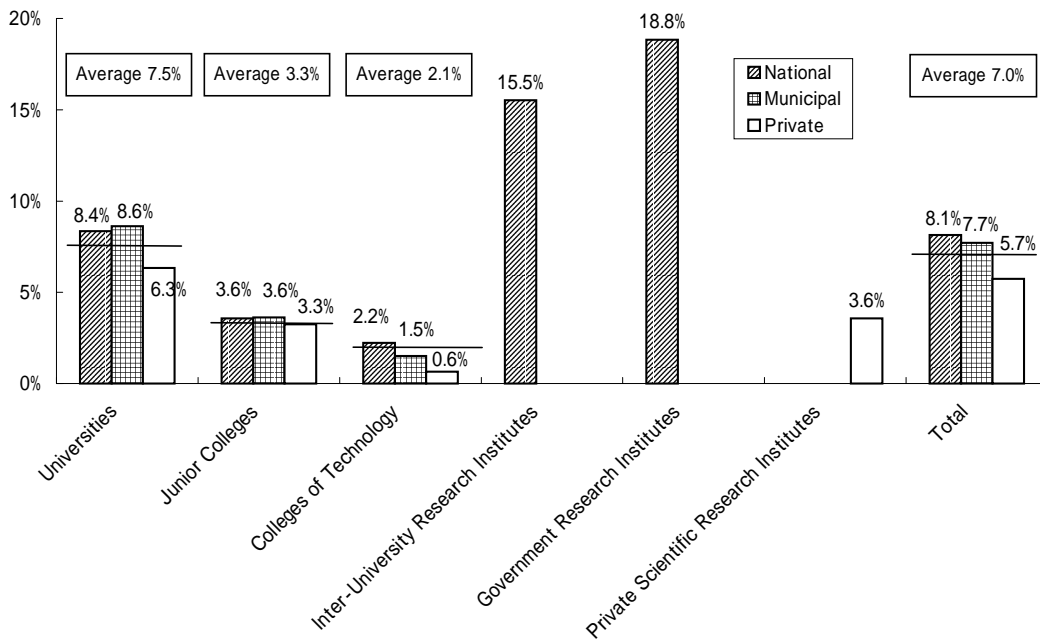


Figure 22 Ratio of Researchers Who Have Traveled Abroad by Institution Type

/ by Institution Governing Authority

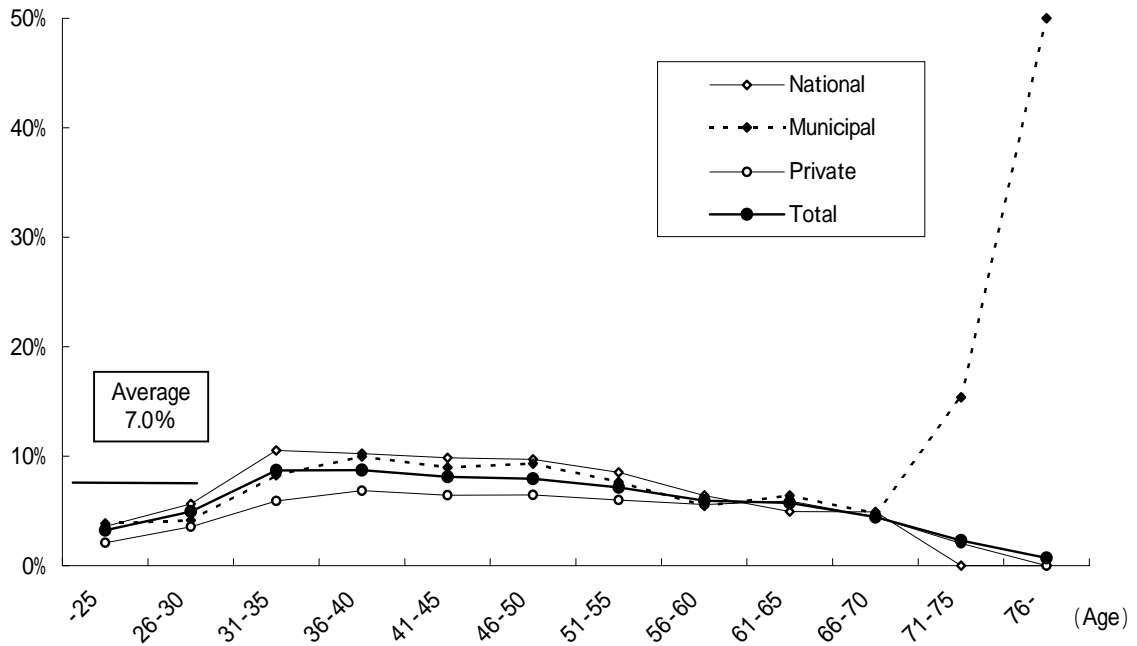


Figure 23 Ratio of Researchers Who Have Traveled Abroad by Age
/ by Institution Governing Authority

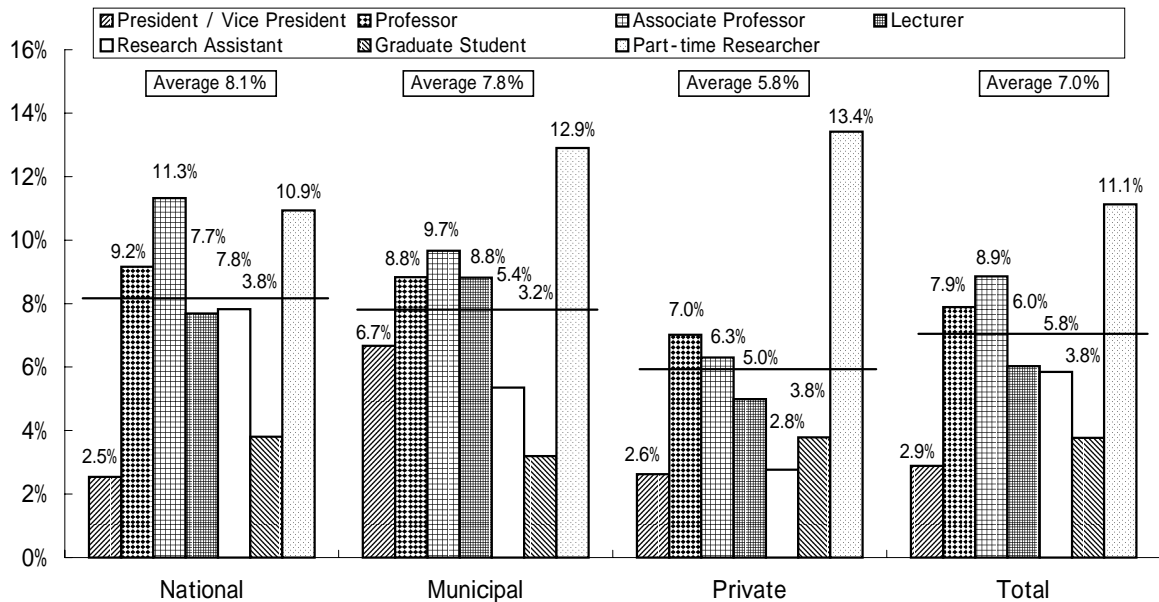


Figure 24 Ratio of Researchers Who Have Traveled Abroad by Professional Title
/ by Institution Governing Authority

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 26,835, or 18.5%. The figures broken down by institution governing authority were national institutions 23.5%, municipal institutions 17.8%, and private institutions 13.7%. 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 (29.4%), science (24.1%), medicine (22.3%), and agriculture (18.2%), 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 (10.4%), law (10.2%), and arts (8.7%). 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 (37.3%) have the highest percentage, followed in descending order by universities (20.3%), government research institutes of the Ministry of Education, Science, Sports, and Culture (16.1%), and private scientific research institutes (10.4%). The lowest percentages are for colleges of technology and junior colleges, at 8.4% and 4.9%, respectively (Figure 25).

Broken down by professional title, the percentages of professors, associate professors, assistants and part-time researchers attending international conferences, etc., overseas are higher than the general average. For all professional title categories the percentages were generally higher 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 (28.6%) 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 (22.8%) also higher than that for municipal or private institutions. On the other hand, at private institutions the proportion accounted for by affiliated institutions (35.3%) was much higher than that at national or municipal institutions. In the case of municipal institutions researchers covering their own expenses (41.6%) are the most prominent (Figure 29).

