

Human resources of science and technology in 2008

Nearly every second of those with doctorate level degrees work in the sector of education

In 2007, 44 per cent of those having completed doctorate level degrees worked in the sector of education. Three fourths of them were working at universities. Health care was the second biggest employer with a 16 per cent share. Nearly one tenth of those with doctorate level degrees were working in manufacturing.

Highly educated employees by economic activity and completed degree in 2007

Industry	Tertiary degree			
	Highly educated total (%)	Doctorate level degree (%)	Higher-degree level (%)	Other tertiary degrees (%)
Industries, total	100,0	100,0	100,0	100,0
Agriculture, forestry and fishery	2,0	0,4	0,9	2,5
Manufacturing and mining and quarrying	14,3	8,0	13,3	15,0
Electricity, gas and water supply	0,8	0,2	0,6	0,9
Construction	3,0	0,2	0,8	4,0
Trade	10,5	1,7	4,9	13,0
Transport, communications	3,1	0,3	1,4	4,0
Telecommunications	0,9	0,2	0,7	1,0
Financial and insurance intermediatio	3,3	0,9	3,2	3,5
Computer and related activities	3,4	1,6	4,3	3,1
Business services	11,3	5,3	11,5	11,5
Research activities	1,3	9,8	2,2	0,6
Education	13,9	43,6	28,3	6,9
Human health activities	18,5	16,1	11,8	21,3
Public administration	8,3	7,9	9,8	7,7
Other industries/unknown	5,3	3,7	6,3	5,0

Twenty-three per cent of those with doctorate level degrees earned their living at management tasks and 71 per cent at various specialist tasks. The popularity of management tasks has grown steadily, because seven years ago nearly one fifth of those with doctorate level degrees were working in management and

three fourths at specialist tasks. Management tasks attracted those with licentiate degrees slightly more than doctorate degree holders.

The number of doctorate and licentiate degrees passed by women has been growing steadily. In the early 1990s one third of those with doctorate level degrees were women. Now more than every second of them is a woman. Women have increased their share in other tertiary level qualifications, too. Twenty years ago men and women had an equal share among those with highest level tertiary degrees. Now more than six in ten are women.

Highly educated population find employment clearly better than the rest of the population. In 2007, 39,000 highly educated people were unemployed, which corresponds to an unemployment rate of 4.3 per cent. At the same time the unemployment rate of total population was 6.9 per cent. There are also differences between highly educated groups. The unemployment rate is the lowest among doctors, that is, 2.3 per cent and the highest among those with the lowest level tertiary qualifications, 5.1 per cent.

Population with a tertiary degree by principal activity in 2007

Tertiary degree	Field of science	Principal activity and unemployment rate (%)			
		In labour force	Employed	Unemployed	Unemployment rate (%)
Doctorate	Fields of science total	18 472	18 047	425	2,3
	Natural sciences	4 053	3 913	140	3,5
	Engineering and technology	2 916	2 879	37	1,3
	Medical and health sciences	5 389	5 340	49	0,9
	Agricultural sciences	673	651	22	3,3
	Social sciences	3 640	3 532	108	3,0
	Humanities	1 801	1 732	69	3,8
Licentiate	Fields of science total	7 263	6 950	313	4,3
	Natural sciences	1 387	1 319	68	4,9
	Engineering and technology	2 039	1 973	66	3,2
	Medical and health sciences	203	200	3	1,5
	Agricultural sciences	119	111	8	6,7
	Social sciences	2 411	2 332	79	3,3
	Humanities	1 104	1 015	89	8,1
Higher degree level	Fields of science total	250 309	241 601	8 708	3,5
	Natural sciences	26 195	24 981	1 214	4,6
	Engineering and technology	44 970	43 664	1 306	2,9
	Medical and health sciences	25 976	25 727	249	1,0
	Agricultural sciences	6 887	6 628	259	3,8
	Social sciences	105 788	102 514	3 274	3,1
	Humanities	40 493	38 087	2 406	5,9
Other tertiary degrees	Fields of science undefined	632 052	602 502	29 550	4,7

