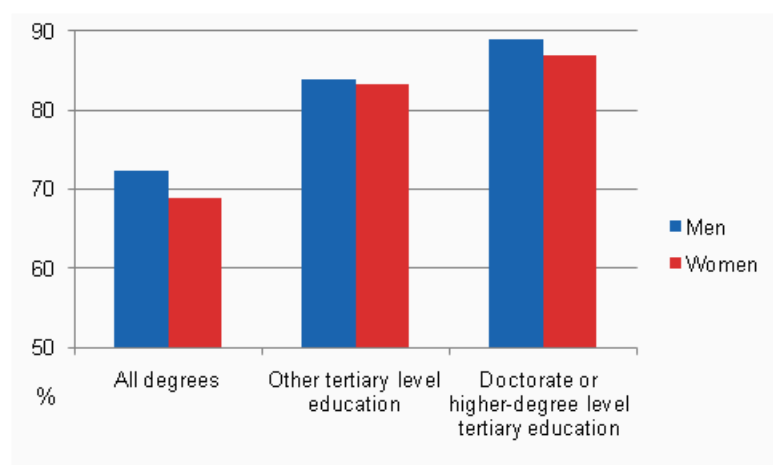


Human resources of science and technology in 2009

Employment rate exceptionally high among those with tertiary level degrees

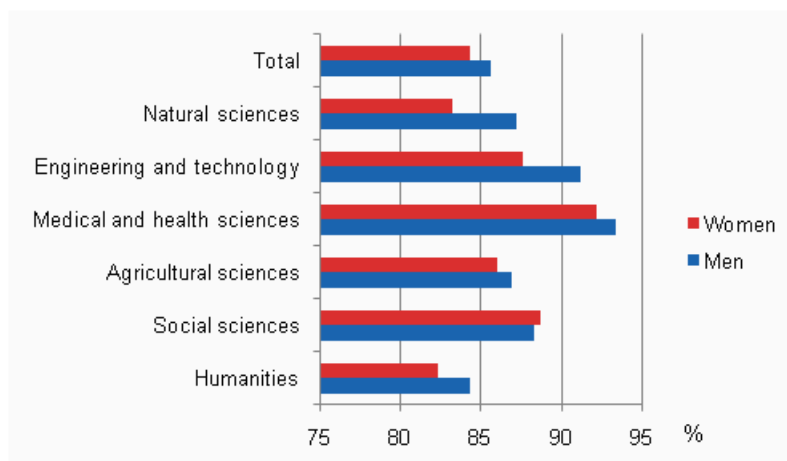
In 2008, 85 per cent of those with tertiary level degrees were employed, which is 14 percentage points higher than the employment rate of total population. The situation was best for those with doctorate level degrees, whose employment rate was over 90 per cent. The difference between the employment rate of women and men was small, only good one percentage point, while in total population it was three percentage points.

Employment rates of total population and persons with tertiary level degrees (aged 15 to 65) by level of education and gender in 2008



The employment rate of those with higher university level or doctorate level degrees varies somewhat by field of science. The employment rate was best in the fields of medical and health sciences (93%) and engineering and technology (90%). The employment rates of those with degrees from humanities (83%), natural sciences (85%) and agricultural sciences (86%) were slightly weaker. Differences in employment between men and women were mostly minor, but in the fields of natural sciences and engineering and technology, women's employment was around four percentage points lower than men's corresponding figure.

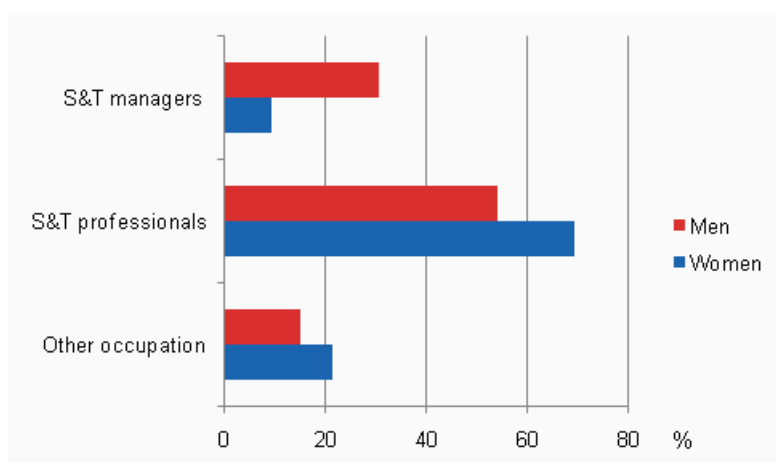
Employment rate of persons with higher university level or doctorate level degrees (aged 16 to 64) by field of science and gender in 2008