The 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 (43.8% and 40.9%, respectively). Also, a high proportion (37.6%) 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 (31.2%) 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	895	154	1,681	2,730
	Ratio	10.2%	9.0%	8.0%	8.7%
Law	No. of Researchers	139	26	260	425
	Ratio	11.0%	11.6%	9.7%	10.2%
Economics	No. of Researchers	211	54	514	779
	Ratio	13.4%	10.4%	9.6%	10.4%
Science	No. of Researchers	2,714	193	764	3,671
	Ratio	25.5%	24.6%	20.0%	24.1%
Engineering	No. of Researchers	4,588	313	1,634	6,535
	Ratio	32.4%	28.4%	23.5%	29.4%
Agriculture	No. of Researchers	1,038	88	253	1,379
	Ratio	21.1%	17.1%	11.8%	18.2%
Medicine	No. of Researchers	3,793	565	3,145	7,503
	Ratio	24.6%	19.7%	20.5%	22.3%
Interdisciplinary Area	No. of Researchers	2,216	189	963	3,368
	Ratio	23.9%	19.4%	11.7%	18.3%
Wide Area	No. of Researchers	109	15	177	301
	Ratio	17.2%	9.7%	9.5%	11.3%
Unknown	No. of Researchers	75	12	57	144
	Ratio	11.7%	6.7%	3.6%	6.0%
Total	No. of Researchers	15,778	1,609	9,448	26,835
	Ratio	23.5%	17.8%	13.7%	18.5%

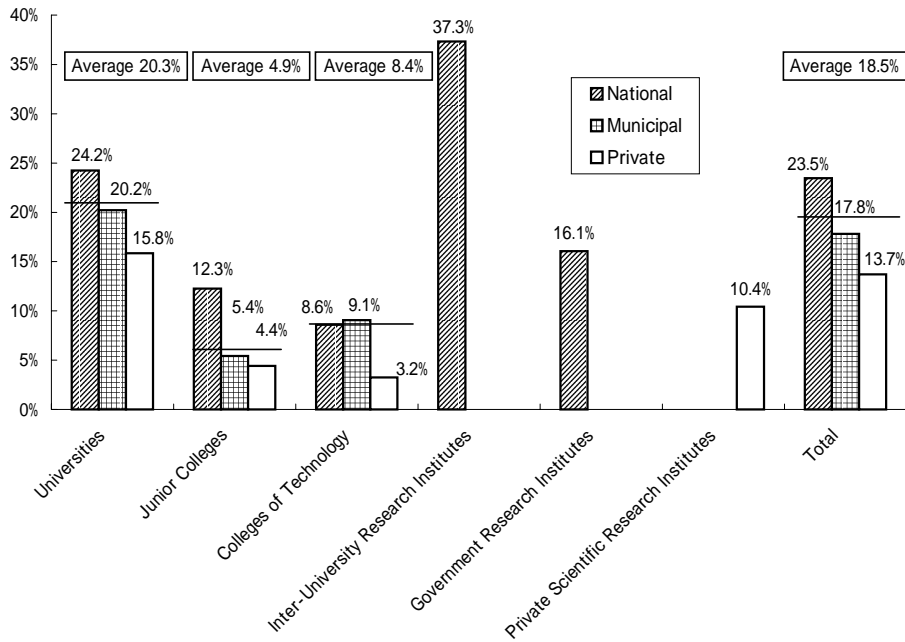


Figure 25 Ratio of Researchers Who Have Participated in International Conferences, Etc., Overseas by Institution Type / by Institution Governing Authority

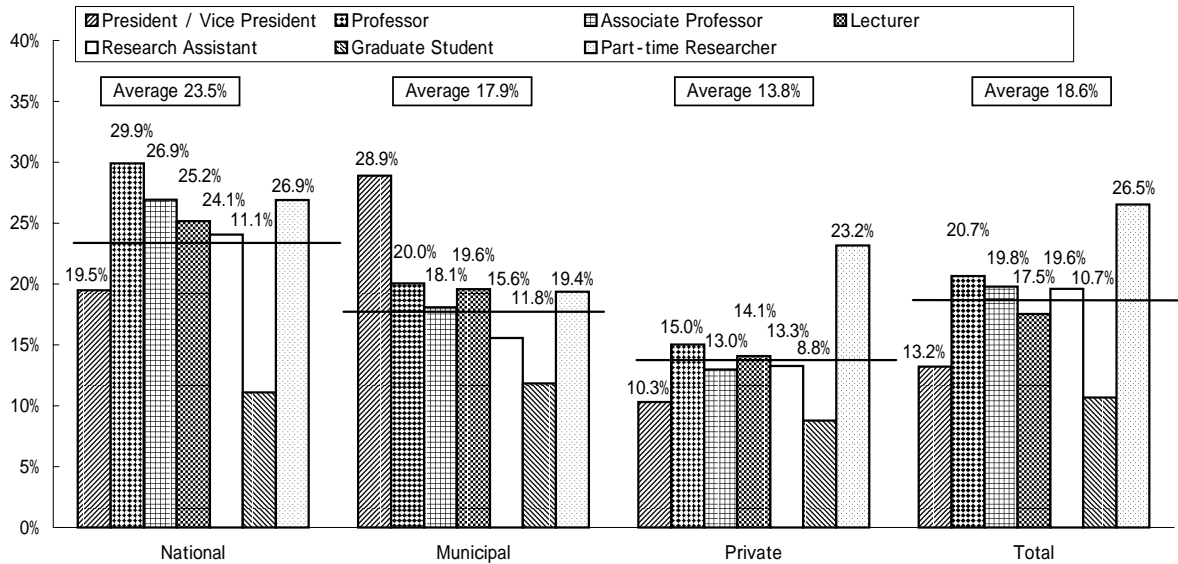


Figure 26 Ratio of Researchers Who Have Participated in International Conferences, Etc., Overseas by Professional Title

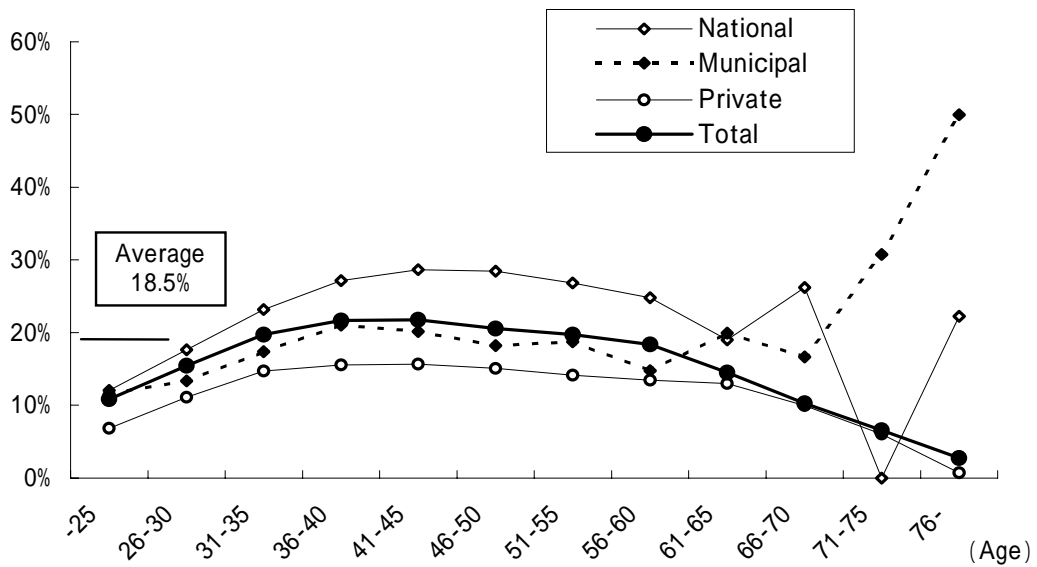


Figure 27 Ratio of Researchers Who Have Participated in International Conferences, Etc., Overseas by Age / by Institution Governing Authority