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Appendix tables

1. Tertiary degrees by the field of science in 1995, 2001 and 2008

Tertiary degree	Fields of science	Year (completion of degree)		
		1995	2001	2008
Tertiary degrees total	Fields of science total	41 794	38 205	61 902
Doctorate	Fields of science total	786	1 187	1 527
	Natural sciences	179	223	329
	Engineering and technology	114	197	260
	Medical and health sciences	221	334	350
	Agricultural sciences	22	39	59
	Social sciences	168	258	346
	Humanities	82	136	183
Licentiate	Fields of science total	809	689	425
	Natural sciences	153	165	109
	Engineering and technology	165	142	86
	Medical and health sciences	23	37	9
	Agricultural sciences	19	6	4
	Social sciences	278	226	156
	Humanities	171	113	61
Hight-level tertiary degree	Fields of science total	11 270	12 543	23 350
	Natural sciences	1 071	1 420	3 407
	Engineering and technology	1 770	2 061	2 683
	Medical and health sciences	1 657	1 651	2 297
	Agricultural sciences	223	219	624
	Social sciences	4 728	5 150	10 203
	Humanities	1 821	2 042	4 136
Other tertiary degrees	Field of science undefined	28 929	23 786	36 600

2. Population with a tertiary degree in 2001 and 2007

Tertiary degree	Field of science	Year			
		2001		2007	
		Total	of which women	Total	of which women
Tertiary degrees total	Fields of science total	979 020	540 369	1 109 735	626 244
Doctorate	Fields of science total	15 119	4 862	21 823	8 343
	Natural sciences	3 424	949	4 868	1 628
	Engineering and technology	1 975	238	3 275	575
	Medical and health sciences	4 846	1 932	6 309	2 981
	Agricultural sciences	654	258	824	331
	Social sciences	2 585	883	4 241	1 803
	Humanities	1 635	602	2 306	1 025

Tertiary degree	Field of science	Year			
		2001		2007	
		Total	of which women	Total	of which women
Licentiate	Fields of science total	8 630	3 078	9 057	3 639
	Natural sciences	1 818	611	1 791	666
	Engineering and technology	2 237	348	2 391	441
	Medical and health sciences	244	192	255	201
	Agricultural sciences	190	74	160	62
	Social sciences	2 708	1 144	2 970	1 460
	Humanities	1 433	709	1 490	809
Higher degree level	Fields of science total	232 540	117 378	292 745	156 464
	Natural sciences	24 645	11 717	31 125	15 108
	Engineering and technology	39 704	6 371	51 112	10 029
	Medical and health sciences	25 572	16 173	30 089	19 903
	Agricultural sciences	9 192	4 205	8 572	4 045
	Social sciences	93 385	49 953	121 250	70 011
	Humanities	40 042	28 959	50 597	37 368
Other tertiary degrees	Undefined field of science	722 731	415 051	786 110	457 798