The unemployment rate of those with tertiary level degrees was 4.4 per cent in 2008. The fall in unemployment that had continued throughout the 2000s stalled then. At the same time, the unemployment rate of total population was 6.4 per cent. There were also differences between highly educated groups. The unemployment rate of those with doctorate level degrees was lowest, i.e. 2.4 per cent and the unemployment rate of those with lowest level tertiary education was 5.0 per cent.

Sixty-two per cent of the personnel in the field of science and technology worked at specialist tasks and 19 per cent at management. There were great differences between men and women's employment. Nearly one third of men worked at management tasks, while only about every tenth of women. Of men, 54 per cent were employed at specialist tasks and of women 69 per cent. Women's employment at management and specialist tasks has not changed much over the 2000s. Men have slightly increased their share in management tasks.

Occupations of science and technology personnel by occupational group and gender in 2008



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Appendix tables

Appendix table 1. Tertiary degrees by the field of science in 1991, 2000 and 2009

Tertiary degree	Fields of science	Year (completion of degree)		
		1991	2000	2009
Tertiary degrees total	Fields of science total	38 134	37 225	45 931
Doctorate	Fields of science total	542	1 142	1 642
	Natural sciences	121	245	317
	Engineering and technology	78	152	302
	Medical and health sciences	187	330	384
	Agricultural sciences	13	43	70
	Social sciences	80	234	384
	Humanities	63	138	185
Licentiate	Fields of science total	615	746	307
	Natural sciences	136	177	53
	Engineering and technology	154	145	60
	Medical and health sciences	22	27	6
	Agricultural sciences	18	9	6
	Social sciences	167	269	139
	Humanities	118	119	43
Higher-level tertiary degree	Fields of science total	10 161	12 404	12 048
	Natural sciences	877	1 377	980
	Engineering and technology	1 538	2 009	2 764
	Medical and health sciences	1 626	1 661	1 960
	Agricultural sciences	213	219	307
	Social sciences	4 241	4 980	4 109
	Humanities	1 666	2 158	1 928
Other tertiary degrees	Fields of science total	26 816	22 933	31 934

Appendix table 2. Population with a tertiary degree in 2000 and 2008

Tertiary degree	Fields of science	2000		2008	
		Total	of which women	Total	of which women
Tertiary degrees total	Fields of science total	959 363	527 502	1 143 638	648 781
Doctorate	Fields of science total	14 111	4 375	23 066	9 122
	Natural sciences	3 226	874	5 124	1 771
	Engineering and technology	1 813	205	3 476	647
	Medical and health sciences	4 564	1 741	6 601	3 219
	Agricultural sciences	619	237	873	364
	Social sciences	2 390	785	4 543	2 007
	Humanities	1 499	533	2 449	1 114
Licentiate	Fields of science total	8 466	2 951	9 127	3 721
	Natural sciences	1 801	596	1 803	682
	Engineering and technology	2 203	337	2 394	440
	Medical and health sciences	226	175	256	200
	Agricultural sciences	202	86	163	65
	Social sciences	2 619	1 073	3 039	1 531
	Humanities	1 415	684	1 472	803

Tertiary degree	Fields of science	2000		2008	
		Total	of which women	Total	of which women
Higher-level tertiary degree	Fields of science total	223 751	111 838	311 283	168 543
	Natural sciences	23 628	11 194	33 839	16 483
	Engineering and technology	38 267	6 043	53 107	10 591
	Medical and health sciences	25 133	15 784	31 390	20 984
	Agricultural sciences	9 009	4 036	9 020	4 339
	Social sciences	89 321	47 120	130 108	76 203
	Humanities	38 393	27 661	53 819	39 943
Other tertiary degrees	Field of science undefined	713 035	408 338	800 162	467 395

Appendix table 3. Population with a tertiary degree by principal activity in 2008