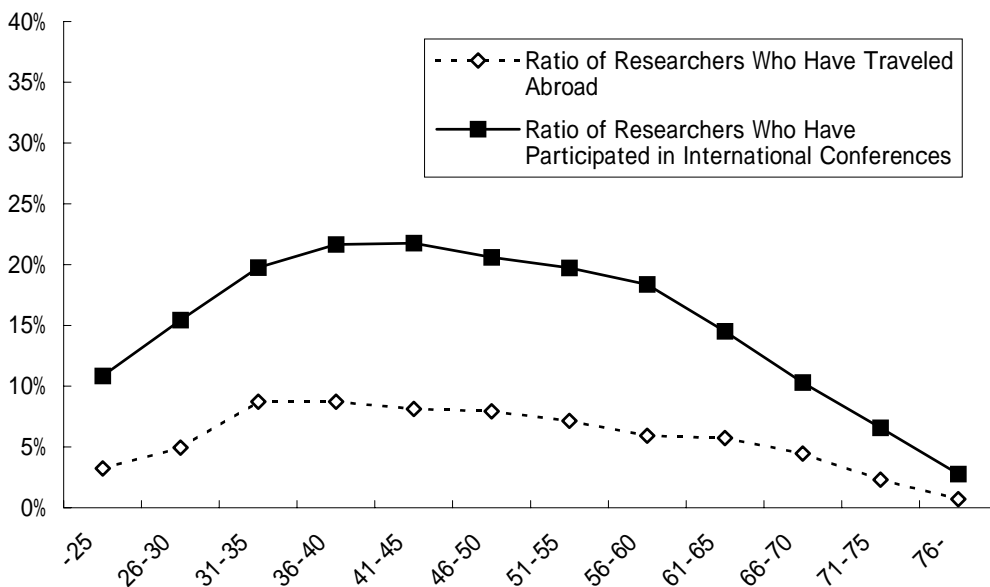


Figure 28 Ratio of Researchers Who Have Traveled Abroad and Ratio of Researchers Who Have Participated in International Conferences, Etc., Overseas by Age

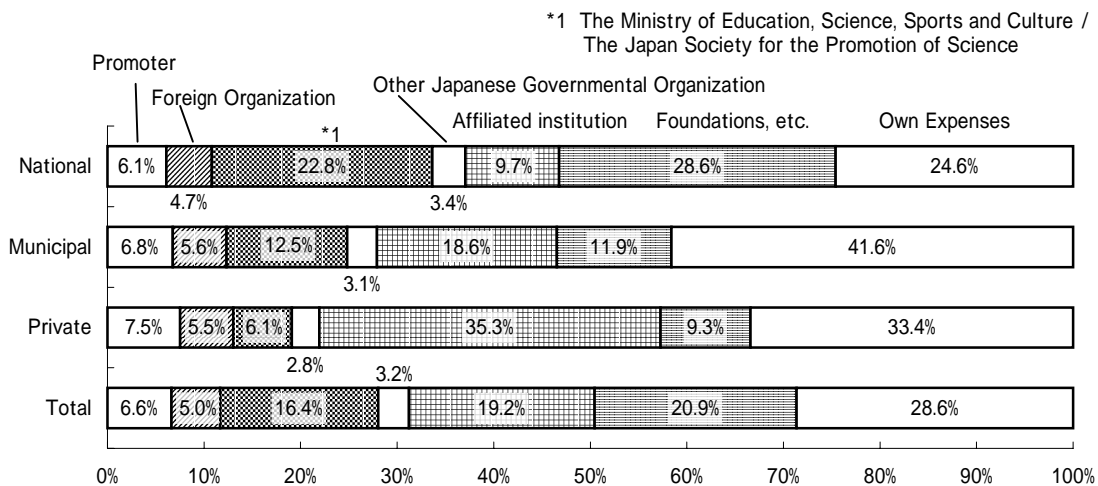


Figure 29 Party Covering Expenses for Participation in International Conferences, Etc., Overseas by Institution Governing Authority

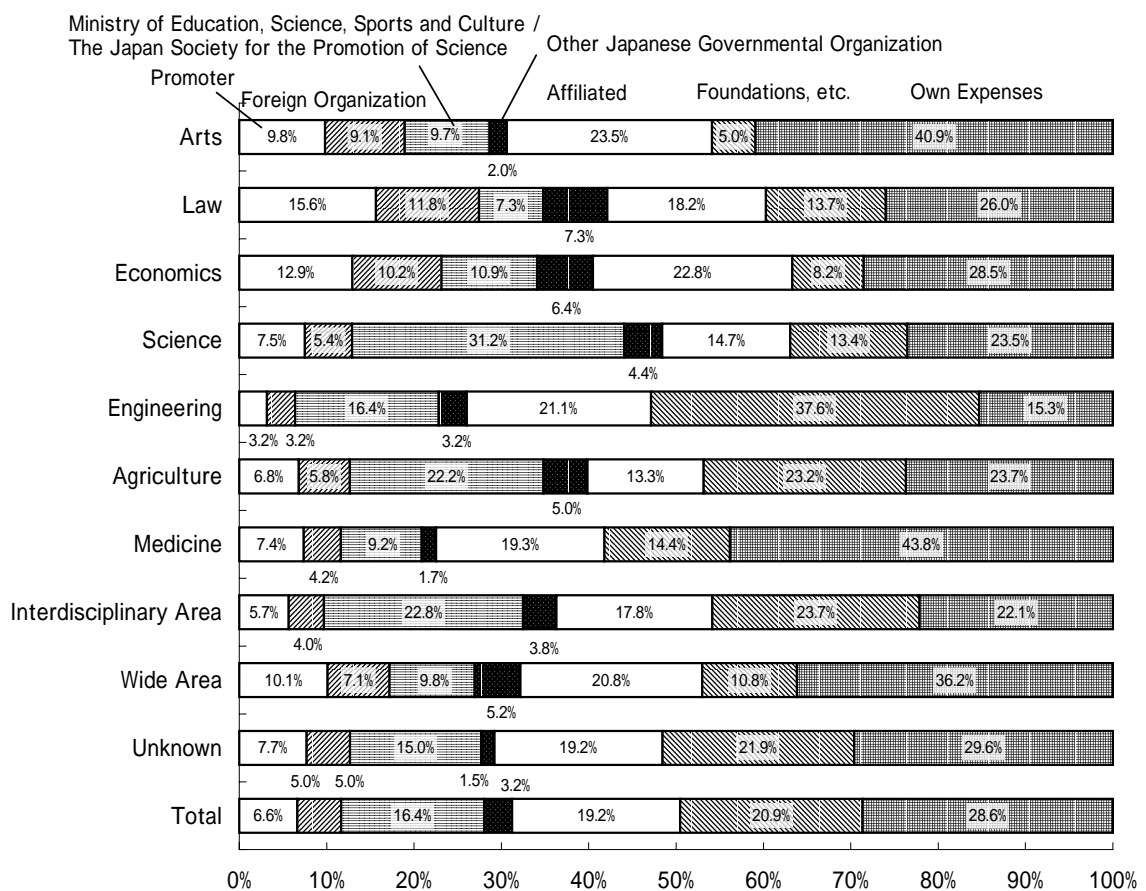


Figure 30 Party Covering Expenses for Participation in International Conferences, Etc., Overseas by Field of Specialization

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 (104,874 respondents, 96.0%) and the second most widely used language, German (4,024 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 83.6% and 85.7%, respectively. In these two fields the proportion of usage of German and French was relatively high. The percentages for arts were German 11.1% and French 7.8%, and those for law were German 19.5% and French 8.2% (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 (106,888 respondents, 96.5%) and the second most widely used language, German (5,032 respondents, 4.5%).