3. Population with a tertiary degree by principal activity in 2007

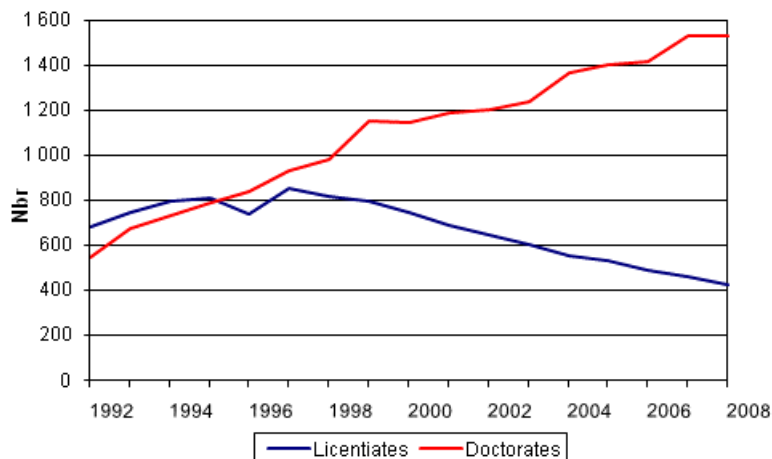
Tertiary degree	Fields of science	Principal activity total				
		Principal activity	In labour force	Employed	Unemployed	Not in labour force
Tertiary degrees total	Fields of science total	1 109 735	908 096	869 100	38 996	201 639
Doctorate	Fields of science total	21 823	18 472	18 047	425	3 351
	Natural sciences	4 868	4 053	3 913	140	815
	Engineering and technology	3 275	2 916	2 879	37	359
	Medical and health sciences	6 309	5 389	5 340	49	920
	Agricultural sciences	824	673	651	22	151
	Social sciences	4 241	3 640	3 532	108	601
	Humanities	2 306	1 801	1 732	69	505
Licentiate	Fields of science total	9 057	7 263	6 950	313	1 794
	Natural sciences	1 791	1 387	1 319	68	404
	Engineering and technology	2 391	2 039	1 973	66	352
	Medical and health sciences	255	203	200	3	52
	Agricultural sciences	160	119	111	8	41
	Social sciences	2 970	2 411	2 332	79	559
	Humanities	1 490	1 104	1 015	89	386
Higher degree level	Fields of science total	292 745	250 309	241 601	8 708	42 436
	Natural sciences	31 125	26 195	24 981	1 214	4 930
	Engineering and technology	51 112	44 970	43 664	1 306	6 142
	Medical and health sciences	30 089	25 976	25 727	249	4 113
	Agricultural sciences	8 572	6 887	6 628	259	1 685
	Social sciences	121 250	105 788	102 514	3 274	15 462
	Humanities	50 597	40 493	38 087	2 406	10 104
Other tertiary degrees	Undefined field of science	786 110	632 052	602 502	29 550	154 058

4. Employed population with tertiary level education in 2007

Industry	Tertiary degree				
	Highly educated total	Doctorate	Licentiate	Higher-degree level	Other tertiary degrees
Industries total	869 100	18 047	6 950	241 601	602 502
Agriculture, forestry and fishery	17 365	65	35	2 205	15 060
Mining and quarrying	1 018	11	11	251	745
Food, textiles	9 532	43	13	1 665	7 811
Wood products, pulp, paper products	35 138	442	241	9 319	25 136
Metals, machinery and equipment	51 504	360	264	11 499	39 381
Computers, telecommunication equipment	20 487	338	227	8 467	11 455
Other manufacturing	6 931	23	29	1 001	5 878
Electricity, gas and water supply	7 057	33	29	1 539	5 456
Construction	26 047	18	38	1 940	24 051
Trade	90 837	262	161	11 849	78 565
Transport, communications	27 340	40	44	3 358	23 898
Telecommunications	7 886	16	25	1 604	6 241
Financial and insurance intermediatio	28 929	114	121	7 637	21 057
Computer and related activities	29 542	226	182	10 487	18 647
Business services	98 371	765	559	27 784	69 263
Research institutes in public sector	8 605	1 545	434	4 111	2 515
Other research activities	2 639	366	110	1 213	950
Universities	24 459	6 817	1 414	11 610	4 618
Other tertiary education	7 746	539	564	4 244	2 399
Other education	88 836	679	876	52 463	34 818
Human health activities	160 524	3 567	449	28 420	128 088
Public administration	71 957	1 190	784	23 623	46 360
Other industries	41 032	524	311	14 020	26 177
Industry unknown	5 318	64	29	1 292	3 933