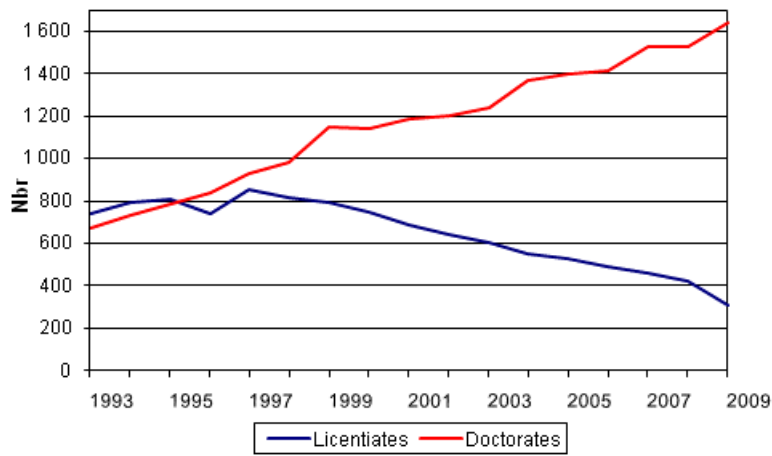
Tertiary degree	Field of science	Principal activity				
		Principal activity total	In labour force	Employed	Unemployed	Not in labour force
Tertiary degrees total	Fields of science total	1 143 638	934 492	893 212	41 280	209 146
Doctorate	Fields of science total	23 066	19 588	19 120	468	3 478
	Natural sciences	5 124	4 255	4 101	154	869
	Engineering and technology	3 476	3 108	3 061	47	368
	Medical and health sciences	6 601	5 666	5 613	53	935
	Agricultural sciences	873	713	688	25	160
	Social sciences	4 543	3 889	3 780	109	654
	Humanities	2 449	1 957	1 877	80	492
Licentiate	Fields of science total	9 127	7 246	6 934	312	1 881
	Natural sciences	1 803	1 361	1 289	72	442
	Engineering and technology	2 394	2 028	1 962	66	366
	Medical and health sciences	256	206	203	3	50
	Agricultural sciences	163	125	116	9	38
	Social sciences	3 039	2 456	2 373	83	583
	Humanities	1 472	1 070	991	79	402
Higher-level tertiary degree	Fields of science total	311 283	266 784	256 926	9 858	44 499
	Natural sciences	33 839	28 597	27 136	1 461	5 242
	Engineering and technology	53 107	46 626	45 230	1 396	6 481
	Medical and health sciences	31 390	27 222	26 931	291	4 168
	Agricultural sciences	9 020	7 261	7 001	260	1 759
	Social sciences	130 108	113 608	109 775	3 833	16 500
	Humanities	53 819	43 470	40 853	2 617	10 349
Other tertiary degrees	Field of science undefined	800 162	640 874	610 232	30 642	159 288

Appendix table 4. Employed population with tertiary level education in 2008 by Industry and Tertiary degree

Industrial activity 2008	Tertiary degree total	Doctorate	Licensiate	Higher tertiary degree	Other tertiary degree
Toimialat yhteensä	893 212	19 120	6 934	256 926	610 232
Agriculture, forestry and fishing	17 042	65	39	2 288	14 650
Mining and quarrying	1 150	16	8	294	832
Manufacture of food, beverages and tobacco	6 973	42	9	1 384	5 538
Manufacture of textiles and leather	2 426	4	3	334	2 085
Manufacture of wood and paper, printing	14 587	57	49	2 776	11 705
Manufacture of coke and petroleum, rubber and plastic products	4 441	25	28	968	3 420
Manufacture of chemicals and pharmaceutical products	7 411	321	105	2 656	4 329
Manufacture of basic metals and metal products	13 061	50	65	2 460	10 486
Manufacture of computer, electronic and optical products, electrical equipment	30 631	522	309	11 933	17 867
Other machinery and equipment	19 602	116	77	5 111	14 298
Motor vehicles	4 044	15	15	695	3 319
Other manufacturing	12 862	70	54	2 040	10 698
Electricity, gas and water supply and waste management	8 541	48	40	1 877	6 576
Construction	27 518	26	41	2 409	25 042
Whole sale and retail trade, accommodation and food service	93 166	291	164	12 986	79 725
Transportation and storage	24 470	31	33	3 064	21 342
Computer programming and consultancy	27 834	243	169	10 640	16 782
Other information and communication	23 250	141	114	7 459	15 536
Financial and insurance activities	30 280	135	124	8 352	21 669
Research institutes in public sector	8 896	1 622	434	4 295	2 545
Other research and development	2 807	409	102	1 259	1 037
Professional and technical activities	70 835	725	518	24 249	45 343
Administrative and support service activities	26 038	109	55	5 196	20 678
Public administration	73 461	1 217	777	25 013	46 454
Universities	24 765	7 012	1 314	11 790	4 649
Other tertiary level education	9 081	668	665	4 968	2 780
Other education	89 849	674	799	54 746	33 630
Health and social services	166 233	3 743	454	29 502	132 534
Other industries	51 585	716	370	16 025	34 474
Industry unknown	373	7	0	157	209