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 in the fields of natural sciences, with the percentages being 85.5% and 87.3%, respectively. In these two fields the proportion of usage of German and French was relatively high. The percentages for arts were German 12.6% and French 8.4%, and those for law were German 24.8% and French 9.8% (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 were 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	31,452	20,873	17,454	1,627	340	223	2,324	1,215	1,234	10,579
Law	4,167	2,956	2,533	243	35	35	577	94	126	1,211
Economics	7,473	5,431	5,239	122	41	43	294	145	180	2,042
Science	15,229	13,230	13,216	122	20	30	94	41	52	1,999
Engineering	22,216	18,868	18,828	95	26	27	129	184	160	3,348
Agriculture	7,563	6,030	5,995	31	20	10	55	64	90	1,533
Medicine	33,628	26,439	26,416	102	28	7	248	102	96	7,189
Interdisciplinary Area	18,454	13,433	13,322	108	27	16	178	92	111	5,021
Wide Area	2,654	1,289	1,168	49	17	11	107	29	63	1,365
Unknown	2,407	727	703	17	8	2	18	10	15	1,680
Total	145,243	109,276	104,874	2,516	562	404	4,024	1,976	2,127	35,967

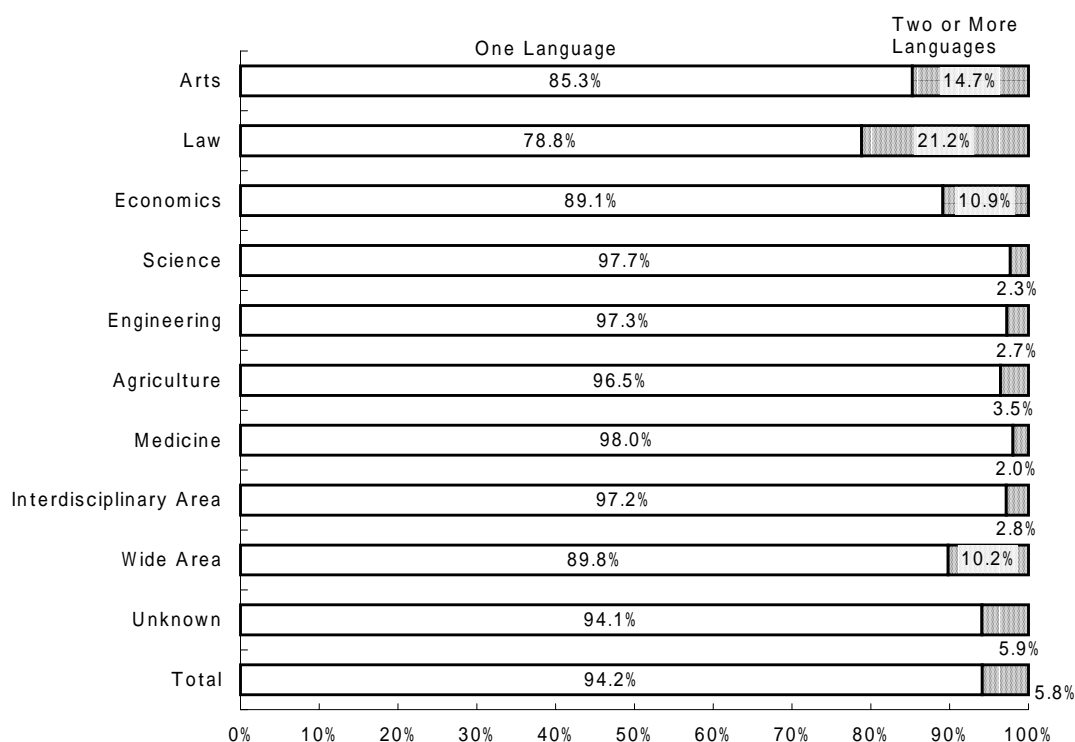


Figure 31 Proportion of Researchers by Field of Specialization / by Number of Languages Other Than Japanese Used to Present Research Findings, Etc.

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	31,452	20,919	17,884	1,759	321	249	2,640	1,231	1,020	10,533
Law	4,167	3,005	2,624	294	33	39	744	88	121	1,162
Economics	7,473	5,616	5,462	188	35	60	469	136	171	1,857
Science	15,229	13,704	13,703	171	16	32	175	33	42	1,525
Engineering	22,216	19,239	19,213	121	23	29	274	158	129	2,977
Agriculture	7,563	6,224	6,203	26	19	11	98	57	56	1,339
Medicine	33,628	26,463	26,446	96	22	9	280	86	63	7,165
Interdisciplinary Area	18,454	13,619	13,529	114	20	16	254	102	90	4,835
Wide Area	2,654	1,217	1,131	40	13	11	79	30	41	1,437
Unknown	2,407	711	693	25	5	1	19	7	10	1,696
Total	145,243	110,717	106,888	2,834	507	457	5,032	1,928	1,743	34,526

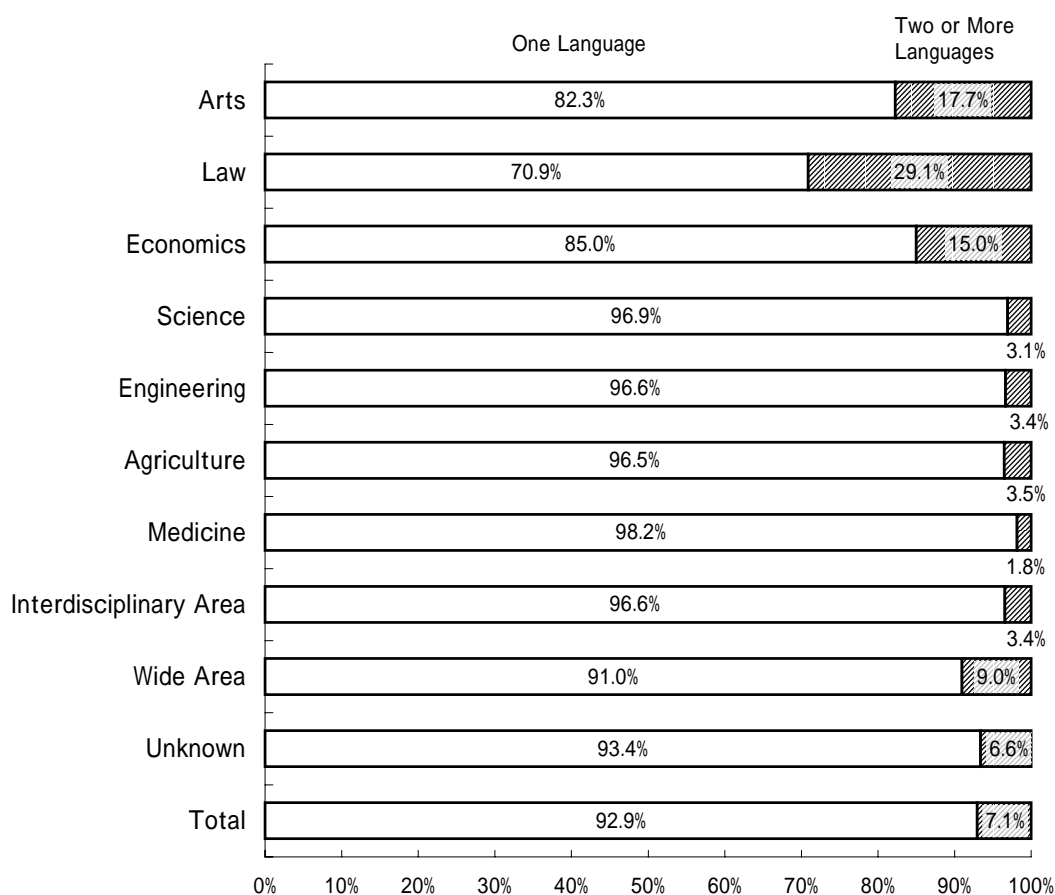


Figure 32 Proportion of Researchers by Field of Specialization/by Number of Languages Other Than Japanese Used to Write Papers

7. Academic Society Affiliations of Researchers

7.1 Japanese Academic Societies

Membership in Japanese academic societies was reported by 132,161, or 91.0%, 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 3.2.

Broken down by institution governing authority, the figures were national institutions 90.5%, municipal institutions 92.6 and private institutions 91.3%.

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 3.7, at private institutions 3.6, and at national institutions 3.4 (Table 11).

Broken down by field of specialization, researchers not belonging to any academic societies were most numerous in wide area (23.7%), followed in descending order by law (10.1%), science (9.5%), arts (8.9%), medicine (8.0%), economics (7.9%), and interdisciplinary area (7.8%) (Figure 34).