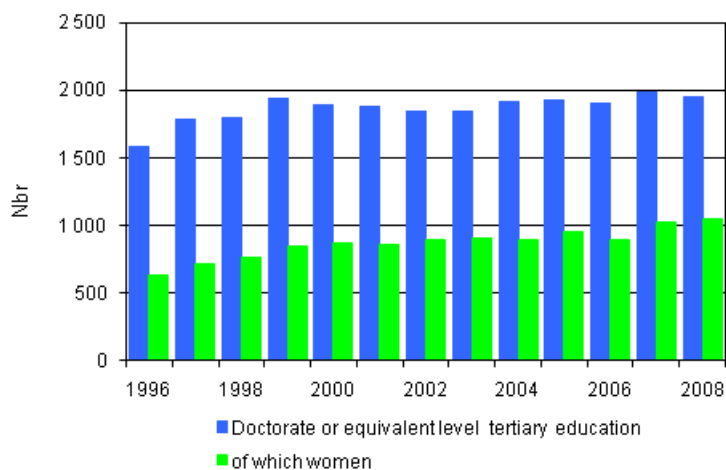
Figures

1. Doctorate and licentiate degrees in 1991 - 2008



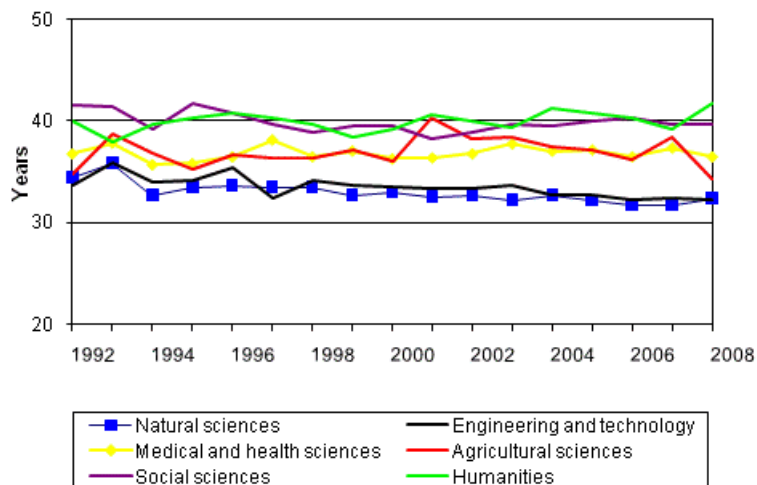
The popularity of doctorate degrees has become even after a strong growth that has continued for years. In 2008, 1,527 doctorate degrees were completed, which is the same as one year before. The number of doctorate degrees is now around triple compared with the situation at the beginning of the early 1990s. The number of licentiate degrees has nearly halved in ten years. Only 425 licentiate degrees were completed in 2008.

2. Doctorate level degrees and the proportion of women 1995 - 2008



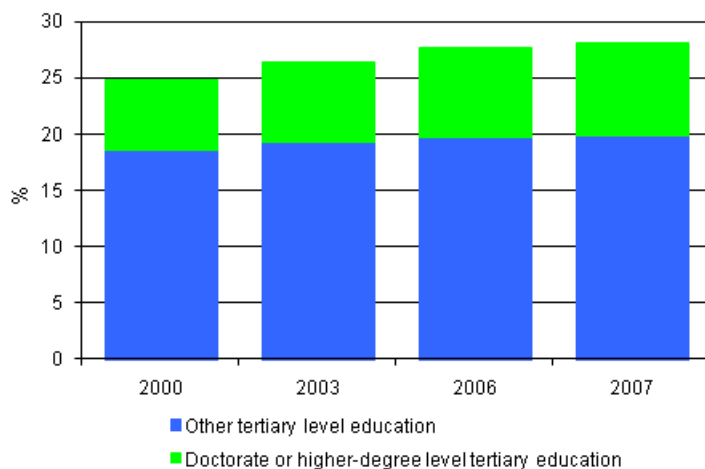
In 2008 good one half of those having completed doctorate degrees, or 55 per cent, were women. Ten years earlier the proportion of women was 40 per cent and in the early 1990s women made up just one third of doctors.