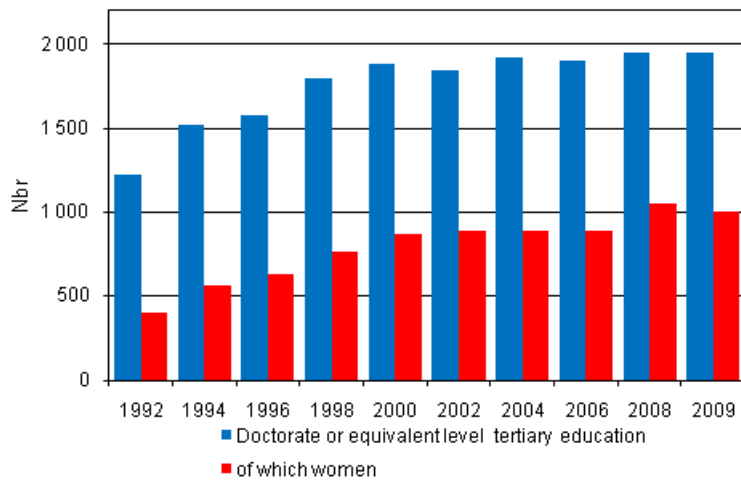
Appendix figures

Appendix figure 1. Doctorate and licentiate degrees in 1993 - 2009



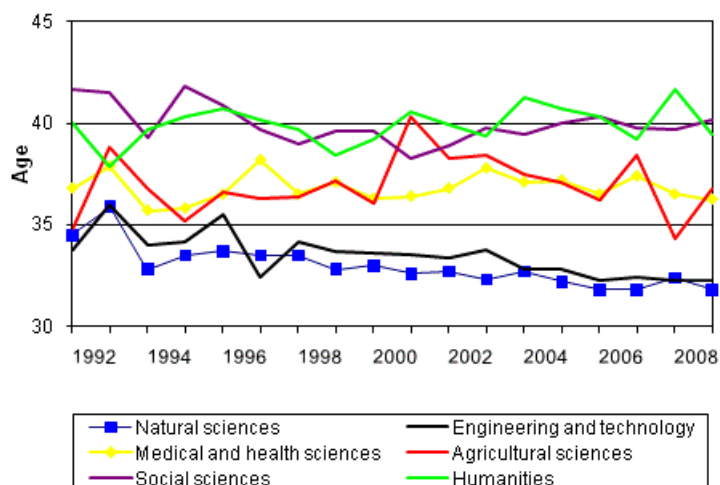
In 2009, 1642 doctorate degrees were completed, which was more than 100 degrees more than in the previous year. The number of doctorate degrees is now triple compared with the situation at the beginning of the early 1990s. The number of licentiate degrees has halved in ten years. Only 307 licentiate degrees were completed in 2009.

Appendix figure 2. Doctorate level degrees and the proportion of women 1992 - 2009



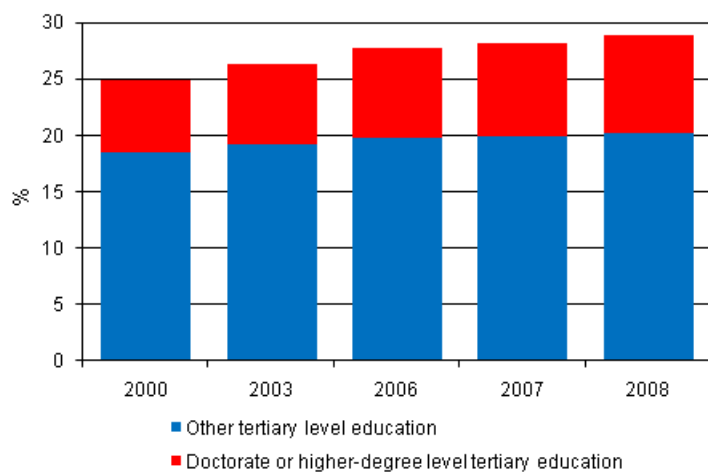
In 2009, one half of those having completed doctorate degrees, or 51 per cent, were women. In the early 1990s women made up one third of doctors.