The average number of academic societies each researcher belonged to exceeded the overall average of 3.5 in the field of medicine, where the number of memberships per individual averages 4.5. In the field of science the average number of memberships was low because 34.0% 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 (3.2), junior colleges (2.9), private scientific research institutes (2.7), inter-university research institutes (2.4), 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	3.6	3.5	3.4	3.5
Law	3.0	2.9	3.3	3.2
Economics	3.1	3.1	3.5	3.4
Science	2.4	2.7	2.6	2.5
Engineering	3.1	3.2	3.4	3.2
Agriculture	3.5	3.8	4.0	3.6
Medicine	4.4	4.6	4.5	4.5
Interdisciplinary Area	3.4	3.7	3.5	3.4
Wide Area	2.8	3.0	2.7	2.7
Unknown	0.9	0.8	1.1	1.0
Total	3.4	3.7	3.6	3.5

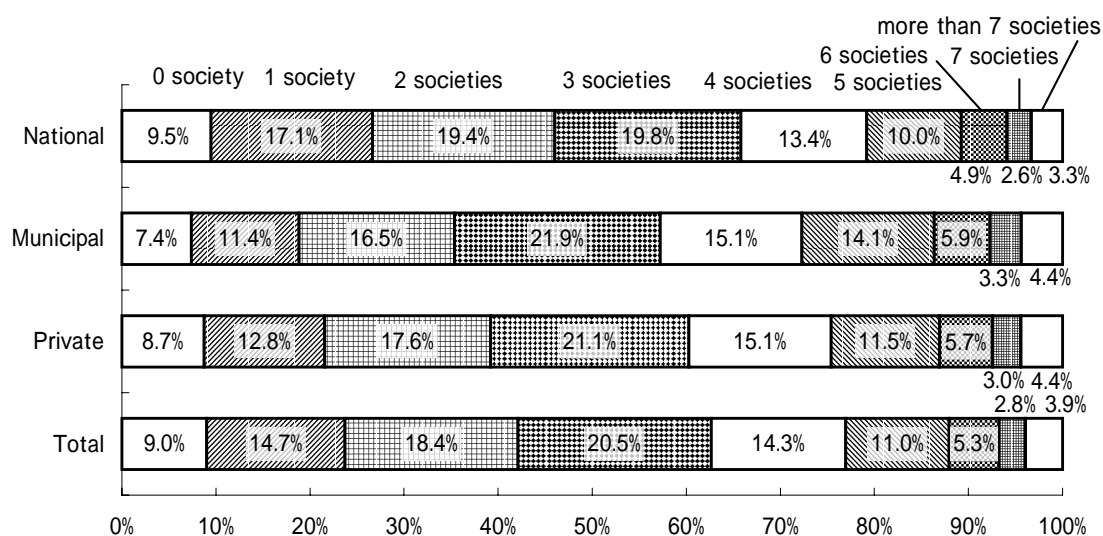


Figure 33 Ratio of Average Number of Academic Society Affiliations (Japanese) by Institution Governing Authority

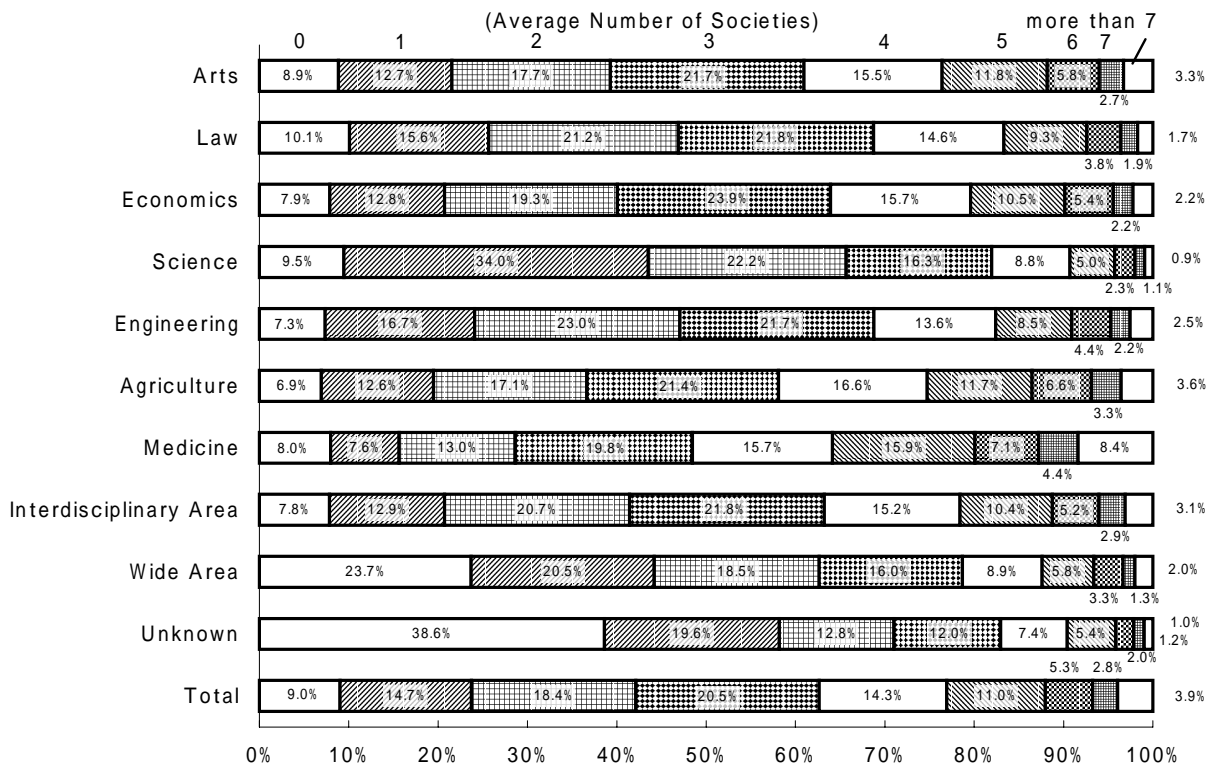


Figure 34 Ratio of Average Number of Academic Society Affiliations (Japanese) by Field of Specialization

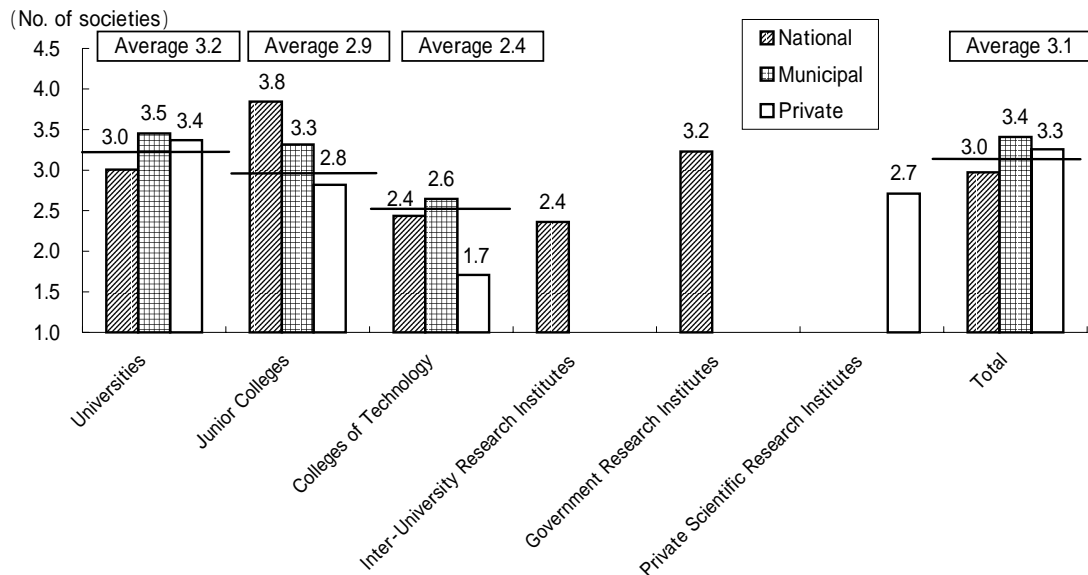


Figure 35 Average Number of Academic Society Affiliations (Japanese) by Institution Type/ by Institution Governing Authority

7.2 Overseas Academic Societies

Membership in one or more overseas academic societies was reported by 31,993, or 22.0%, 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 132,161 researchers (91.0%) 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 24.7% or 16,629 persons. The next is municipal institutions at 21.5% and private institutions at 19.5%. 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 (27.0%), science (26.0%), agriculture (25.4%), and medicine (24.8%). It was somewhat lower in fields in the humanities and social sciences such as economics (19.1%), arts (16.2%), and law (15.0%) (Figure 37).