3. Persons with doctorate degree, median ages by the field of science in 1991 - 2008



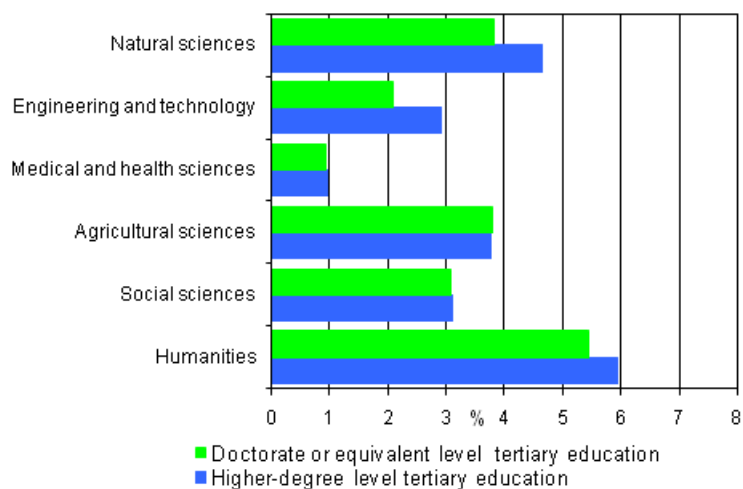
The youngest doctorate degree holders are found in the fields of natural sciences and technology. Their median age is a little over 30 years. Those completing doctorate degrees in the fields of social sciences and humanities and arts are about eight years older.

4. Persons with tertiary degrees as a proportion of the population aged 16 to 74 in 2000 - 2007



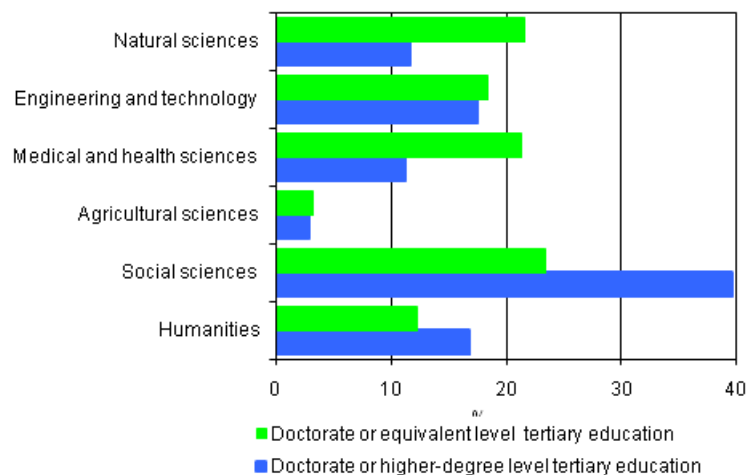
The proportion of the population with tertiary level degrees has grown steadily at the annual rate of 0.5 per cent throughout the 2000s. In 2007 slightly over 28 per cent of the population were highly educated. Good eight per cent of the population have completed doctorate or higher tertiary level degrees.

5. Unemployment rates of persons with doctorate level and higher-degree level tertiary education by the field of science in 2007



Highly educated population finds employment better than the rest of the population. In 2007, 4.3 per cent of them were unemployed. At the same time the unemployment rate of total population was 6.9 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.

6. Persons with doctorate level and higher-degree level tertiary education as a percentage by the field of science in 2007



In Finland the highest educated population has most often 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.

Suomen virallinen tilasto
Finlands officiella statistik
Official Statistics of Finland

Science, Technology and Information Society 2010

Inquiries

Marianne Kaplas (09) 1734 3421
Director in charge:
Leena Storgårds
Sähköpostiosoite
www.stat.fi