Appendix figure 3. Persons with doctorate degree, median ages by the field of science in 1992 - 2009



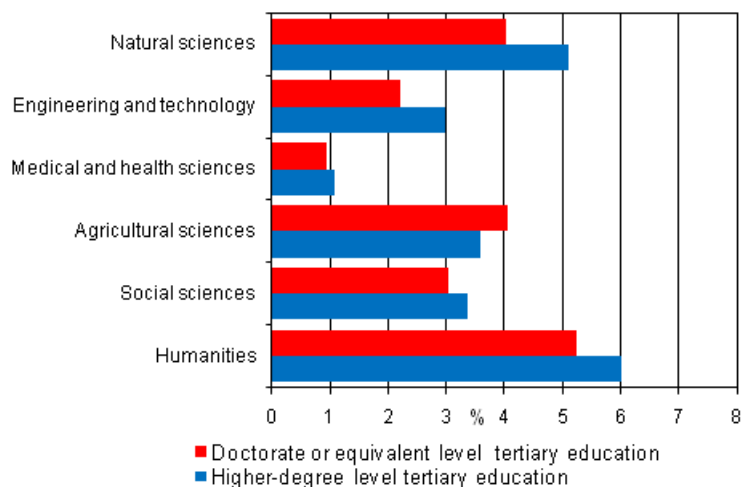
The youngest doctorate degree holders are found in the fields of natural sciences and technology. Their median age is a little over 30 years. Those completing doctorate degrees in the fields of social sciences and humanities and arts are about eight years older.

Appendix figure 4. Persons with tertiary degrees as a proportion of the population aged 16 to 74 in 2000 - 2008



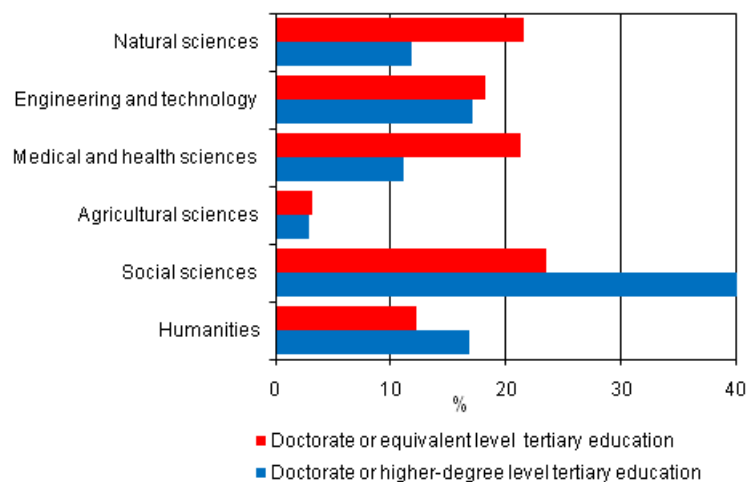
The proportion of the population with tertiary level degrees has grown steadily at the annual rate of 0.5 per cent throughout the 2000s. In 2008, 29 per cent of the population were highly educated. Nine per cent of the population have completed doctorate or higher tertiary level degrees.

Appendix figure 5. Unemployment rates of persons with doctorate level and higher-degree level tertiary education by the field of science in 2008



Highly educated population finds employment better than the rest of the population. In 2008, 4.4 per cent of them were unemployed. At the same time the unemployment rate of total population was 6.4 per cent. Those with tertiary level degrees from medical and health sciences found employment the easiest. Only one per cent of them were unemployed. Those with degrees from humanities and arts have the weakest possibilities for finding employment. Their unemployment rate was six per cent.

Appendix figure 6. Persons with doctorate level and higher-degree level tertiary education as a percentage by the field of science in 2008



In Finland the highest educated population has completed degrees from the field of social sciences. Forty per cent of those with doctorate level or higher tertiary level degrees were social scientists. The large proportion of social sciences is explained by the fact that in addition to social scientists, this main group also includes educational science, law and business. The next biggest group of the highly educated, or 17 per cent, comes from the fields of humanities and arts, and technology. Those with doctorate level degrees are more evenly divided into fields of science. Around one fifth of those with doctorate level degrees are in each of the fields of social, medical and health and natural sciences.

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Source: Human resources of science and technology 2009. Statistics Finland