The type of institution for which the average number of academic society memberships was highest was government research institutes of the Ministry of Education, Science, Sports, and Culture at 1.71, followed by universities in second place at 1.48 (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	1.5	1.5	1.5
Law	1.4	1.5	1.4	1.4
Economics	1.4	1.4	1.4	1.4
Science	1.4	1.4	1.4	1.4
Engineering	1.4	1.4	1.4	1.4
Agriculture	1.5	1.4	1.4	1.5
Medicine	1.6	1.5	1.6	1.6
Interdisciplinary Area	1.5	1.4	1.5	1.5
Wide Area	1.5	1.8	1.5	1.5
Unknown	1.3	1.5	1.3	1.3
Total	1.5	1.5	1.5	1.5

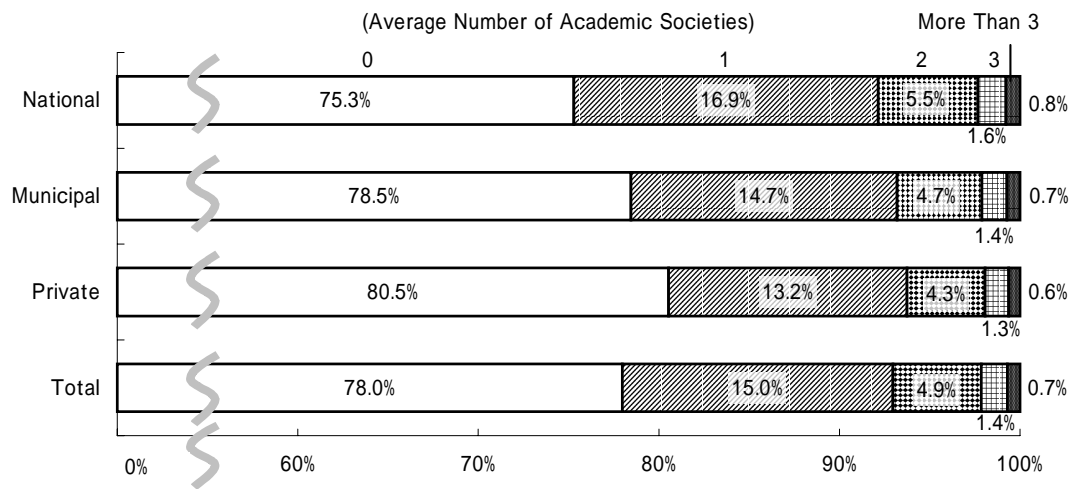


Figure 36 Ratio of Average Number of Academic Society Affiliations (Overseas) by Institution Governing Authority

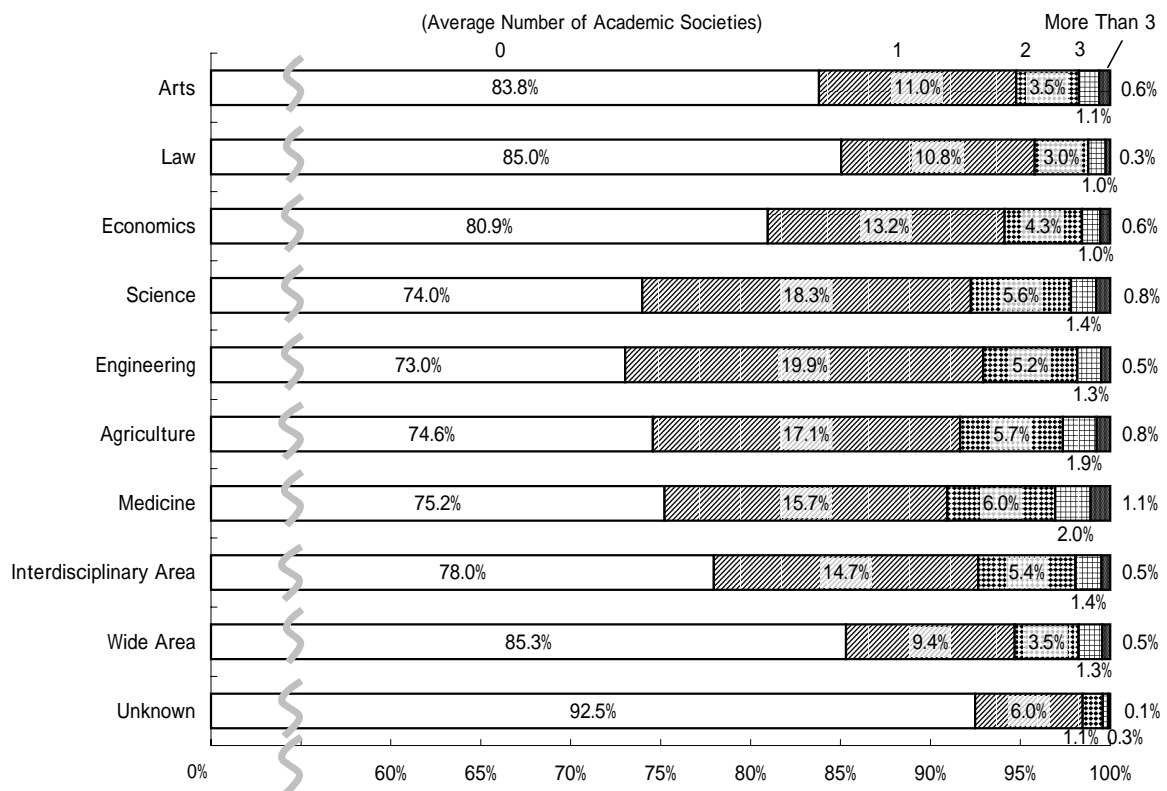


Figure 37 Ratio of Average Number of Academic Society Affiliations (Overseas) by Field of Specialization

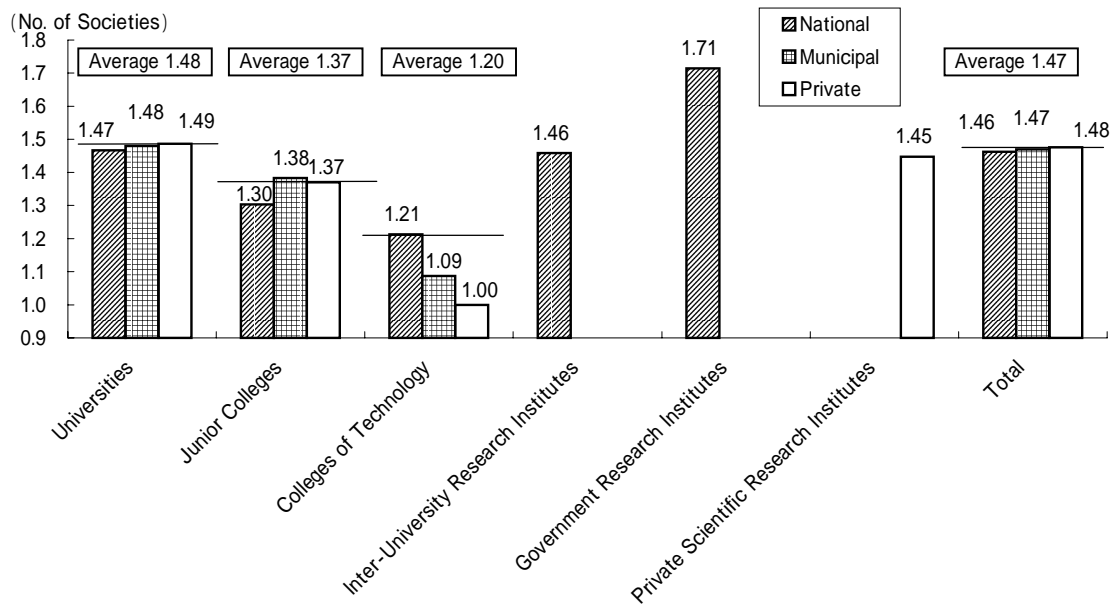


Figure 38 Average Number of Academic Society Affiliations (Overseas) Among Respondents Affiliated with Overseas Academic Society, by Institution Type / by Institution Governing Authority

8. Academic Awards Received

8.1 Japanese Awards Received

Of the total number of researchers, 15.1% have received some sort of Japanese academic award. The breakdown by institution governing authority is national institutions 17.9%, municipal institutions 14.5%, and private institutions 12.5%. Broken down by field of specialization, the percentage of Japanese award holders was highest in engineering (29.6%), followed in descending order by agriculture (21.8%) and wide area (18.5%) (Figure 39).

The type of institution with the largest percentage of Japanese award holders was inter-university research institutes at 18.5%. This was followed in descending order by universities (15.9%), private scientific research institutes (14.6%), government research institutes of the Ministry of Education, Science, Sports, and Culture (11.9%), colleges of technology (10.5%), and junior colleges (9.4%) (Figure 40).

For all respondents overall, the average number of Japanese academic awards received was 0.26. The breakdown by institution governing authority is national institutions 0.29, municipal institutions 0.24, and private institutions 0.22. The breakdown by field of specialization puts engineering (0.57) in first place, followed by wide area (0.49) and agriculture (0.31) (Figure 41).

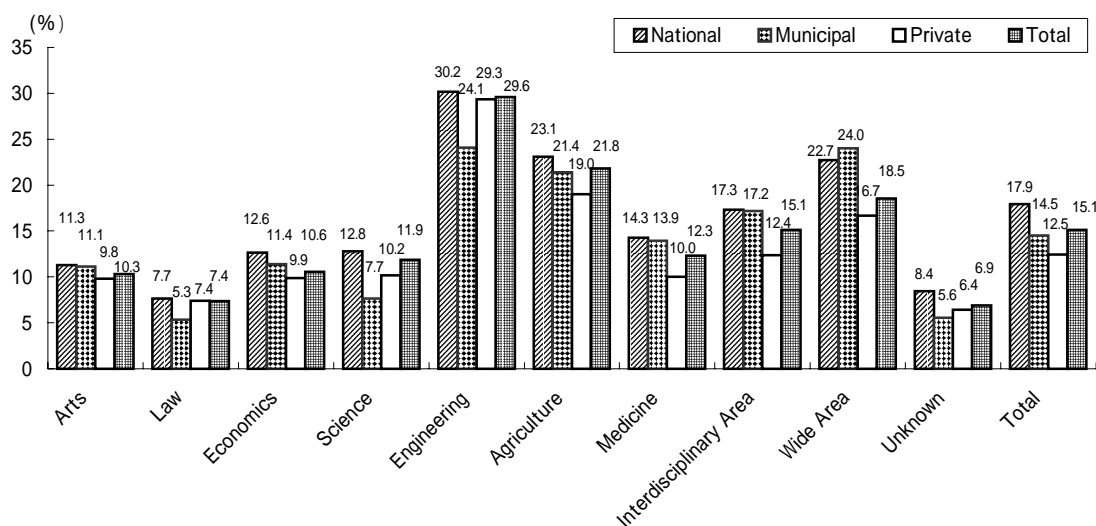


Figure 39 Ratio of Persons Who Have Received Awards (Japanese) by Field of Specialization

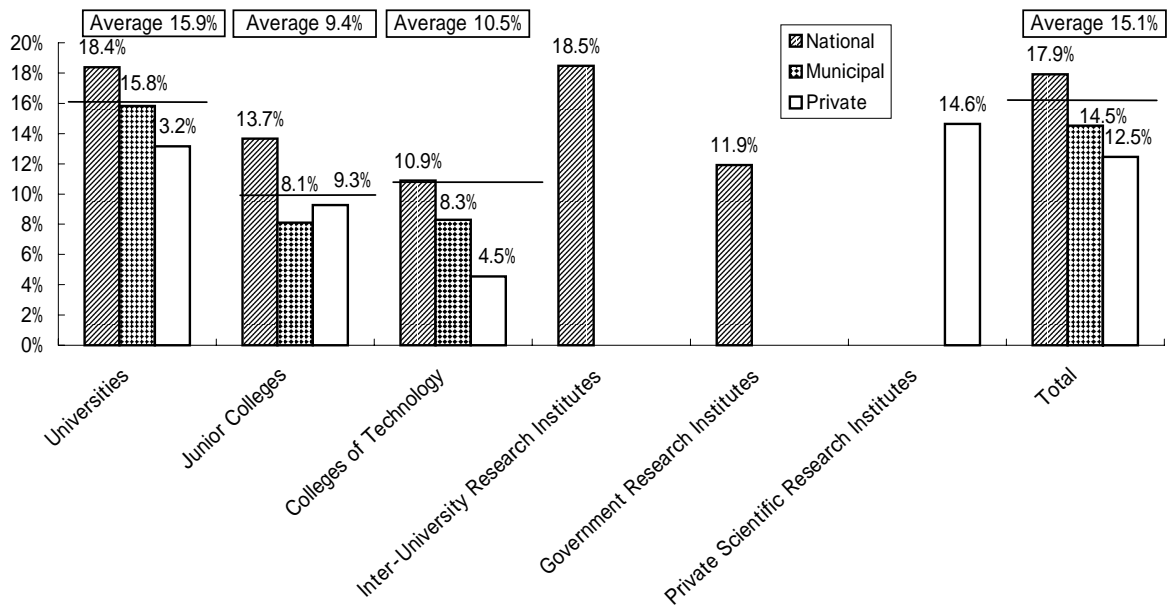


Figure 40 Ratio of Persons Who Have Received Awards (Japanese) by Institution Type

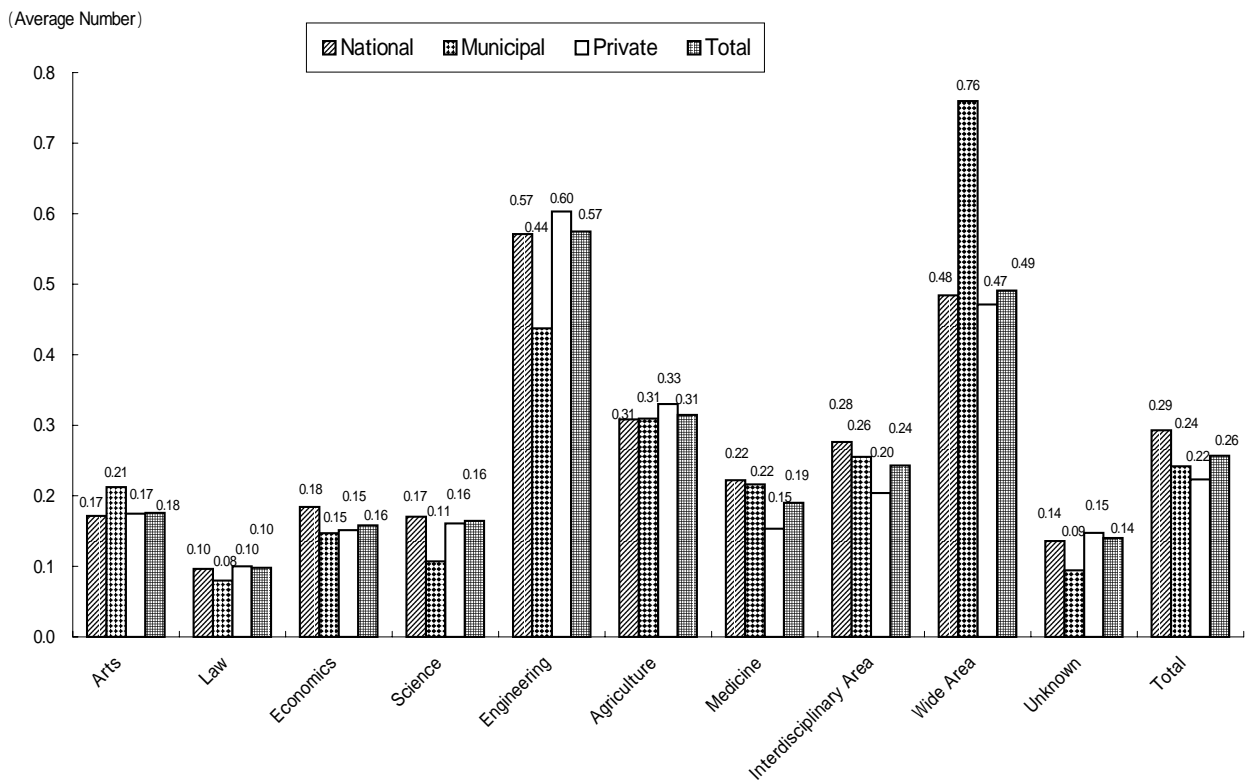


Figure 41 Average Number of Awards Received (Japanese) by Field of Specialization

8.2 Overseas Awards Received

Of the total number of researchers, 2.6% have received some sort of overseas academic award. The breakdown by institution governing authority is national institutions 2.9%, municipal institutions 2.5%, and private institutions 2.2%.

Broken down by field of specialization, the percentage of overseas award holders was highest in engineering (4.7%), followed in descending order by wide area (4.3%) and medicine (2.8%) (Figure 42).

The type of institution with the largest percentage of overseas award holders was inter-university research institutes at 3.0%. This was followed in descending order by private scientific research institutes (2.9%), universities (2.8%), junior colleges (1.3%), government research institutes of the Ministry of Education, Science, Sports, and Culture (0.8%), and colleges of technology (0.7%) (Figure 43).

The average number of overseas academic awards received by respondents overall was 0.037. The breakdown by institution governing authority is national institutions 0.040, private institutions 0.041, and municipal institutions 0.034. The breakdown by field of specialization puts wide area (0.078) in first place, followed by engineering (0.063), medicine (0.038), and arts (0.033) (Figure 44).

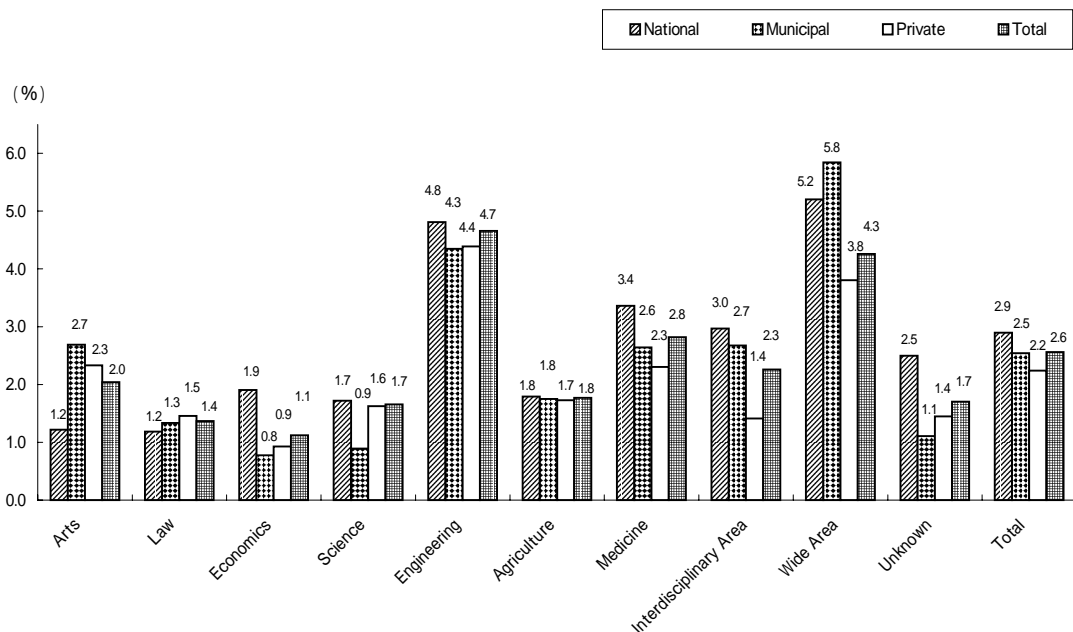


Figure 42 Ratio of Persons Who Have Received Awards (Overseas) by Field of Specialization

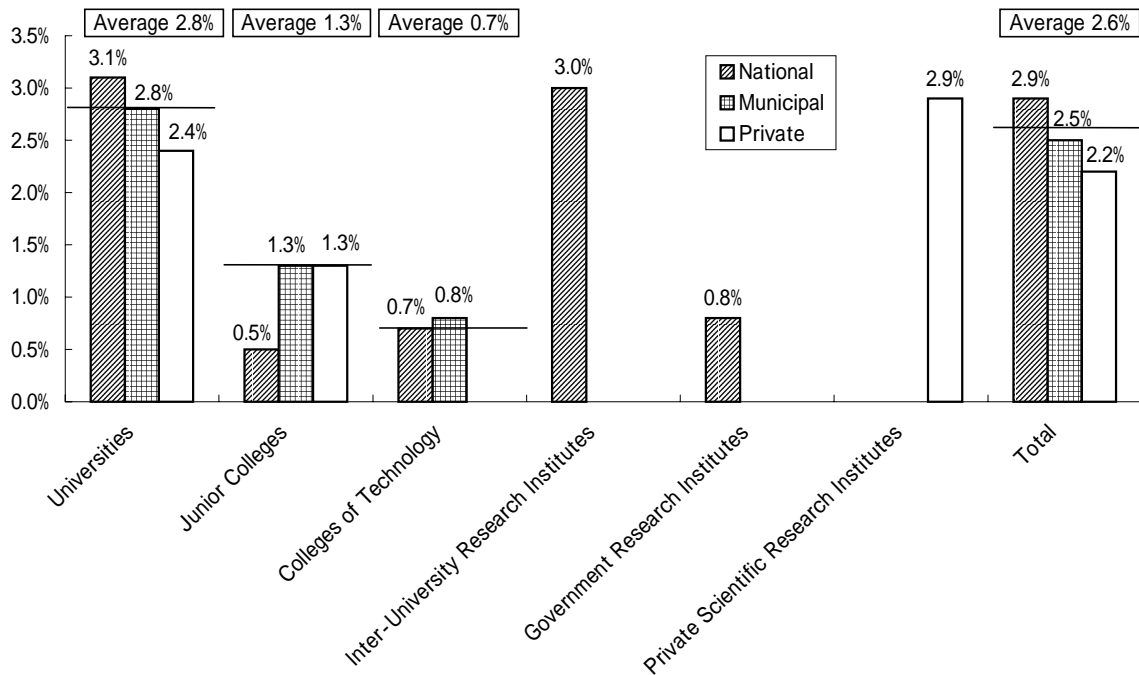


Figure 43 Ratio of Persons Who Have Received Awards (Overseas) by Institution Type

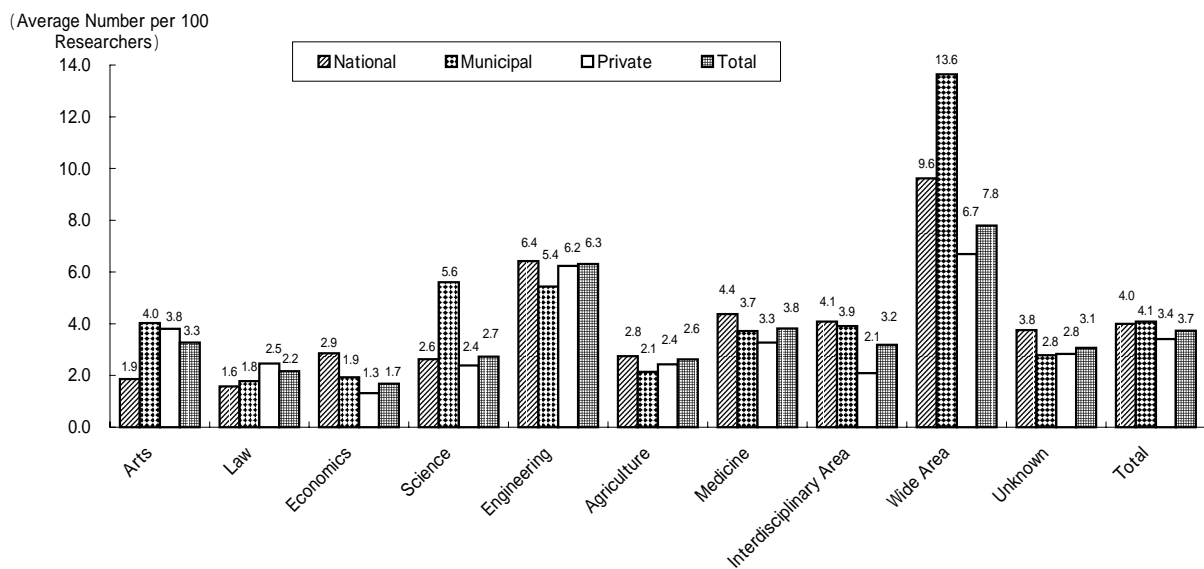


Figure 44 Average Number of Awards Received (Overseas) by Field of Specialization